IPv6 Enabled Program

IPv6 ISP Enabled Specification

V1.0.1

(2010-09)

IPv6 Forum *http://www.ipv6forum.com*

MODIFICATION RECORD

Version 1.0.1. Sep 7, 2010

- Add the script sample and the description of a new status.

Nov 30, 2009

- Updates following v6SG first face-to-face meeting

Version 1.0.0 June 11, 2009

- Various edits

Version 0.1.0 April 28, 2009

ACKNOWLEDGMENTS

The IPv6 Forum would like to acknowledge the efforts of the following organizations in the development of this specification.

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BII Group

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INTRODUCTION

The IPv6 Forum[1] IPv6 Enabled Logo Program (http://www.ipv6forum.org/ipv6_enabled/) objective is to encourage and accelerate deployment of IPv6 and the adoption of IPv6 by web site owners and ISPs. The IPv6 Forum IPv6 Ready logo[2] program clearly demonstrates the widespread (exponential growth) support of IPv6 in products. This impressive list of vendors indicates the number of potential IPv6 users ready to use IPv6 and represent a real incentive for web site owners to enable IPv6 and for various service providers (such as ISPs, ASPs and CSPs) to provide IPv6 enabled service for their customers.

The IPv6 Enabled Logo (v6eLogo) Program is a program intended to increase user confidence by demonstrating that IPv6 is available now and is ready to be used.

The IPv6 Enabled Logo Program consists, currently, of the following two sub-programs:

- IPv6 Enabled WWW Logo (v6eLogo_WWW) Program
- IPv6 Enabled ISP Logo (v6eLogo_ISP) Program

[1] IPv6 Forum web site http://www.ipv6forum.com

[2] IPv6 Ready Logo http://www.ipv6ready.org

Table of Contents

1. Foreword

Changes to this specification are subject to public review and approval by the IPv6 Forum IPv6 Enabled Logo Steering Group (v6eSG).

Version x.y.z

where:

- x the first digit:
  - 1 presented to v6eSG for information;
  - 2 presented to v6eSG for approval;
  - 3 or greater indicates v6eSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

2. Scope

The present document describes the IPv6 Enabled ISP Logo Program. This document is the result of consensus between the IPv6 Enabled Steering Group (v6eSG) members and industry review

3. IPv6 Enabled Program

3.1. General

The IPv6 Forum IPv6 Enabled Logo Program[1] objective is to encourage and accelerate deployment and adoption of IPv6 by web site owners and various service providers.

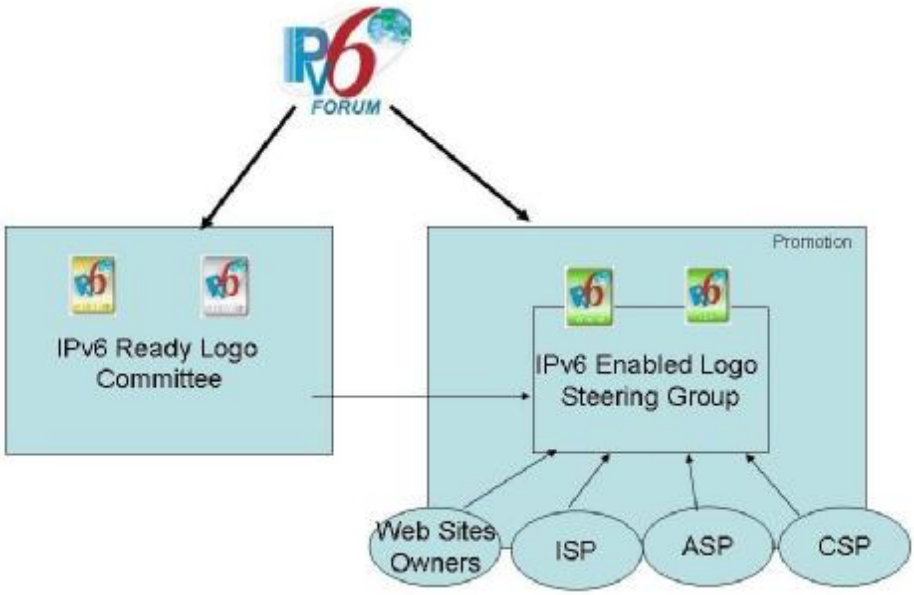
The IPv6 Enabled Logo (v6eLogo) Program goal is to increase user confidence by demonstrating that IPv6 is available now and is ready to be used.

