# **Cable**Labs® Guidelines for IPv6-Ready Logo Testing

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# 1  PROGRAM DESCRIPTION

As an IPv6 Forum Approved Lab, CableLabs is offering IPv6 Forum IPv6 CE Router Logo testing. The IPv6 Ready Logo program is a conformance and interoperability test program created by the IPv6 Forum.  The objective of the program is to demonstrate compliance with critical IPv6 RFCs and the ability to interoperate with other network elements in a native IPv6 environment.

Testing is focused on requirements in RFC 7084 and is comprised of two test plans, Conformance and Interoperability. At present, these tests are applicable to DOCSIS cable modem-based devices with eRouter capability.  More detailed information on the test plans and products that are eligible for submission is given in ensuing sub-sections of this document.

After testing is completed, products that comply with all requirements are eligible to receive the IPv6 Ready logo. Test results are subject to review by the IPv6 Ready Logo Technical Committee.  Upon completion of testing at CableLabs, results will be provided to the manufacturer to submit to the review committee.  It will be this group that will make the final decision about granting the IPv6 Ready logo, based upon a review of the test results. IPv6 CE Logo testing is performed per IPv6 Forum guidelines: https://www.ipv6ready.org/?page=faq, and using IPv6 Forum Test plans: https://www.ipv6ready.org/?page=documents&tag=phase-2-cpe

# 2  SCOPE OF TESTING

The current scope of testing is based on the following two test plans published by the IPv6 forum:

- IPv6 Ready Interoperability Test Scenario CE Router Technical Document

- IPv6 Ready Conformance Test Scenario CE Router Technical Document

Please note that these test plans are subject to further revisions and may be updated at some future time.  The current test plans are available on the IPv6 forum web site:
https://www.ipv6ready.org/docs/CE_Router_Interoperability_Latest.pdf  and
https://www.ipv6ready.org/docs/CE_Router_Conformance_Latest.pdf.

IPv6 Ready testing, as applied to eRouters, is subject to qualification of some specific functionality supported (or not supported) as described in the "Advanced Functionality Test" sections of the aforementioned test plans. Vendors are encouraged to familiarize themselves with these tests, and make determinations as to how these may apply or not apply to their eRouter devices, prior to submitting them to CableLabs for certification testing. Decisions about support for "Advanced Functionality" will be based on information given in the requirements checklist and submission forms.

DOCSIS specific testing is out of scope for IPv6 Ready logo testing. However, vendors may submit for DOCSIS certification and IPv6 Ready certification testing concurrently.  General questions about the submission process may be directed to se-mail@cablelabs.com.

# 3  MISCELLANEOUS

Any functionality not supported as per RFC 7084 must be reported and described at the time the submission application is completed.  Functionality deemed critical but not supported may affect the ability to test specific devices for IPv6 Ready logo certification.  CableLabs reserves the right to deny requests for certification testing on the basis of compliance with RFC 7084.

# 4  SUBMISSION CRITERIA

At the present time, devices that can be submitted for IPv6 Ready logo testing are:

- DOCSIS 3.0 cable modem with an embedded router

- DOCSIS 2.0+IPv6 cable modem with an embedded router

- DOCSIS 3.0 or DOCSIS 2.0+IPv6 eSafes that contain an embedded cable modem, an embedded router, and other devices, such as eDVA, eSTB, DSG, MoCA, etc. (Note: Such devices must function and be testable as an eRouter in order to qualify for submission.)

Vendors interested in submitting products must complete the online registration form and complete the list of vendor questions that accompanies the submission application. Eligibility for accepting products for testing is at the discretion of CableLabs. Applications for other devices that satisfy the submission criteria may be requested and approved on a case-by-case basis.

## **Product Check-in Requirements:**

1) Products may be submitted for IPv6 logo testing at any time. CableLabs requires ten days' notice of intent to submit via email to se-mail@cablelabs.com

2) If submitting for IPv6 Logo testing only, vendors must submit a minimum of 8 units. Upon successful completion of the certification process, two units will be retained and six units will be returned to the Vendor. In the event the device does not obtain certification, as determined by the IPv6 logo review committee, all units will be returned.

3) If submitting for IPv6 Logo testing as part of normal DOCSIS cable modem and/or PacketCable EMTA certification testing, no additional units need be submitted and the normal retention policy will apply.

4) All units submitted for testing must have the NAT/firewall disabled on all devices.

5) All devices submitted must support IPv6 management via SNMPv2. SNMP reset must be supported on all submitted devices.

6) The online submission application form must be completed for check-in. https://www.cablelabs.com/newpst/. Contact se-mail@cablelabs.com to request a login and password.

7) Labeling requirements are as follows:

   - Each unit must be labeled to be accepted.

   - The CableLabs Product ID label will identify each product submitted for certification.

   - CableLabs uses the following Product ID convention to track products submitted for certification:

   This seven or eight-character "product id" will be used as the tracking identifier for the physical products submitted (including ancillary hardware), all submission documentation, and all test data. Since some company names may be similar, please contact CableLabs at se-mail@cablelabs.com to determine the correct 4-letter company abbreviation for your products.

