

# **Current Activity of Research and Development of IPv6 Product in Japan**

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# Agenda

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1. What is IPv6 Promotion Council of Japan
2. IPv6 Product in our Showroom
3. Recent R&D in Japan
  - I. Facility Networking
  - II. VoIP System Interoperability Task Force
  - III. Live E! Project
  - IV. IPv6 Ready Logo Program
  - V. IPv6 Transition Field Trial
4. Conclusion

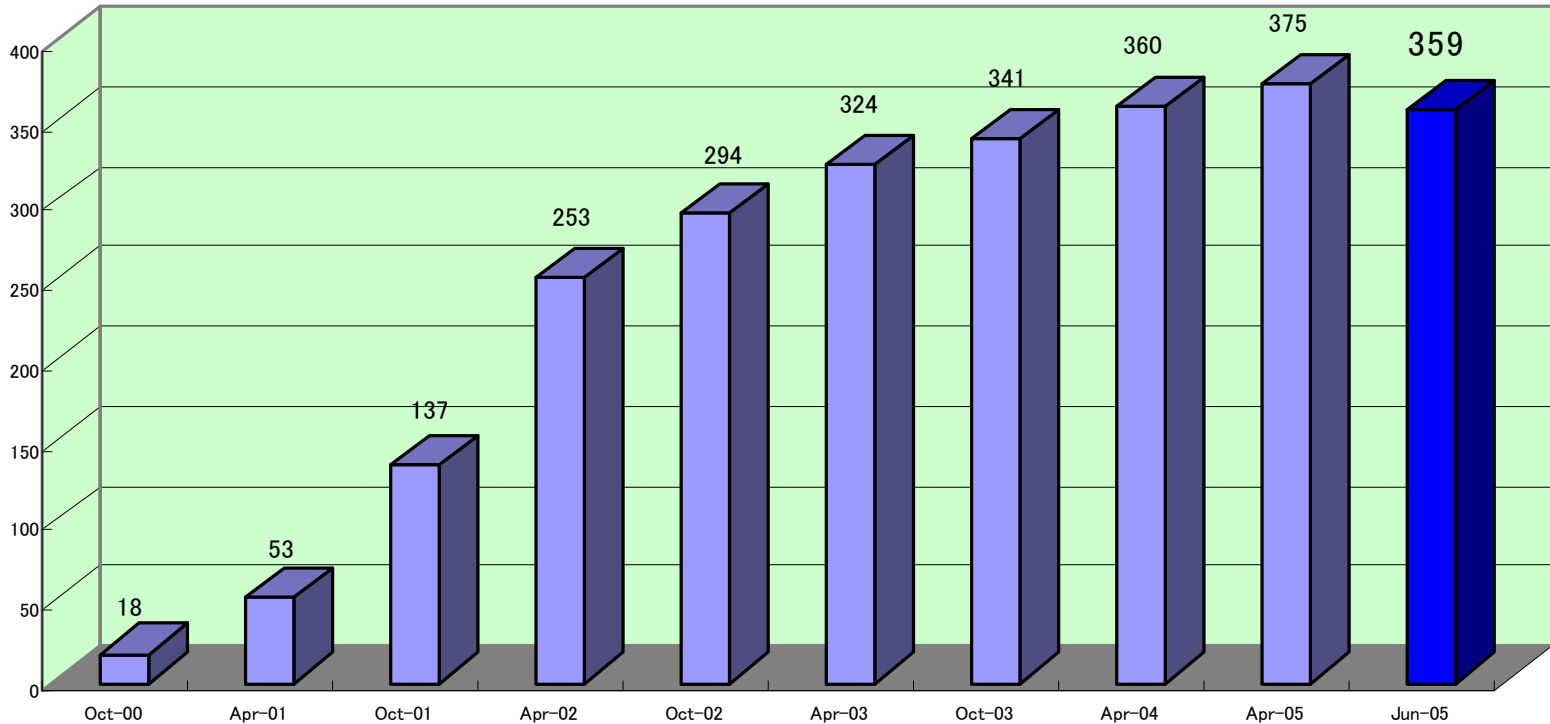
# What is IPv6 Promotion Council of Japan