The IPv6 Enabled Logo Program consists, of the following sub-programs:

- IPv6 Enabled WWW Logo (v6eLogo_WWW) Program 

- IPv6 Enabled ISP Logo (v6eLogo_ISP) Program 

The IPv6 Forum has created the IPv6 Enabled Steering Committee (v6eSG), to manage the IPv6 Enabled Logo Program.



[1] http://www.ipv6forum.org/ipv6_enabled/

The IPv6 Enabled Steering Group mission is to help support IPv6 deployment on Web sites and by various service providers (e.g., ISPs, ASPs or CSPs).

The IPv6 Enabled Logo Steering Group (v6eSG) is structured as follows:

- IPv6 Forum President, Latif Ladid
- IPv6 Forum (Ready/Enabled) Logo Programs Chairperson, Yanick Pouffary @ IPv6 Forum Fellow
- IPv6 Enabled Logo Steering Group Chairperson, Liu Dong @ Chair China IPv6 Council / BII Group
- IPv6 Ready Logo Committee Chairperson, Hiroshi Esaki @ Executive Director Japan IPv6 Promotion Council (v6PC) / WIDE Project
- IPv6 Enabled Logo Legal/Operational, Cesar Viho @ IPv6 Ready Logo Operational / IPv6 Forum Fellow / IRISA
- IPv6 Enabled Logo Technical Lead IPv6 Enabled WWW logo, Huan Huan @ BII Group
    - IPv6 Enabled Logo Technical co-chairs
    - Hiroshi Miyata @ IPv6 Ready Logo Technical Lead / IPv6 Forum Fellow / TAHI Project
    - Timothy Winters @ UNH IOL
    - Antony Baire @ IRISA
- IPv6 Enabled Logo Technical Group
    - Initial members are IPv6 Ready Logo Technical group
- IPv6 Enabled Logo Administrative group
    - Initial members are IPv6 Ready Logo Administrative group

The v6eSG is responsible for:

- Defining procedures, regulations and steps for the v6eLogo program.
- Defining the strategy for deploying the IPv6 Enabled Logo Program
- Administering the right to use the IPv6 Enabled Logo.

Final approval of IPv6 Enabled procedures and scripts is done by the IPv6 Enabled Logo Committee Chairperson, the IPv6 Ready Logo Chairperson, the IPv6 Forum (Ready/Enabled) Logo Programs Chairperson and IPv6 Forum President.

The IPv6 Enabled Logo ID data base and the IPv6 Enabled Web pages are administered mainly by the BII Group.

In order to maintain credibility and neutral services among vendors and users, the member that support IPv6 Enabled Logo Steering Group 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.

3.2. IPv6 Enabled WWW Logo Program

The IPv6 Enabled WWW Logo (v6eLogo_WWW) program is for IPv6 enabled Web sites. Information about this program can be found at:

http://www.ipv6forum.com/ipv6_enabled/xxx/IPv6_WWW_Enabled_Specification_v2.0.0.doc.

3.3. IPv6 Enabled ISP Logo Program

The goal of the IPv6 Enabled ISP Logo (v6eLogo_ISP) program is for IPv6 enabled ISPs. We define an Internet service provider (ISP, also called Internet access provider or IAP) as an organization that offers to its customer access to the Internet and related services. Applicant's ISP will be validated for IPv6 service as defined in this document. If passed, the IPv6 Forum then authorizes usage of the IPv6 Enabled ISP Logo for that ISP.

In terms of program, IPv6 ISP Enabled Program consists of Basic and Advanced levels.

The basic level validates the applicant ISP IPv6 service. For *basic level* validation, an automatic script will be run by the v6eSG. If the script is run successfully the applicant ISP is assigned a logo ID and is listed on the IPv6 Enabled ISP web page.

For *advanced level* validation, obtaining the basic level logo is prerequisite. Please note at this date this level is not yet fully defined and will be released later on.

4. IPv6 Enabled ISP Logo Program

4.1. General

The goal of the IPv6 Enabled ISP Logo (v6eLogo_ISP) program is for IPv6 enabled ISPs. The v6eLogo_ISP program objective is to encourage adoption of IPv6 in ISPs to test and check their proper IPv6 enablement.

