

IPv6 Ready Logo



www.ipv6ready.org





IPv6 Ready Logo Program

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1. Executive Summary

The main objective of this present document is to describe the IPv6 Forum (<http://www.ipv6forum.com>) IPv6 Ready Logo Program, to describe the IPv6 Ready Test Specifications and IPv6 Ready Logo Phase Series and to provide a FAQ.

The IPv6 Ready (<http://www.ipv6ready.org/>) 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.



2. 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 (conformance and interoperability testing).

The IPv6 Ready Logo Program is a conformance and interoperability testing program intended to increase user confidence by demonstrating that IPv6 is available now and ready to be used.

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.

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.

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

- Verify protocol implementation and validate interoperability of IPv6 products.
- Provide access to self-testing tools.
- Provide IPv6 Ready Logo testing laboratories across the globe.

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 Co-Chairpersons, Timothy Winters @ QA Cafe and Li Zhen @ BII
 - Market: Timothy Carlin @ UNH-IOL
 - Technical: Timothy Winters @ QA Cafe
 - Advisor: Yanick Pouffary @ IPv6 Forum Fellow
- IPv6 Ready Logo Regional Officers:
 - Michayla Newcombe @ UNH-IOL (North America, South America and Europe)



- BII, CHT-TL, CNLabs, TEC, TTA rotate the chair position (Asia)

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 data base** and the **IPv6 Ready Logo Web site** are administered by v6LC Certification WG

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

- Defining Test specifications
- 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". (https://www.ipv6ready.org/docs/v6LC_Test_Specification_Maintenance_Procedure_latest.pdf)
- Technical examination of Vendors Applications.

Future IPv6 Ready Logo test specifications are developed by IPv6 Ready Logo Technical Group. 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.

The IPv6 Ready Logo Committee welcomes the contribution of organizations to assist vendors with the IPv6 Ready Logo testing and application requirements. The process to become a member of the "IPv6 Ready Logo Program IPv6 Logo Committee" and/or an Approved Test Laboratories is documented in v6LC Participation Agreement. Please note that approval for **IPv6 Ready Logo Committee membership** and **Approved Test Laboratories** is done by the IPv6 Ready Logo Committee Chairperson, the IPv6 Forum President and IPv6 Forum Chief Technology Officer.

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 operates according to the IPv6 Ready Logo Program Code of



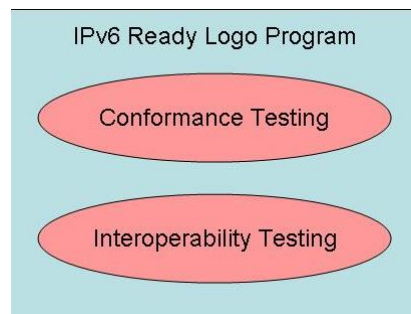
Conduct http://www.ipv6ready.org/docs/v6LC_Code_of_Conduct.pdf and are tied by a signed Non Disclosure Commitment.

In May 2020, the IPv6 Ready Logo Program made two permeant changes with the release of Core 5.0.0 for testing IPv6 Internet Standard RFC 8200.

- As IPv6 deployments continue to rise it is important that devices operate in IPv6-only environments without any IPv4 being used for the device to function. Testing for the IPv6 Ready Logo 5.0.0 must be completed in an IPv6-only environment. What this means is that IPv4 will not be provisioned or available to the device under test. To ensure testing is done in the proper environment all IPv6 Ready Logo testing needs to be done in an IPv6 Ready Logo lab.
- The device must have IPv6 on and enabled on all IP interfaces by default. In the case of a router, it must have IPv6 enabled on management interfaces or control planes. Applicants must agree to this by selecting a statement on the application. If a device is reported for not having IPv6 enabled by default it will be removed from the IPv6 Ready Logo listing.

3. 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 specification's 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 IPv6 Ready Logo-ed products supporting typical configurations. The developed scenarios aim at verifying if the product is able to interact with other IPv6 Ready Logo-ed products of different origins.