## What is IPv6 PC?

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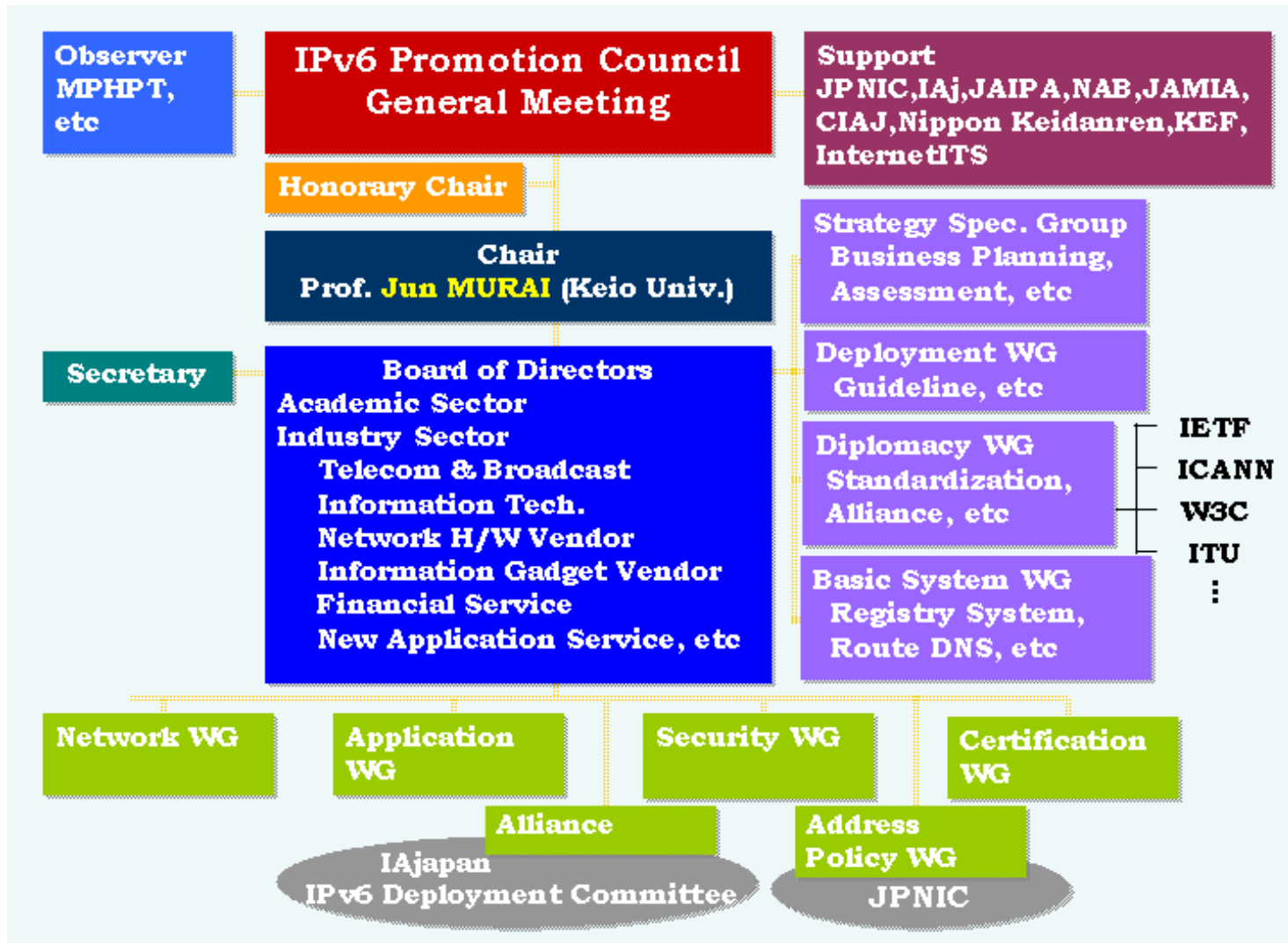
- Established in October, 2000
- Non-Profit and Non-Governmental
- Members from worldwide major companies in telecom carriers, ISPs, HW/SW vendors
- car, finance, general trading companies as well, such as TOYOTA, Bank of Tokyo-Mitsubishi and so on
- international members such as HP, Juniper, CISCO, IBM, NOKIA, Native6 and so on

