IPv6 Ready Logo Program

Whitepaper

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Acknowledgements

The IPv6 Forum would like to acknowledge the efforts of Yanick Pouffary (IPv6 Forum Fellow, IPv6 Ready Logo Adviser), Erica Johnson (IPv6 Forum Fellow, IPv6 Ready Logo Regional Officer, University of New Hampshire InterOperability Laboratory (UNH-IOL)), Frederik Meissner (UNH-IOL) and Hiroshi MIYATA (IPv6 Forum Fellow, IPv6 Ready Logo Regional Officer, TAHI Project) for authoring this paper.

IPv6 Ready Logo Program

The IPv6 Forum, a world-wide consortium with a key focus to provide technical guidance for the deployment of IPv6, launched a single world-wide IPv6 Ready Logo Program.

The IPv6 Ready Logo Program provides conformance and interoperability test specifications based on open standards to support IPv6 deployment across the globe. Effective testing of IPv6 products is of critical importance in ensuring the deployment, interoperability, security and reliability of the IPv6 infrastructure.

The IPv6 Forum has created the **IPv6 Ready Logo Committee (v6LC)** to manage the IPv6 Ready Logo Program. It comprises representatives from equipment vendors, service providers, academic institutions, IPv6 organizations, members from Beijing Internet Institute (China), Cablelabs (USA). ChungHwa Telecom Labs (Taiwan), IRISA (France), Japan Approvals Institute for Telecommunications Equipment (Japan), Telecommunication Technology Association (Korea), and the University of New Hampshire InterOperability Laboratory (USA).

Mission Statement

The IPv6 Ready Logo Committee mission is to define the test specifications for IPv6 conformance and interoperability testing, to provide access to self-test tools and to deliver the IPv6 Ready Logo.

Key Objectives

The key objectives of the IPv6 Ready Logo Program are to:

- Verify protocol implementation and validate interoperability of IPv6 products.
- Provide access to self-testing tools.

Committee Structure and Roles

The IPv6 Ready Logo Committee is structured as follows:

- IPv6 Forum President, Latif Ladid and IPv6 Forum Chief Technology Officer, In Memoriam Jim Bound.
- IPv6 Forum (Ready/Enabled) Logo Programs Chairperson, Yanick Pouffary @ IPv6 Forum Fellow
- IPv6 Ready Logo Committee Chairperson, Hiroshi Esaki @ WIDE Project/v6PC
    - Market: Hiroshi Esaki @ WIDE Project/v6PC

  - Legal: Latif Ladid @ IPv6 Forum
  - Technical: Hiroshi Miyata @ TAHI Project
- IPv6 Ready Logo Regional Officers:
  - Cesar Viho @ IRISA (Europe)
  - Erica Johnson @ UNH-IOL (North America)
  - Hiroshi Miyata @ TAHI Project (Asia)
  - Director NGN @ TEC (India)

The members of the **IPv6 Ready Logo Administrative Group** are responsible for:

- Defining procedures, regulations and steps for the IPv6 Ready Logo Program.
- Defining the strategy for deploying the IPv6 Ready Logo Program.
- Administering the right to use the IPv6 Ready Logos for products.

The IPv6 Ready Logo ID database and the IPv6 Ready Logo website are administered by v6PC Certification WG.

The members of the **IPv6 Ready Logo Technical Group** are responsible for:

- Defining test specifications. Final approval of new test specifications is done by the IPv6 Ready Logo Committee Chairperson, the IPv6 Forum President and IPv6 Forum Chief Technology Officer.
- Submitting those specifications to the IPv6 Ready Logo Administrative Group so that it can be published for public review.
- Updating Test specifications according to its published “Document Update Policy”, shown below.

  http://www.ipv6ready.org/docs/v6LC_Test_Specification_Maintenance_Procedure_latest.pdf
- Technical examination of vendor applications.