   CableLabs Label ID: Prefix "24"+ Four letter vendor ID + CW# + Unit #

   Example: 24ABCD1201

   ```
   24ABCD1201 Unit:01 IPv6
   LAN MAC: XXXX:XXXX:XXXX (CM)
   WAN MAC : XXXX:XXXX:XXXX (CM)
   LAN MAC: XXXX:XXXX:XXXX (eRouter)
   WAN MAC : XXXX:XXXX:XXXX (eRouter)
   LAN EUI-64 address:
   XXXX.XXFF.FEXX.XXXX (eRouter)
   WAN EUI-64 address:
   XXXX.XXFF.FEXX.XXXX (eRouter)
   ```

   Clearly mark ON THE FRONT OF EACH PRODUCT:
   1) MAC addresses of each unit being submitted for testing.
      Submissions must correspond to the numbers & MAC addresses shown on the MAC Address Form included with the application.
   2) The unit number.

**Configuration Information:**

All vendors submitting devices for testing must complete the checklist of vendor questions and provide the following configuration information:

- If the device supports a UI, please provide instructions for accessing the UI and for navigating through the UI to make all configurations supported by the device. A user guide may be submitted for this purpose.

- If the device supports a CLI, please provide instructions for accessing the CLI, e.g. telnet or ssh. Include all login information as well as passwords if applicable.

- Provide instructions for initiating an ICMPv6 ping to an external IPv6 address from the eRouter.

- Provide instructions for initiating an ICMPv6 ping to an external FQDN from the eRouter.

- If stateful DHCP on the LAN side is not enabled by default please provide instructions for how to enable it. (Note: It is presumed that with M=1 by default then stateful DHCP should be preferred by client devices. If there are other mechanisms required to enable stateful DHCP please provide a description.)

- If stateless DHCP on the LAN side is supported, please provide instructions for how to enable it.

- If DHCP parameters on the LAN are configurable, please provide instructions for how to configure the following:
    - T1/T2 timers
    - DHCP Option 23 (RDNSS)
    - DHCP Option 24 (DNSSL)

- If Router Advertisement messages on the eRouter are configurable, please provide instructions for how to configure the following:
    - M & O flags
    - A & L flags
    - Prefix lifetimes
    - RDNSS parameter
    - DNSSL parameter

- If RDNSS or DNSSL are not configurable in RA messages, please provide a detailed description about how these values are passed to client devices.

- If MTU size is configurable, please provide instructions for how to configure MTU size.

- Please provide instructions for how to enable/disable the LAN interface via telnet or console session.

- Please provide detailed descriptions on how to configure the device through telnet or console sessions for all supported configurations, as per the vendor specific questions and checklist.

- eRouter devices submitted for testing will be provisioned using standard compliant eRouter configuration files, as defined in DOCSIS and the eRouter specification. If vendor proprietary MIB objects or configuration files are necessary for WAN provisioning, please submit these at the time the application for submission is completed.

- If the submitted device contains a MoCA interface, please disable the MoCA interface prior to submission.

# 5 PRODUCT DELIVERY REQUIREMENTS

Please note that on-site vendor representation is not required for product drop-off. Submitted products not accompanied by the vendor are not guaranteed to be checked-in when the product arrives. Shipping all of the required equipment is acceptable. Vendors choosing to ship incomplete submissions or submissions for which the actual products do not correspond to the products described in the documentation risk rejection and return of their product prior to the wave, unless an on-site vendor representative is present and can correct the submission immediately prior to submission cut-off. The mode of delivery is up to the vendor's discretion.

All materials are required to be delivered by **noon Mountain Time** on the designated day.

Please address submissions to:

> Cable Television Laboratories, Inc.
> Attn: CableLabs Systems Evaluation: Project Manager
> 858 Coal Creek Circle
> Louisville, CO 80027-9750 USA

**<u>Fees:</u>**

The fee schedule for all types of product submissions can be found at http://www.cablelabs.com/specs/certification. CableLabs reserves the right to change fees by posting changes to the applicable website, 30 days prior to commencement of an event to which the fee relates. Fees are non-refundable, and are due on submission day.

Please advise the CableLabs accounting office at j.tahara@cablelabs.com if your company requires an invoice. Please include "CableLabs Certification Invoice" in the subject line of your email. When requesting an invoice, please include the following information in your email:

- a) Name of company making the payment
- b) Vendor name of submitted product and certification wave to which you are applying
- c) Corporate Officer or contact information for submitted product
- d) Product type as identified on the fee schedule
- e) CableLabs Product ID as listed on the application
- f) Type of invoice required (i.e.; IPv6 Ready Logo Testing)
- g) Mailing address and email address, or fax number to which the invoice should be sent

Payment for submission indicates acceptance of the terms and conditions of the CableLabs' application process. When making a payment, please include the following information for all products that the payment applies to:

- a) CableLabs Product ID as listed on the application
- b) Corresponding invoice number (if known)

# 6  PRODUCT FAILURE RESOLUTION PROCESS

The IPv6-Logo Ready Forum currently requires that a device pass all tests. CableLabs will complete testing and return it to the vendor for review. In the event that there are errors, one software upgrade will be allowed at no additional cost. If additional versions are required, a resubmission fee is applied.

For devices that seek both DOCSIS Certification and IPv6 testing, testing will conclude first on the IPv6 portion of the device. Once complete, results will be delivered to the manufacturer and DOCSIS testing will begin. If there are errors in the IPv6 results, one software upgrade will be allowed at no additional cost. If additional versions are required, resubmission fees are applied for both IPv6 and DOCSIS.

# 7  QUESTIONS

Questions regarding IPv6-Logo Ready Forum specifications and testing documents may be addressed to the forum at https://www.ipv6ready.org/. Questions regarding the testing and submission process may be directed to se-mail@cablelabs.com.