## Number of members

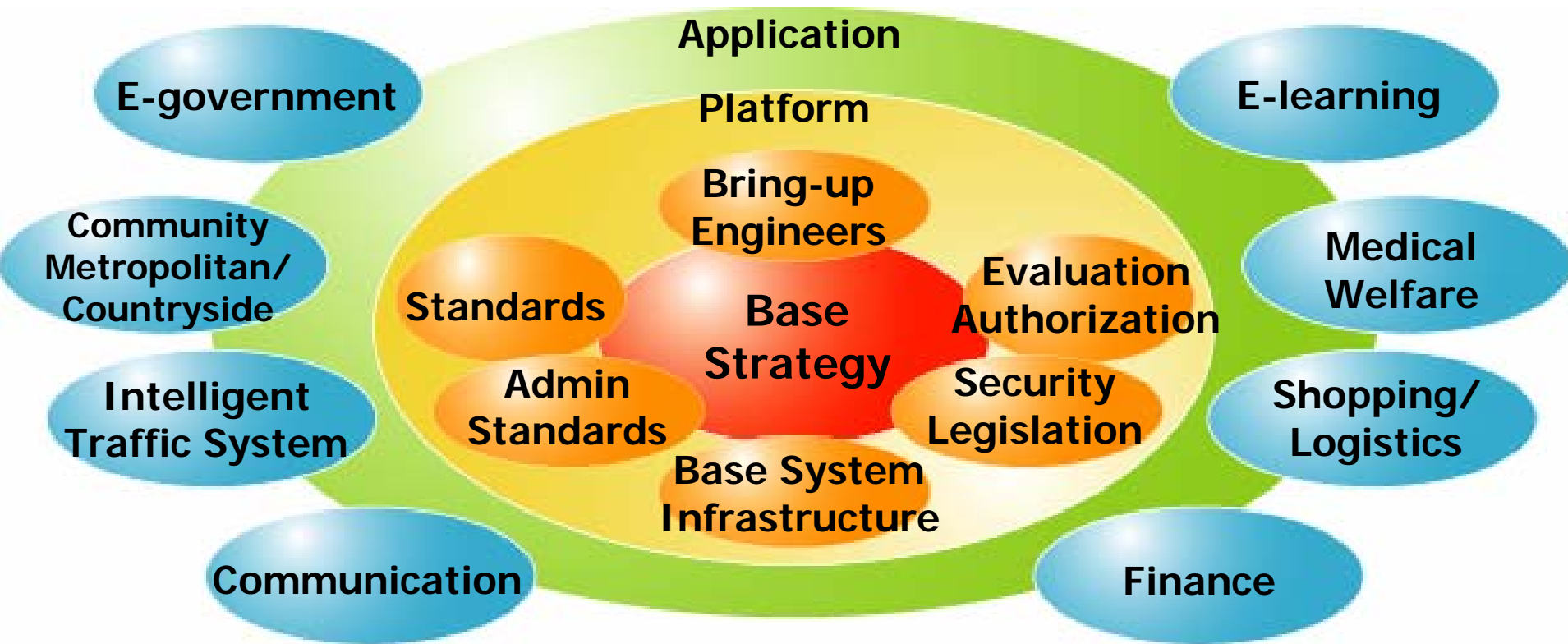


- 359 Corporations, Organizations, and Individuals as of June 2005

## Organization



## For the future



# IPv6 Product in our Showroom



## Galleriav6

- Exhibit the IPv6 products.
- Near Tokyo Station.
- Open: Monday – Friday  
11:00am-19:00pm
- More information:
  - <http://www.v6pc.jp/>



## Current Products in our Showroom

Manufacturer	Appliance / Application
Sanyo	IPv6 digital camera system and Home gateway
Canon	Web camera system
Yokogawa Electric / Yokogawa Denshikiki / Internet Node	Remote-control-based node, Voice navigator, Field Information Server (FIS), Network solution Controller (Xancia)
Information Services International-Dentsu	DVTS, DVTS/Ruff on demand
NEC	Video Conference System
Panasonic	Printer, Web Camera, IP phone
Toshiba	Video Chat System
H.I.C.	Video Chat System
FreeBit	IP Phone terminal based on IP Centrex System

## IPv6 digital camera system and Home gateway (Sanyo)

- Send images to the Home Gateway via wireless LAN
- View the images by TV.



## Web camera system (Canon)

- Remote controlled Web camera
- Zooming, Panning



## Remote-control-based node (Yokogawa)

- An infrared remote controller for TV.
- Send the command from remote PC or cellular phone.



## Voice navigator (Yokogawa)

- Provide the information by voice which are stored in the voice server.
- Integrates a barcode, IPv6 and wireless LAN technologies.



