

IPv6 Ready Logo Program

- Exploring Phase 2 “Advanced Functions” -



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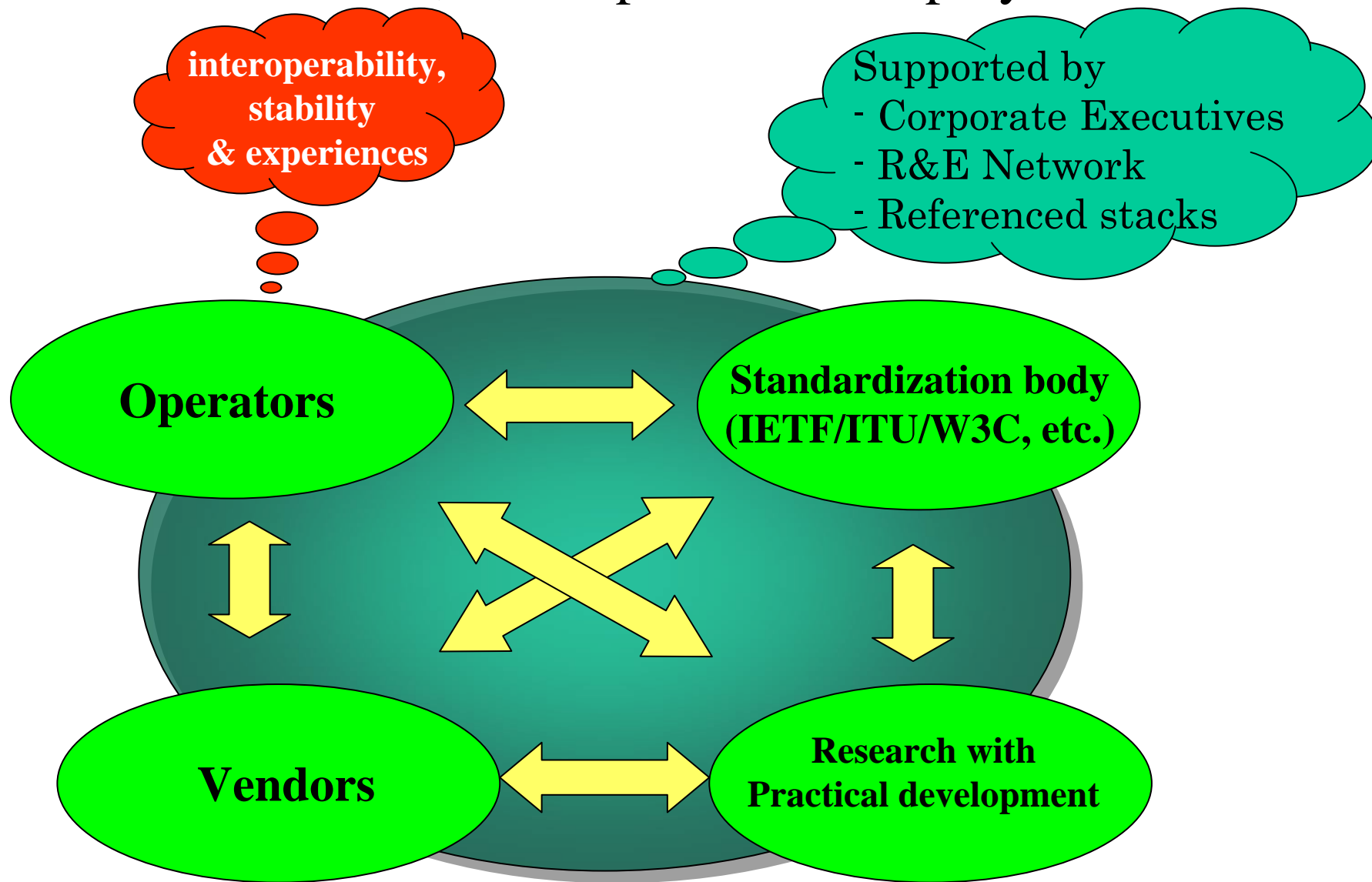
Chair, IPv6 Ready Logo Committee, IPv6 Forum

What is new !