Note: In order to maintain credibility and neutral services among vendors and users, the member organizations and Approved Laboratories that support IPv6 Ready Logo Committee

functions operate according to the IPv6 Ready Logo Program Code of Conduct and are tied by a signed Non-Disclosure Commitment.

http://www.ipv6ready.org/docs/v6LC_Code_of_Conduct.pdf

Approved Laboratories

BII – Beijing Internet Institute, China
http://www.ipv6ready.org.cn/

CableLabs – CableLabs, USA
http://www.cablelabs.com/certqual/

CHT-TL – ChungHwa Telecom Labs, Taiwan
http://interop.ipv6.org.tw/

IRISA – Institut de Recherche en Informatique et Systèmes Aléatoires, France
http://www.irisa.fr/tipi/

JATE – Japan Approvals Institute for Telecommunications Equipment, Japan
http://www.jate.or.jp/english/index.html

TEC – Telecommunication Engineering Centre
http://www.tec.gov.in

TTA – Telecommunications Technology Association, Korea
http://www.tta.or.kr/English/new/main/index.htm

UNH-IOL – University of New Hampshire InterOperability Laboratory, USA
http://www.iol.unh.edu/services/testing/ipv6/

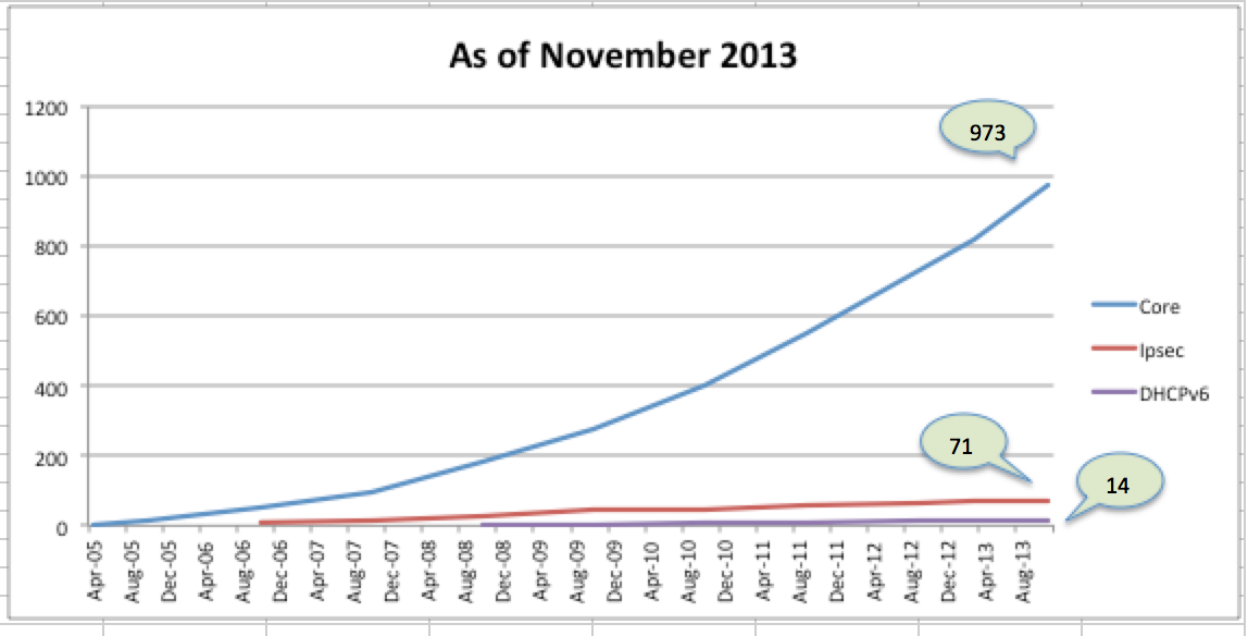
The **TAHI Project** (Japan) was influential in contributing to the current IPv6 Ready Logo test specifications and was concluded on December 31, 2012. The TAHI Project developed a number of self-test tools and specifications, beginning in 1998. TAHI initially collaborated with the KAME Project, which was the joint effort of six organizations in Japan to provide free IPv6 and IPsec protocol stack implementations.

The TAHI Project was instrumental in furthering the deployment of IPv6 and hosting annual "Plugfest" interoperability events. The TAHI Project "deeply appreciates all its users for their warm support for more than 14 years".

IPv6 Ready Logo Approved List

The approved list contains devices that have met all the requirements for the IPv6 Ready Logo as per the test category. The list contains the vendor name, product information and classification. Each individual logo ID can be selected to obtain detailed information including functionality support and interoperable device information.

https://www.ipv6ready.org/db/index.php/public/?o=6



Obtaining the IPv6 Ready Logo

The process for obtaining the IPv6 Ready Logo for the different test categories is basically the same. The tested product needs to pass 100% each of the appropriate conformance and interoperability test assertions.