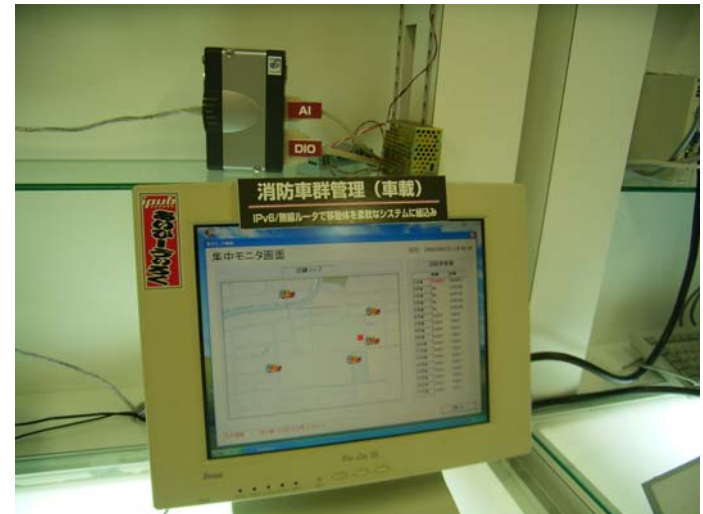
## Field Information Server (FIS) (Yokogawa)

- Monitoring the weather condition by the sensor unit.
- Gather the result of monitoring.



## Network solution Controller (Xancia) (Yokogawa)

- Xancia is a kind of gateway to control and monitor the status of equipments.
- several I/O interfaces included.





## DVTS, DVTS/Ruff on demand (Dentsu)

- High quality DV image distribution system.
- Video conference, live event relay, etc.



## Video Conference System (NEC)

- Server based Video Conference System.
- Using MotionJPEG.



## Printer (Panasonic)

- Using IPP (Internet Printing Protocol)



## Web Camera / IP phone (Panasonic)

- Two-way Visual communication can be done using Web Camera and IP phone.



## Video Chat System (Toshiba)

- Vide Chat System based on usual LCD TV.
- using m2m-x protocol



## Video Chat System (H.I.C)

- Video Chat System based on PS2
- using m2m-x protocol



## IP Phone terminal based on IP Centrex System (FreeBit)

- IP-phone solution based on shared IP Centrex
- Already installed to a dormitory operator to manage their distributed facilities



# Intelligent Mobile IP Terminal (Fujitsu)

- Web browser, Video phone and Digital TV
- CPU: FR-V processor
- OS: Linux
- 165x73x22mm, 245g
- IEEE802.11b
- Full browser (Inspirium)
- SIP, MPEG-4, H.264