The original IPv6 Ready Logo test specifications (Core, DHCP, IPSec) were developed by the following technical labs:

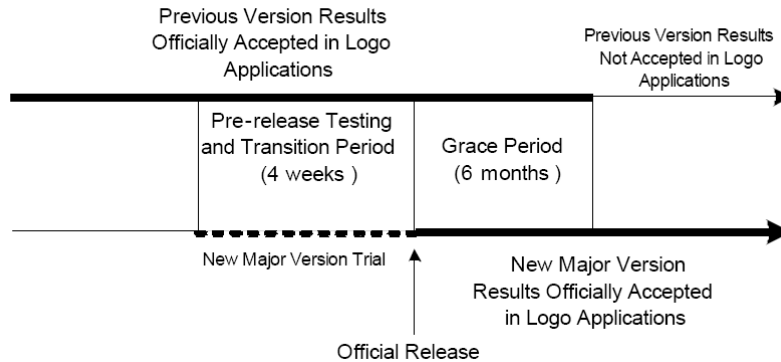
- TAHI Project – Japan – <http://www.tahi.org/>
- UNH – IOL – University of New Hampshire InterOperability Lab - IPv6
<http://www.iol.unh.edu/services/testing/ipv6/>
- IRISA – France – European Laboratory for Interoperability testing Internet protocols and supporting the IPv6 Ready Logo program <http://www.irisa.fr/tipi/>
- CHT-TL ChungHwa Telecom Labs - Taiwan – IPv6 Testing Lab - ChungHwa Telecom Labs. <http://interop.ipv6.org.tw/>
- BII – Beijing Internet Institute – China – IPv6 Ready Logo testing Lab -
<http://www.ipv6ready.org.cn/>
- TTA - Korea - Telecommunication Technology Association - IPv6
<http://www.tta.or.kr/English/new/main/index.htm>
- JATE – Japan Approvals Institute for Telecommunications Equipment
<http://www.jate.or.jp/english/index.html>

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 is 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).

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.



The IPv6 Ready Logo test specifications are free of charge and available for download at <http://www.ipv6ready.org>. The self-tests tools are based on the IPv6 Ready Logo test specifications and are listed on the <http://www.ipv6ready.org>.



4. IPv6 Ready Logo Phase Series

The IPv6 Ready Logo series of tests were progressively enriched, from a minimum coverage with Phase-1 to a more complete coverage with the Phase-2. Phase-1 has been deprecated, so no more products can be awarded the Phase-1 Logo.



4.1. Phase-1 (Silver) Logo

The Phase-1 Logo focused on "core IPv6 protocols". Its objective is to verify minimum IPv6 support. The logo background color is silver.

The test coverage is approximately 170 tests as specified on page 16 of the IPv6 Core Protocols Test specification. This Phase-1 logo started in September 2003 and was retired in January of 2011.



4.2. Phase-2 (Gold) Logo

The Phase-2 logo expands the "core IPv6 protocols" test coverage to approximately 450 tests and adds new extended test categories. The logo background color is gold.

- Test specification for IPv6 Core Protocols:
http://www.ipv6ready.org/docs/Core_Conformance_Latest.pdf
- Test interoperability specification base document
http://www.ipv6ready.org/docs/Core_Interoperability_Latest.pdf
- Test interoperability specification appendix
http://www.ipv6ready.org/docs/Core_Interoperability_Appendix_Latest.pdf

The Phase-2 logo extended test categories are:

- IPsec (Requires Core)
- DHCPv6 (Requires Core)
- SNMP
- CE Router



Obtaining the Phase-2 IPv6 Ready Core Logo is a prerequisite before obtaining DHCPv6 or IPSec Logo. The Phase-2 logo test and extended test specifications, the interoperability test specifications documents and self-test tools are available at <https://www.ipv6ready.org/apply/technical-info.html>. This Phase-2 Core logo has been available since February 16th 2005.

Experimental

- 6LoWPAN
- MLDv2
- IKEv2
- MIPv6
- NEMO
- SIP
- IMS UE

Experimental Test Specifications are documents that specify valid test cases that are not active. This is due to either no available self-test tool or at the time of development there was little interest from the community. These test cases are valid and may be used in the future (MLDv2, 6LoWPAN) for IPv6 extended when interest increases.

4.3. Obtaining IPv6 Ready Logo

The process for obtaining the IPv6 Ready Logo involves going to a test lab. The tested product needs to pass 100% each of the appropriate conformance and interoperability test assertions. Testing must be performed in IPv6 Ready Logo lab on an IPv6-only network.