1. Download the test specifications from the IPv6 Ready Logo website at https://www.ipv6ready.org/?page=phase-2-tech-info.
2. Either download the self-testing tools and interoperability test scenarios and execute them against your product; or submit your product to one of the IPv6 Ready Logo Recognized laboratories for testing.
3. Gather the complete test result log from either 1) the self-testing tool and interoperability test you conducted or 2) an IPv6 Ready testing laboratory.
4. Fill out the Application Form at https://www.ipv6ready.org/db/index.php/form/.
5. Select the Application Type: New application and continue to fill out the Application Form. (Please fill out the form in English).
6. Next, review your information and Confirm the Application.
7. Then, upload your test results (*1) as one archive file using the following syntax: (Vendor Name)_(Product Name)_(Product Version).tar.gz and confirm the upload by clicking the Next button.
8. Then Select the Examination Lab that you wish to review your results by using the drop down menu.
9. Once submitted, an email will be sent to you as a confirmation and it will also include your Application ID. Please note - you must confirm the **IPv6 Ready Logo Usage Agreement using the link in the email prior the application review.**
10. Once the Usage Agreement has been confirmed, please wait for the examination lab to start the review. The examination lab may charge $500 USD for reviewing your application and will bill you directly. Some examination labs may waive this fee if it was covered under their testing services. Please inquire with them.
11. You may refer to the How to apply via Online application form (https://www.ipv6ready.org/db/index.php/form/) regarding checking, selecting a new examination lab or resubmitting your application.

12. The IPv6 Ready Logo Examiner on the IPv6 Ready Logo Technical Group will contact you in order to guide the examination process of your application.

13. Examination will be started by the **IPv6 Ready Logo Examiner**. If the applicant does not get any response within 1 month, please send an e-mail to **ipv6ready-info [at] ipv6ready.org**.

14. After review by the IPv6 Ready Logo Technical Group, if the tested product passes 100% of the appropriate conformance and interoperability test assertions the IPv6 Forum Logo Regional Officers will assign a Logo ID and authorize the usage of the IPv6 Ready Logo.

15. Approved information of this application will be put on the approval website at https://www.ipv6ready.org/db/index.php/public/?o=6

16. Each applicant will receive an IPv6 Ready Logo ID to identify their approved Logo.

17. To update the information of an approved product (i.e. version no.), please send the following information to **v6-appli [a t] ipv6ready.org** . (For security reasons, we will email the original contact person as stated on the original application.) The new information will be modified within to the database, only when confirmed.

- Vendor name
- Product name
- Newest product information that you want to change Logo ID

The **IPv6 Ready Logo ID** includes: Serial Number and, approved functional component(s).

Additional Approval Policies

Software/hardware product version update

- If a new product version changes the networking stack, the IPv6 Ready Logo Committee requires that the applicant rerun and resubmit both conformance and interoperability tests logs if the new product is to continue to use the already assigned IPv6 Ready Logo ID.

- If the new product version does not change the network stack, vendors can update the registered version by submitting a new application.

  Important: The IPv6 Ready Logo Committee reserves the right to request more information from vendors as required. If needed the IPv6 Ready Logo can ask vendors to re-run the test and submit the test logs.

Product series with identical networking stack

- If a series of products uses an identical networking stack, that product series will be accepted with one application, on the condition that the network stack is identical across the product family and that it is clearly stated in the application form.

  Important: The IPv6 Ready Logo Committee reserves the right to request more information from vendors as required. If needed the IPv6 Ready Logo can ask vendors to re-run the test and submit the test logs.

OEM licensee

- An OEM Licensor can extend its IPv6 Ready Logo ID to an OEM Licensee. The OEM Licensee can register their products with the IPv6 Ready Logo Committee without testing as long as there is a one to one IPv6 stack transfer that is certified by OEM Licensor. At this time, the Applicant must specify the original product name and Logo ID on the bottom of the application form.
  - The associated OEM Logo ID is always stated on the Logo website as part of their approval. This means that the applicant would have their own accepted Logo ID public on the website.

- If the OEM licensee does not wish to make this agreement known and wishes to obtain its own IPv6 Ready Logo ID, they must run and submit both conformance and interoperability tests logs as with any other product.

Logo Test Categories

Approved Protocols

Core

- Test specifications for IPv6 Core Protocols

  https://www.ipv6ready.org/?page=documents&tag=ipv6-core-protocols

IPv6 Ready Core Logo is a prerequisite before obtaining extended test categories. You cannot obtain Core Logo for extended protocol features just by meeting the requirements of that extended test category.