# Recent R&D in Japan

## I. Facility Networking (1)

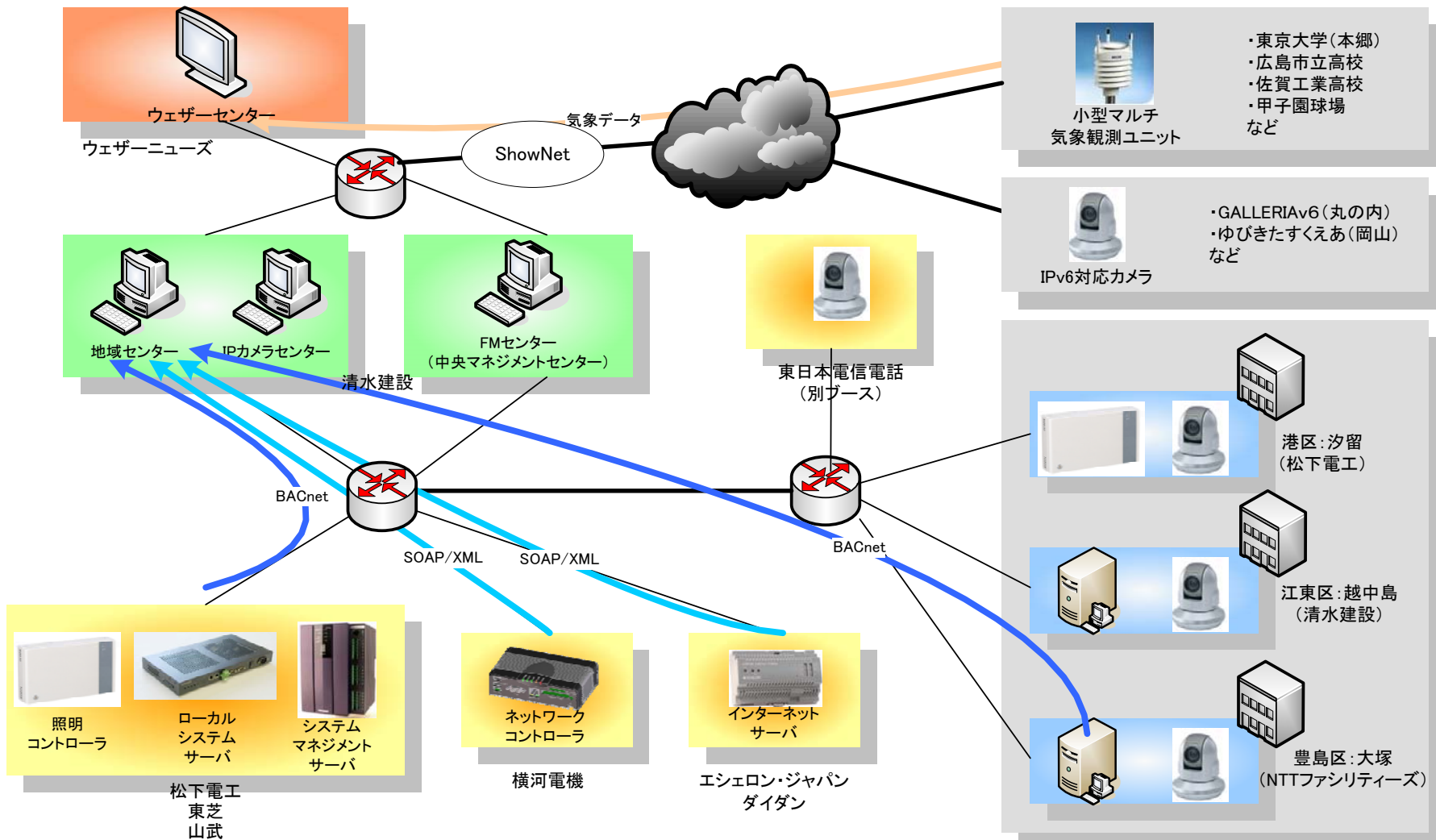
- What is Facility Networking SWG
  - The Facility Networking SWG's goal is to reduce the life cycle cost (LCC) of buildings by employing IPv6 network technology in an open and multi-vendor building system.
  - The Facility Networking SWG will standardize the building automation specification and propose it as an international standard. The proposal is not designed to compete with the LonWorks or BACnet specifications. The aim is to discuss the current specifications, and create a successor to LonWorks and BACnet. The resulting specification will be proposed to the LonMark Interoperability Association and ASHRAE (BACnet).
  - Moreover, we aim to create an area management system in metropolitan locations or areas where many buildings and institutions can interconnect via the IPv6 Internet.

## I. Facility Networking (2)

- Recent Activities
  - Demonstrate the interconnection experiment at Interop Tokyo in June 2005.



## I. Facility Networking (3)



## II. VoIP System Interoperability Task Force (1)

- The current problem in Japan
  - IP telephony service is becoming popular rapidly in anywhere like homes, enterprises and ISP networks, although there is less establishment of interoperability because IP telephony terminal vendors and IP telephony service providers tend to develop their products or services on their own way.
- For success of IP telephony service
  - Basic interoperability not only among vendors but also between the vendors and the providers will be necessary.

## II. VoIP System Interoperability Task Force (2)

- Task Force established
  - To establish interoperability among VoIP systems using SIP
    - Multi-vendors environments
    - Multi-providers environments
  - To prepare the environment to test and evaluate interoperability
    - Disclosure of basic interoperability evaluation and test specifications
    - Development, disclosure and distribution of the test/evaluation software tool
    - Provision of a test-bed environment and holding of and interoperability test events
  - To cooperate for alliances with local & global standards bodies and contribute to business activities
- Task Force aims
  - To verify the interoperability at a technical viewpoint.
  - To provide the effort to the standardization organizations.