4.2. Definition - Requirements of IPv6 enabled ISP

The followings are the technical requirements, which an IPv6 enabled ISP must satisfied to obtain the logo.

(1) Network Accessibility Requirement

The v6eSG operates a database, the synchronous route info database[2], storing the latest AS related information. Each AS is defined with a unique number. The ISP's network is considered to have met the network accessibility requirements if the corresponding AS Number exists in the synchronous Route info database.

[Note] The Border Gateway Protocol (BGP) is the core routing protocol of the Internet. It maintains a table of IP networks or prefixes which designate network accessibility among autonomous systems (AS). It is described as a path vector protocol, and it is one of the most important protocols of the Internet. Most Internet service providers must use BGP to establish routing between one another. Network accessibility is an essential requirement for ISP to provide internet services. ISP should have AS to provide network access services. The AS can be owned by the ISP itself or be leased from other ISPs, either single-homed AS (an AS with only one provider) or multi-homed AS (an AS has multiple providers).

(2) Active IPv6 Address Requirement

Each ISP has IPv6 address block to assign to its customers. For IPv6 Enabled ISP program, the IPv6 address block and active IPv6 address is necessary for the ISP.

In order to find the active IPv6 address, the v6eSG give the applicant a section of script code to check the active IPv6 addresses on the Internet.

(3) Persistence of IPv6 service Requirement

[2] The synchronous route info database is map for each active ipv6 block and AS number. The data in the synchronous route info database is provided by the RouteViews project at the University of Oregon. And the database is updated every two hours.

An IPv6 enabled ISP must provide persistence IPv6 service to its customers. Its customers should be able to connect to the Internet via IPv6 at any time.

4.3. Definition - Specification of Checking/Validating IPv6 ISP

The following technical specification defines how the v6eSG checks to validate the IPv6 enabled ISP, following the reception its application.

4.3.1. Network Accessibility Ability

The scrip implemented in the checking/validating server(s) at the v6eSG will perform the following task, to validate IPv6 Network Accessibility ability:

- The IPv6 enabled ISP should have AS number. The AS can be owned by the ISP itself or be leased from other ISPs, either single-homed AS (an AS with only one provider) or multi-homed AS (an AS has multiple providers) and that there is no conflict, which means its network is reachable and with global routing ability.

4.3.2. Active IPv6 Address Ability

The scrip implemented in the checking/validating server(s) at the v6eSG will perform the following task, to validate the Active IPv6 Address ability:

- Validation of ownership and validity of IPv6 address block.
- Validation of active IPv6 customer accessing to internet with the IPv6 address of the ISP's IPv6 address blocks.

4.3.3. Persistence of IPv6 service Ability

The scrip implemented in the checking/validating server(s) at the v6eSG will perform the following task to validate Persistence of IPv6 service ability:

- The IPv6 enabled ISP's network should keep reachable and with global routing ability.

Please note that v6eLogo_ISP recipient can opt-out to not have the maintenance tested run.

4.3.4. Required quality of IPv6 ISP for validation

4.3.4.1. Primary Test

The primary test case have been designed for the validation of the ISP's (1) Network Accessibility Requirement

The applied ISP should meet the requirements listed in the table below.

Network reachable	Success once

4.3.4.2. Optional -Maintenance Test

If v6eLogo_ISP recipient opt to have the maintenance tested be run.

To check the maintenance ability to provide persistence IPv6 service of a v6eLogo_ISP website, the maintenance test will be automatically run by v6eSG.

The applied ISP should meet the requirements listed in the table below.

Network reachable	>=4 days/week

Please note that v6eLogo_ISP recipient can opt-out to not have the maintenance tested run.

4.4. Procedure to obtain the v6eLogo_ISP

The process for obtaining the IPv6 Enabled WWW Logo Basic level is as following:

1. Download the IPv6 Enabled ISP validation specifications from the IPv6 Enabled Logo web site. http://www.ipv6forum.com/ipv6_enabled/
2. Fill out the Application form online and complete the IPv6 Enabled Logo Usage Agreement. Press the "apply button" to show your intention of agreement. The URL you put in the application form is limited to the hostname.
3. Once the ISP owner's application is validated by the v6eSG, the primary test as defined in 4.3.4.1 will begin.
    - Primary test cases check the network accessibility Ability as defined in 4.3.1.
4. 30 minutes later, if the primary test is passed, the ISP owner receive a dynamic image logo, as defined in 4.6, with a script to be inserted in the web site source file.
    - The ability to insert this script in the web site source code validates the ownership of the web site by the applicant.
    - The script checks the validity and active IPv6 address ability as defined in 4.3.2.