DHCP (Core pre-requisite)

- Test specification and self-test tools for DHCP

  http://www.ipv6ready.org/docs/Phase2_DHCPv6_Conformance_Latest.pdf

IPSec (Core pre-requisite)

- Test specifications and self-test tools for IPSec

  https://www.ipv6ready.org/?page=documents&tag=phase-2-ipsec

SNMP (Core pre-requisite)

- Test specification and self-test tools for SNMP

  https://www.ipv6ready.org/?page=documents&tag=phase-2-snmp

CE Router

This specification is currently under public review for Conformance and Interoperability testing. The development of this program will continue and the test document will be left open for public review.

- Test documents for CE Router

  https://www.ipv6ready.org/?page=public-review-cpe

Experimental Protocols

The following protocols have been transitioned to experimental. These test specifications and test tools will be left on the website for vendor use, however the tools will not be supported by the IPv6 Ready Logo Committee. These can be found at https://www.ipv6ready.org/?page=phase-2-tech-info.

- IKEv2
- IMS UE
- MIPv6
- MLDv2
- NEMO
- SIP

IPv6 Ready Test Specifications

The IPv6 Ready Logo test specifications are the result of technical consensus between the IPv6 Ready Logo Program Committee members and industry review.

The series of tests defined as part of the IPv6 Ready Logo test specifications suite can be divided into two types of tests: conformance and interoperability.

The conformance test aims at validating a product to IETF RFCs (a conformance test for a protocol may deal with several RFCs). This is accomplished through specific tools, which emulates a network of reference for the tested product. The protocol for a test is analyzed for each of the specifications functional assertions and the conformance test verifies the implementation profile reference of the protocol.

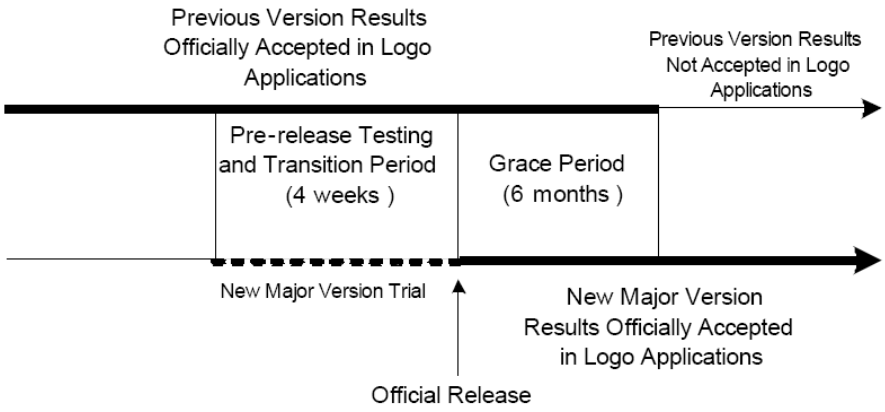
The interoperability test is realized in a lab environment, and the tested product is interconnected with other products. The developed scenarios aim at verifying if the product is able to interact with other IPv6 Ready products of different origins.

The test specifications are then published and distributed for public review and updated accordingly. Updates to the IPv6 Ready Logo program test specifications (and corresponding test tools) are done according to the IPv6 Ready Logo Program "IPv6 Ready Logo Committee Test Suite Maintenance Procedure Document". The document introduces the concept of “Major Version”, “Major Revision” and “Minor Revision”. “Major Version” update occurs when an RFC has been revised or when additional tests coverage are introduced that changes the compatibility with the previous version, and “Minor Revision” update is related to normal maintenance of the document (bug fixes for example). If there are no major releases required updates to the document occur in May and November of each year (every 6 months).

Once a new Major Version test specification is released, the applicant has a grace period of 6 months to continue using the former test specification. This is to ensure proper notice for

implementers to abide by the new test specification. Likewise, applicants have a grace period of 4 weeks after the release of a Major Revision or Minor Revision to continue to use the former test specifications.

http://www.ipv6ready.org/docs/v6LC_Test_Specification_Maintenance_Procedure_latest.pdf



History

The IPv6 Ready Logo series of tests were progressively enriched, from a minimum coverage with Phase-1 to a more complete coverage with Phase-2.