- Include new items as Phase 2 program
 - SIP
 - DHCPv6
- Approved products
 - Phase 1 : 229 products
 - Phase 2 : 37 products
- Start soon
 - NEMO



Community interaction in the Internet industry for research, development and deployment



Steps to Establish Interoperability

- Technical Standardization
 - IETF
- Referenced Implementation
 - e.g., ISC(bind), KAME(BSD), USAGI(Linux)
- Conformance testing
 - e.g., TAHI
- Interoperability testing
 - e.g., Moonv6/ UNH-IOL, PLUGTEST, Connectathon, TAHI
 - IPv6 Forum IPv6 Ready Logo Program
- Testbed operation
 - e.g., Abilene, 6NET/EURO6IX/GEANT, JGN/WIDE, APAN
 - CNGI

IPv6 Ready Logo Program run by IPv6 Forum

<<http://www.ipv6ready.org>>



Phase 1 logo



Phase 2 logo

Phase 1 ; Started September 1, 2003

Phase 2 ; Started February 16, 2005

Two important points and some others

- Conformance
 - With test-tools
- Interoperability
 - Interoperable with other implementations
- Routing function is out-of-focus
- BII is a technical partner in China
 - <http://www.biigroup.com>
 - <http://www.ipv6.net.cn>

Structure of Program

- Board of IPv6 Forum
 - Chair : Latif Ladid
 - Technical Directorate Chair : Jim Bound @HP
- IPv6 Ready Logo Program
 - Chair
 - Hiroshi Esaki @ WIDE/IPv6-PC
 - Technical Officers
 - Cesar Viho @ IRISA
 - Benjamin Schultz / Rob Wolff @ UNH-IOL
 - Hiroshi Miyata @ TAHI / Yokogawa

Objectives

- Phase 1, i.e., minimum requirements
 - Encourage every organizations that will deploy IPv6
 - Inform ordinary people of equipment and service interoperability and conformance for equipments and services
- Phase 2, i.e., complete requirements
 - Check and ensure the equipment and service interoperability and conformance according to the IPv6 technical standards.
- Phase 3
 - Mandate IPsec for certification (plan)

Notes

- Phase 1 program runs, even after the release of Phase 2
- Logo Design
 - Logo of Phase 1 and 2 can be distinguished
 - Phase 1 : Silver background
 - Phase 2 : Gold background
 - Logo ID includes
 - Serial Number
 - Version number for testing specification
 - Approved functional component(s)
- List of products approved for the IPv6 Ready Logo is published on the Web.

Notes (Cont')

- For software version up

We are not require the re-submission of application with the result of re-testing the product with any software release version up.

The applicant should and want to inform to the logo committee which version(s) is(are) newly included in the corresponding (logo approved) product.

The logo committee expects and believe that the applicant provides the same quality as the previous version does, with our credibility to the applicant. And, the logo committee would expect that the applicant re-runs the test, when the product experiences the software version up, in order that the product satisfies the Phase 1 and Phase 2 test specification.

Products for Phase 1 Logo

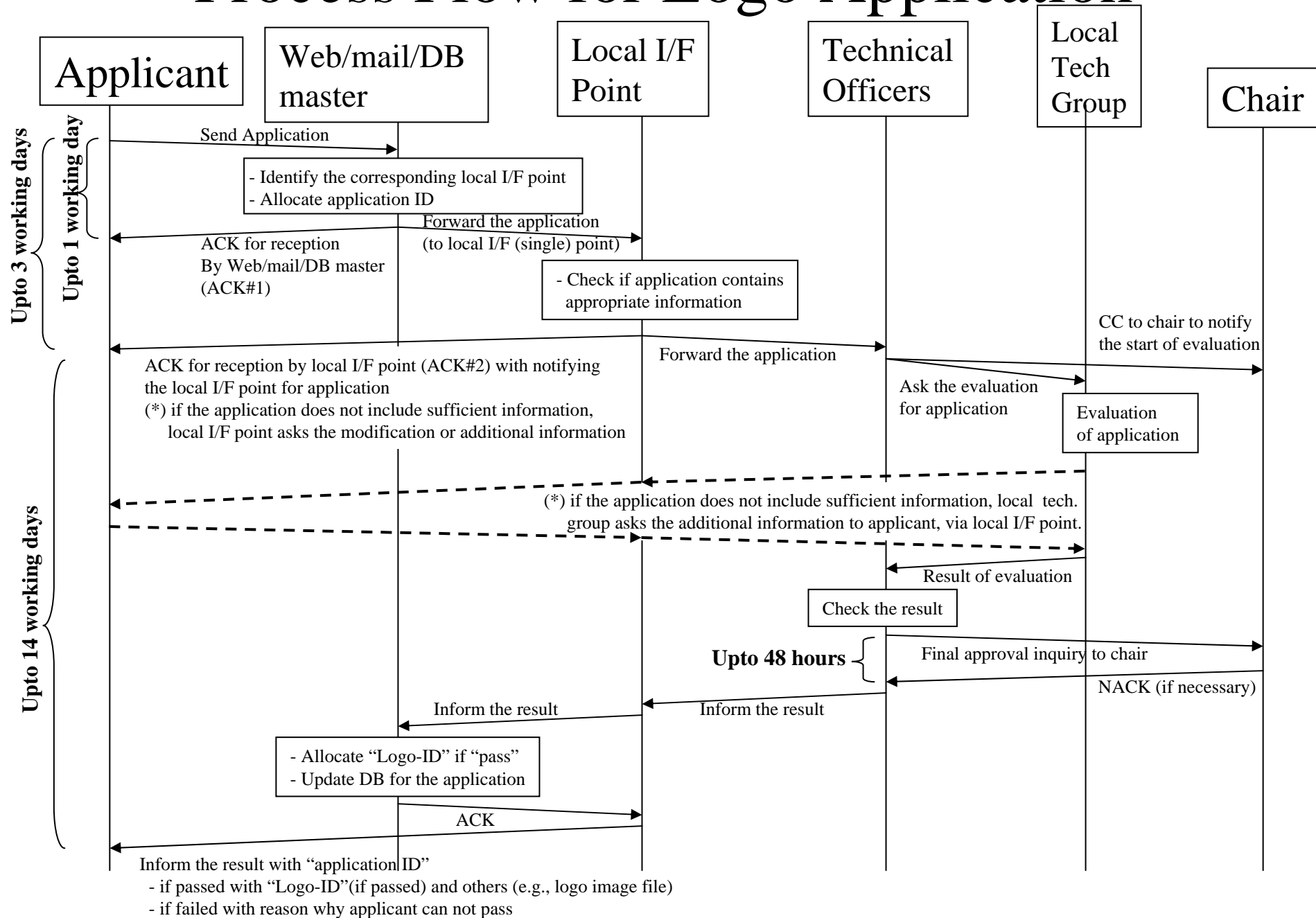
- Host equipment
- Router equipment
- Operating System (e.g., Linux)
- IPv6 Protocol Stack (e.g., VxWorks)
- Embedded System (Under discussion)