## II. VoIP System Interoperability Task Force (3)

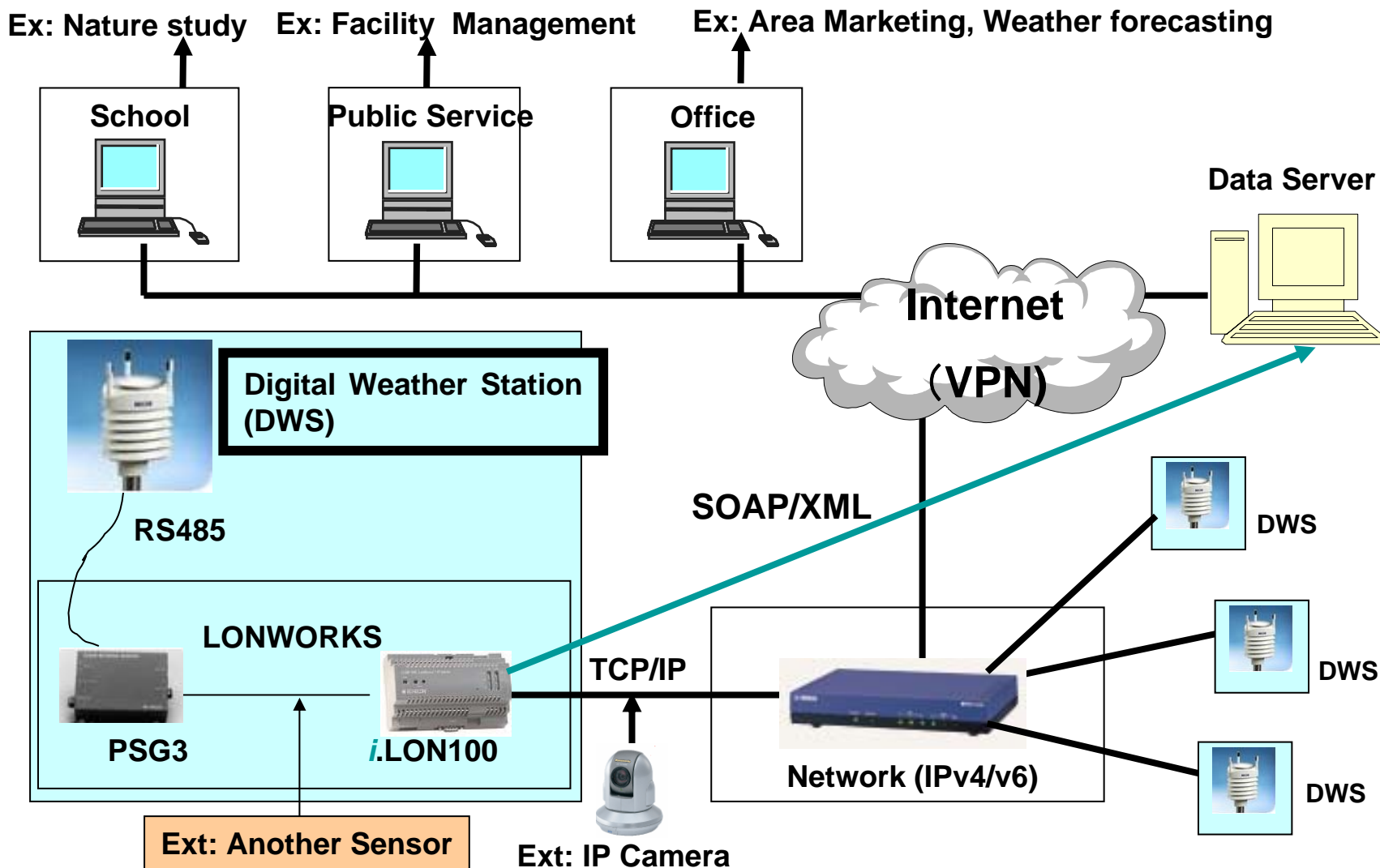
- Current Activities
  - Major ISP and Terminal Vendor joined.
  - Interoperability Test has been done 4 times.  
(3 TE-ISP, 1 ISP-ISP)
  - Cooperate with VoiceCon, SIPit, etc.  
VoiceCon will take place in Japan in December 2005.
  - Contract the MoU about cooperation with Multiservice Switching Forum (MSF, USA) in February 2005.
  - Start the arrangement with Taiwan about cooperation works.
- More Information
  - <http://www.nic.ad.jp/en/voip-sip-tf/index.html>
  - [voip-tf-info@nic.ad.jp](mailto:voip-tf-info@nic.ad.jp)

## III. Live E! Project (1)

- What is Live E! Project
  - Live E! is a approach that aims at the achievement of the infrastructure construction that can use, process, and share “Environmental Information”.
  - “Environmental Information” is collected by "Digital Weather Station“, IP Camera, etc. that are set up by the individual and the organization voluntarily.
  - “Digital Weather Station” acquire the weather information with low cost and send the information to the data server via the Internet and JGN2(Japan Gigabit Network).
  - By the installation of a lot of “Digital Weather Station”, the environmental information can be utilized much more.
  - The development of a new activity is assumed in an education, public service and the business field.