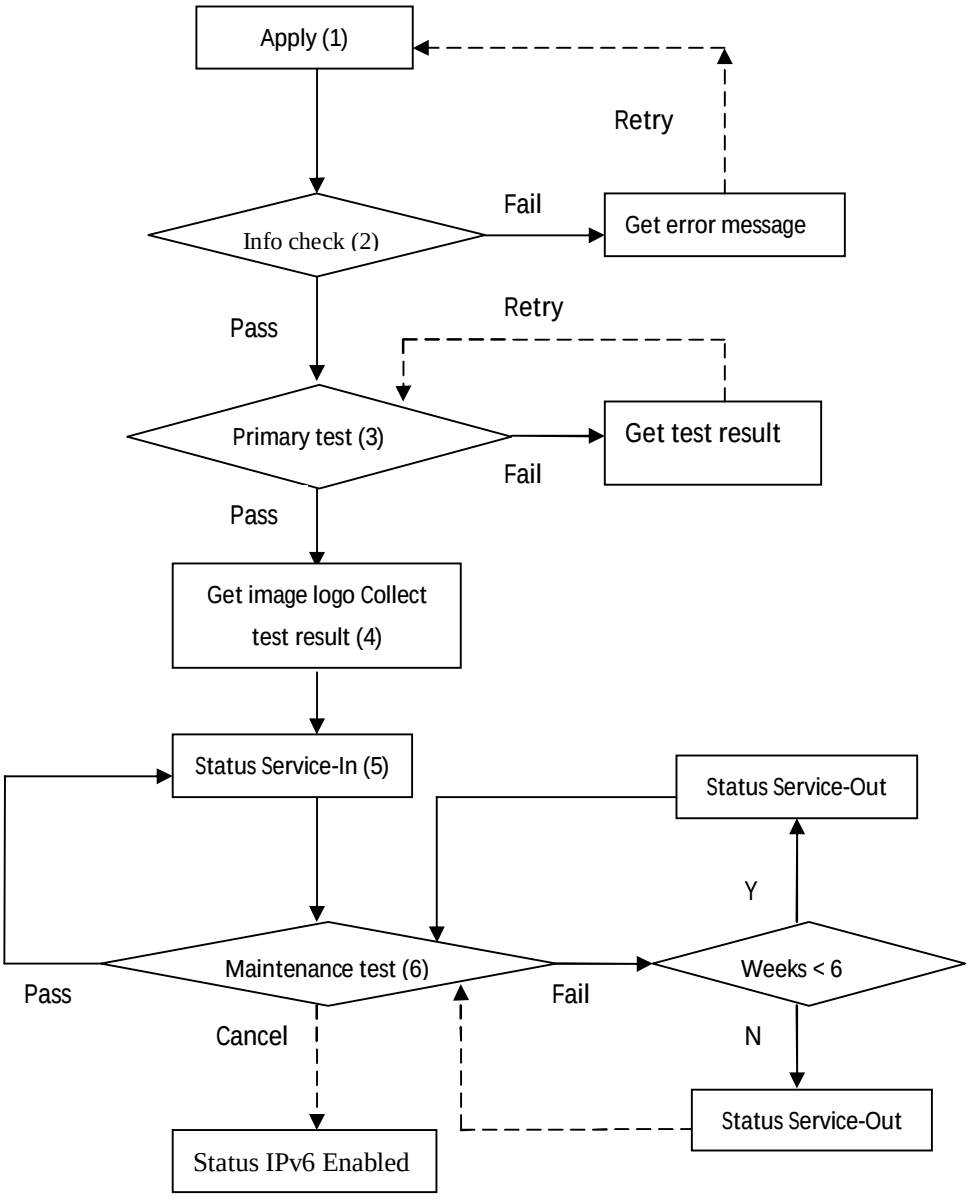
5. Once the script is run successfully once the ISP owner will receive a image Logo with a unique serial number, as defined in 4.5. And the ISP will be listed on the IPv6 Enabled ISP Web Sites list.