(*) Application (e.g., mail server) and service (e.g., ISP) is for further study

Application Procedure

1. Conformance testing by Self-test
 2. Interoperability testing with two Routers and two Host
 3. Fill out application form and send to the following e-mail address with the test log
< v6-apply@v6pc.jp >
 4. Agree the logo license agreement
- (*) Self-test base and Interoperability test event base are essentially based on the same testing criteria, which is Phase 1 test specification.

Process Flow for Logo Application



Notes

- Contact for application

- Web <http://www.ipv6ready.org>

- Mail [<v6-apply@v6pc.jp>](mailto:v6-apply@v6pc.jp)

- Application ID

- {local I/F}-{date(yyymmdd)}-{serial_number(6digits)}

- (*) serial number is global unique

- [example] “KR-20031013-000111”

- Logo ID

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

- [example] “01-000123” (stating from “01-000111”)

- (*) for Phase 2, [additional information] shall indicates conformed items (e.g., IPsec, MIPv6), something like TCP's control bits.

- “01101101”(binary) → “6E” (digit)

Procedure of Application

1. mail will be sent to <v6-apply@v6pc.jp>
 - v6-apply@v6pc.jp will be destined to DB master. DB master will forward this to the appropriate country/regional I/F point
 - * country / region must be described in the subject line
 - * For the web interface, check the country/regional dot
 2. reception ack message with Application ID is sent from <v6-apply@v6pc.jp> within 1 working day.
 - * application is forwarded to local I/F point
 - * In the web case, web system return the ack and application ID, and forward the application to Local I/F point directly
 3. local I/F point will return the ack to confirm the start of application processing, within 3 working days and check if the application includes complete information
 - * if not, then {contact with applicant}
 - * if yes, then, {forward to Tech Officers for examination}
 4. Tech officer exams application
 - * if information is not sufficient, then {return to Local I/F point}
 - * if result is Good, then {the result will forward to Chair for final approval}
 - ➔ Chair will give negative ack only if he reject the judge within 48 hours
 5. Tech officer will return the result to Local I/F point and Web master
 6. Web master will register Logo ID, then, notify the Local I/F point the Logo ID registration has been done
 7. Local I/F point will return the results
 8. Applicant can start use Logo right away
- ** Total procedure will be done in 2 weeks
- ** all questions from applicants go to Local I/F point

Phase 1 : 229 products
Phase 2 : 37 products
(as of April 1, 2006)



Dr. Hiroshi Esaki

30 (P1)
8 (P2)

8 (P1)
1 (P2)

191 (P1)
28 (P2)