# III. Live E! Project (2)



## IV. IPv6 Ready Logo Program (1)

- What is IPv6 Ready Logo Program
  - Certification program for IPv6 products.
  - Run by IPv6 Forum.
  - Certification WG in v6PC supports this program especially at the technical area.
  - Phase-1 started in September 2003.
  - Phase-2 started in February 2005.

## IV. IPv6 Ready Logo Program (2)

- Phase-1
  - Minimum requirement.
  - Encourage every organizations that will deploy IPv6
  - Inform ordinary people that the products have interoperability and conformance
  - Core protocol only.
- Phase-2
  - Complete requirements
  - Check and ensure the equipment and service interoperability and conformance according to the IPv6 technical standards.
  - Core, IPSec, MIPv6, MLDv6, 6to4, NAT-PT, IKE and NEMO



## IV. IPv6 Ready Logo Program (3)

- Current Status
  - About 180 products have got the Phase-1 Logo
  - Phase-2 program (Core Protocol) started in February 2005
  - First Phase-2 Logos have approved in April 2005
  - IPSec and Mobile IP with Phase-2 started in June 2005
  - Public review for IKE has started from September 1 2005.
- More information
  - <http://www.ipv6ready.org/>

# V. IPv6 Transition Field Trial (1)

Office Staff (remote) !  
Kiosk Terminal For Residents Consultation

**■ Consultation services for residents (Taito, Tokyo)**  
Constructing a remote consultation service system for residents by utilizing IPv6's security system.

PC of staff

**■ Taito City Assembly streaming live video relay services (Taito, Tokyo)**  
Implementing a high-definition City Assembly video relay distribution system by multicast distribution functions of IPv6

Fire Headquarters  
IPv6 mobile network  
Care Terminal (IPv6)  
Providing services to users who cannot access to network environment by visiting them. Fireman  
IPv6 static network  
Health consultation by TV telephone and remote control of medical devices  
Care Terminal (IPv6)  
Video camera with microphone  
Emergency report devices  
Vital sensors (BP/Pulse/BT)  
emergency report coordination

**■ Health care at home support services (Asahikawa, Hokkaido)**  
Realizing a health-care-at-home support service by means of IPv6-ready mobile terminals by the "push functions" of IPv6.

Push-type provision of information  
Information services form local authorities

**■ Push-type information provision services for residents (Osaka)**  
Constructing information provision services by the information push function of IPv6.

Surveillance camera  
Video distribution to home management associations  
Security service  
Device maintenance service  
Street light  
One device belongs to multiple IPv6NWs.

**■ IPv6 multi-services in Security-Town (Kawasaki, Kanagawa)**  
Implementing a security town service system by simultaneous control functions of multiple connections and automatic setting functions of IPv6.

Music  
Traditional arts  
ISP1  
ISP2  
Wide-area distribution

**■ Music Town services (Okinawa)**  
Realizing a video multicasting system via multiple ISPs by using IPv6.

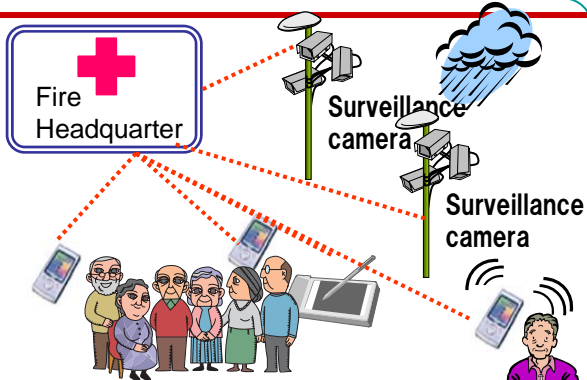
**■ IPv6 multi-service in school security solutions (Tokyo)**  
Implementing a security service system for schools by using the functions that control the multiple connections of IPv6 at the same time.

Building management center

**■ Office building automation services (Tokyo)**  
Implementing a total building management system by using abundant IPv6 addresses in some cultural facilities.

※The place-names in the figure above are not responsible organizations but the places where the experiments are planned.