    - Public information such as the ISP's name, logo ID, AS number and address block will be shown.

6. Optional-Maintenance test, as defined in 4.3.4.2, is executed periodically to check persistence of the IPv6 service of a v6eLogo_ISP.

    - Important – If the ISP owner does not want to allow Maintenance test to be run the dynamic logo can now be removed. Note however that the web site status will be IPv6 Enabled.

    - If v6eLogo_ISP ISP cannot meet the maintenance test for a period of continuous 6 weeks the web site will be logged as Service-out on the IPv6 Forum IPv6 Enabled validation web page.



A-1 Procedure to obtain the v6eLogo_ISP

4.5. Image logo

A-2 Image logo sample

Image logo is authorized to applicant when the ISP has passed the primary test. The series number with specified format "XX-YY-ZZZZZZZZ" is unique. XX indicates the ISP program certification level, YY marks the region or country, and ZZZZZZZZ is an id number beginning from 00000001.

4.6. Dynamic logo

When the applicant successfully passes the primary test as defined in 4.3.4.1 the v6eSG generates the corresponding Dynamic logo with a tiny embedded java script.

The Dynamic logo is registered to the applicant's URL and cannot be used to obtain v6eLogo_ISP on any other web site.

The script works as followed:

The script first checks its validity by searching the logo ID of this script in the IPv6 Enabled Program's database, and then validates the URL of this page matches this ID.

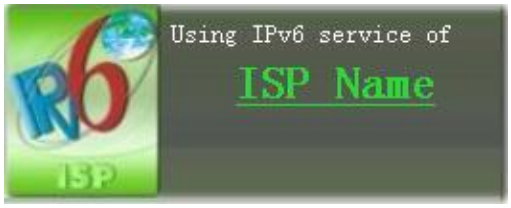
If a match is found, the script records IPv6 accesses. No confidential data is recorded.

Sample of the script:

```
<div id=ipv6_enabled_isp_test_info></div>
<script language="JavaScript" type="text/javascript">
        var Ipv6_Js_Server = (("https:" == document.location.protocol) ? "https://" :
"http://");
        document.write(unescape("%3Cscript src='" + Ipv6_Js_Server +
"www.ipv6forum.com/ipv6_enabled/isp/sa/SA.php?id=0'
type='text/javascript'%3E%3C/script%3E"));
</script>
</div>
```

There are two styles of dynamic logo for applicant to choose from: classic style and mini style. Each style is available; the only difference between them is displaying as shown in A-3 and A-4. Applicant

can choose either of them.



A-3 Classic style

A-4 Light style

IPv6 ISP Enabled Program contains two types of service status defined by the IPv6 Forum, and will be shown in the certificated IPv6 enabled ISP list.

1) IPv6 active: Primary test is successful and last-week maintenance test is successful or in progress.

2) IPv6 inactive: Primary test is successful and last-week maintenance test is failed.

3) IPv6 Enabled: The script has been disabled. Maintenance test cannot be run due to ISP owner policy after the ISP has already passed the entire test and got the IPv6 Enabled ISP logo.

Note: If nothing happens after you add the script in the website, please check whether the current URL matches the website's URL that you registered.

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 Enabled Logo Program: The IPv6 Forum IPv6 Enabled Logo Program objective is to encourage and accelerate deployment and adoption of IPv6 by web site owners and service providers.
- IPv6 Enabled WWW Logo (v6eLogo_WWW) Program: Sub-program of IPv6 Enabled Logo program and is applicable to web sites
- IPv6 Enabled ISP Logo (v6eLogo_ISP) Program: Sub-program of IPv6 Enabled Logo program and is applicable to service providers
- IPv6 Enabled Steering Committee (v6eSG): To manage the IPv6 Enabled Logo Program.
- IPv6 enabled websites: web sites that are accessible via IPv6
- v6eLogo_WWW: IPv6 Enabled WWW Logo
- v6eLogo_ISP: IPv6 Enabled ISP Logo
- WWW: World Wide Web
- ISP: Internet Service Provider
- DNS: Domain Name System
- ISP: Internet Service Provider
- AS: Autonomous systems
- BGP: Border Gateway Protocol