Application Procedure Steps

1. Review the test specifications from the IPv6 Ready Logo web site to confirm the product supports the necessary functions to perform testing.
2. Submit your product to one of the IPv6 Ready Logo Recognized laboratories for testing.
3. Gather the complete test report from an IPv6 Ready testing laboratory.



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4. Review the [Online Application Form](#).
 5. Give selected IPv6 Ready Logo Laboratory the Application information.
 6. Review your information and Confirm the Application.
 7. When the Lab submits the results, an email will be sent to you as a confirmation and it will also include your Application ID.
 8. Confirm the [IPv6 Ready Logo Usage Agreement](#) using the link in the email prior to the application review.
 9. Once the Usage Agreement has been confirmed the lab will start the reviewing the application.
 10. You may refer to the [How to apply via Online application form](#) regarding checking or resubmitting you application.
 11. 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.
 12. Examination will be started by the **IPv6 Ready Logo Examiner**. If the applicant does not get any response within 1 month please send mail to ipv6ready-info@ipv6ready.org.
 13. 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 assign a Logo ID and authorize the usage of the IPv6 Ready Logo.
 14. Approved information of this application will be put on the [approval website](#).
 15. To update the information of an approved product (i.e. version no.), please send the following information to [v6-appli \[at\] ipv6ready.org](mailto:v6-appli@ipv6ready.org). For security reasons, we will email the original contact person as stated on the original application. The new information will be subscribed to the database, only when confirmed.
 - Vendor name
 - Product name
 - Newest product information that you want to change
 - Logo ID

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



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

The Phase-1 Logo ID format was the following:

{Phase(2digits)}-{serial_number(6digits)}

Phase: "01"

serial_number: World wide unique serial number (6 digits)

Example: Phase-1 Logo ID: "01-000123"

The Phase-2 Logo ID format is as follow:

{Phase(2digits)}-[[additional_info]]-{serial_number(6digits)}

Phase: "02"

additional_info: Variable length.

Each character indicates an extended test category.

Each character can be combined.

C: for IPv6 Core Protocol

S: for IPsec

D: for DHCPv6

serial_number : World wide unique serial number (6 digits)

Examples:

Phase-2 Logo ID for core 02-C-000123.

Phase-2 Logo ID for core, IPsec MIPv6 02-CSM-000123"

4.4. Updating IPv6 Ready Logo Information

IPv6 Ready Logo requirements after a software/hardware product version update

- If a new product version changes the networking stack, the IPv6 Ready Logo Committee requires that the applicant reruns and resubmits 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, If the new product version does not change the network stack, vendor can update the registered version by submitting a request to update the version number as per the [Application Procedure](#) Step 16.

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

OEM licensee

- OEM Licensor can extend its IPv6 Ready Logo ID to OEM Licensee. OEM Licensee can register their products with IPv6 Ready Logo Committee without testing as long as there is a one to one IPv6 stack transfer is certified by OEM Licensor. The Applicant must specific the Logo ID in the OEM field of the application on the website.
 - 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 wish to obtain its own IPv6 Ready Logo ID, they must run and submit both conformance and interoperability tests logs as for any products.

The lists of products approved for the IPv6 Ready Logo are published on the IPv6 Ready Logo Web page.



5. Terminology

IPv6 Forum: 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 (conformance and interoperability testing).

IPv6 Ready Logo Program: The IPv6 Forum IPv6 Ready Logo Program provides conformance and interoperability test specifications based on open standards to support IPv6 deployment across the globe.

IPv6 Ready Logo Committee (v6LC): To manage the IPv6 Ready Logo Program.

IPv6 Ready Logo Regional Officer: To authorize third parties passing successfully the IPv6 tests to use the IPv6 Ready Logo

IPv6 Ready Logo Program Administrative Group: To define procedures, regulations and steps for the IPv6 Ready Logo Program.

IPv6 Ready Logo Program Technical Group: To define IPv6 Ready Logo test specifications.

IPv6 Ready Logo Examiner: Member of IPv6 Ready Logo Program Technical Group, reviewer of vendor IPv6 Ready Logo application and test results.

IPv6 Ready Logo Approved Testing Laboratories: Approved testing laboratories.