Ben Schultz



Cesar Viho



Hiroshi Miyata



Phase 1 Approved Products from CN

<< As of April 1, 2006 >>

1. ZTE Corporation
2. Harbour Networks Ltd.
3. Fiberhome Networks
4. Huawei Technologies Co, Ltd.
5. Tsinghua Unisplendour Bitway
Networking Technology Co. Ltd.
6. Digital China Network Ltd.,
7. Beijing Jiaxun Feihong Network-Tech Co.Ltd.
8. Ruijie Networks Ltd.
9. BII
10. BJTU (Beijing Jiaotong University)





Coverage and Primary Responsibility for Phase 2 Program

IPv6 Core

UNH/IOL

MLD

UNH/IOL

MIP/NEMO

IPv6PC/TAHI

IPsec/IKE

IPv6PC/TAHI

Migration

IRISA

(*) New item :

1. SIP (IPv6PC/TAHI)

2. DHCP (UNH/IOL)



Status on Phase 2 Program

- IPv6 core specification : started
- IPsec (including IKE) : started
- MLDv6 (multicast) : in-progress
- MIPv6 including IKE : started
- 6 to4 : done(experimental)
- NAT-PT : done(experimental)
- IKE : in-progress
- NEMO : in-progress



Policy of Phase 2 Logo

- Our assumption is ;
that the vendor will apply core and MLD, first. Then, they add IPSec, MIPv6 and migration.
- From this perspective, core and MLD is basic and IPSec/MIPv6/Migration is an optional. However, in Phase 3, we would mandate the IPSec for logo approval
- We give a logo, when the product passes at least one component.
- Which component(s) the product passes is represented by Logo-ID.
(*) it would be like a control flag in TCP header.



RFCs for Phase 2 Program

- IPv6 Core Specification
 - RFC2460 Internet Protocol, Version 6 (IPv6) Specification
 - RFC2461 Neighbor Discovery for IP Version 6 (IPv6)
 - RFC2462 IPv6 Stateless Address Autoconfiguration
 - RFC2463 Internet Control Message Protocol (ICMPv6)
for the Internet Protocol Version 6
(IPv6) Specification
 - RFC2464 Transmission of IPv6 Packets over Ethernet
Networks
 - RFC1981 Path MTU Discovery for IP version 6
 - RFC3513 Internet Protocol Version 6 (IPv6) Addressing
Architecture



RFCs for Phase 2 Program

- IPsec
 - RFC2401 Security Architecture for the Internet Protocol
 - RFC2403 The Use of HMAC-MD5-96 within ESP and AH
 - RFC2404 The Use of HMAC-SHA-1-96 within ESP and AH
 - RFC2405 The ESP DES-CBC Cipher Algorithm With Explicit IV
 - RFC2406 IP Encapsulating Security Payload (ESP)
 - RFC2410 The NULL Encryption Algorithm and Its Use With IPsec
 - RFC2451 The ESP CBC-Mode Cipher Algorithms
 - RFC3566 The AES-XCBC-MAC-96 Algorithm and Its Use With IPsec
 - RFC3602 The AES-CBC Cipher Algorithm and Its Use with IPsec



RFCs for Phase 2 Program

- MIPv6
 - RFC 3775 Mobility support in IPv6
 - RFC 3776 Using IPsec to Protect Mobile IPv6 Signaling Between Mobile Nodes and Home Agents



Phase 2 Approved Products

- Nortel (US)
- NEC(JP)
- Panasonic Comm.(JP)
- TEPCO UQUEST (JP)
- Panasonic (JP)
- Wind River (US)
- Foundry Networks (US)
- Hewlett-Packard (US)
- Elmic Systems (JP)
- Treck (US)
- ZyXEL Comm. (TW)
- Konica Minolta (US)
- NTT (JP)
- SECUi.COM (KR)
- Ericsson Telebit (DE)
- Future Systems (KR)
- Digital China Networks (CN)
- iBIT Technology (KR)
- LG Electronics (KR)
- Samsung Electronics (IN)
- Spectracom (US)
- KAME (JP)
- Oki Electric Industry (JP)
- Oki Information Systems (JP)



Summary

- IPv6 Forum “IPv6 Ready Logo Program”
 - Global unique test specification/criteria
 - Encourage the deployment of IPv6 technology
 - Encourage the establishment of high quality local labs
- Approved products (as of April 1, 2006)
 - Phase 1 : 229 products (CN=12)
 - Phase 2 : 37 products (CN= 1)
- New work item
 - SIP, DHCPv6
- Contact for application
 - Web <http://www.ipv6ready.org>
 - Mail [<v6-apply@v6pc.jp>](mailto:v6-apply@v6pc.jp)
 - Chair Hiroshi Esaki [<hiroshi@wide.ad.jp>](mailto:hiroshi@wide.ad.jp)

謝々