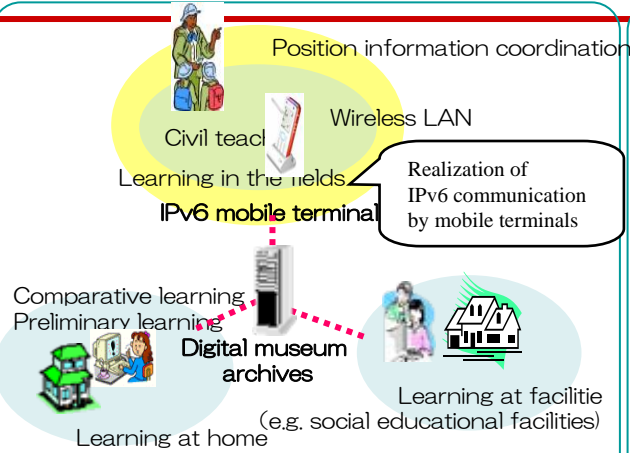
# V. IPv6 Transition Field Trial (2)



## Provision of disaster information/Information service

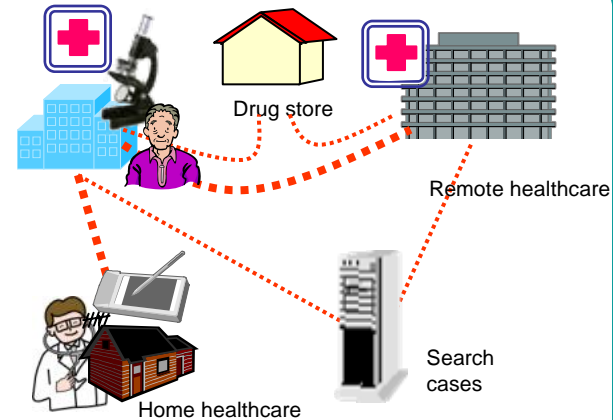
### ■ Information gathering service for disaster prevention (Niikappu, Hokkaido)

Constructing an image processing stationary measurement system, the mobile terminal information service and the telephony service system by IPv6's connectivity and manageability.



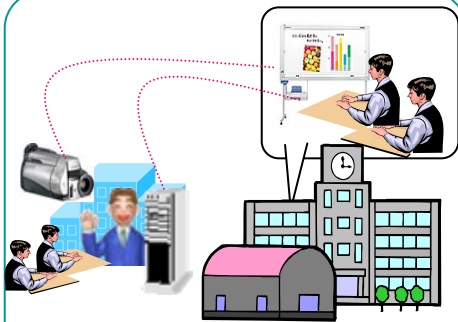
### ■ Local digital museum (Tateyama, Toyama)

Constructing a learning-aided system which archives the learning materials from many wireless LAN spots and provides to cellular phone type mobile terminal of IPv6.



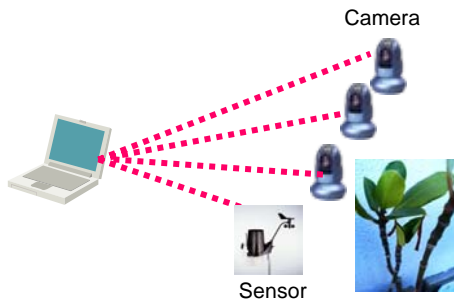
### ■ Local medical network service (Wakayama)

Constructing a medical collaboration service system with high quality protection for personal data by end-to-end communication function of IPv6.



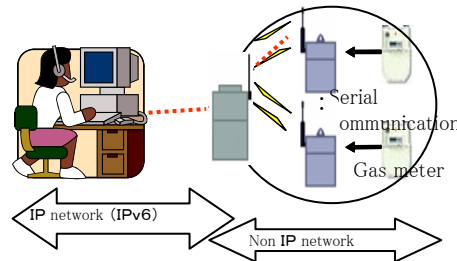
### ■ Video distribution service between educational facilities (Hiroshima)

Constructing an educational network system which delivers educational contents to multiple places and supports remote schooling by using direct connectivity of IPv6.



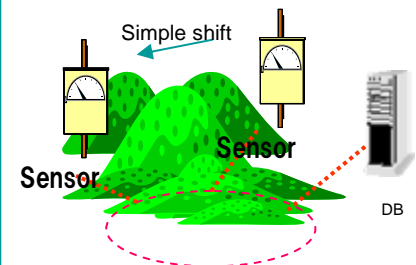
### ■ Nature regeneration monitoring service (Taira)

Constructing a continuous monitoring system for nature regeneration process by using abundant addresses and the plug & play function of IPv6.



### ■ LP gas tele-metering (Kochi)

Constructing a remote gas meter surveillance system by using the plug & play function and unchanging terminal IP address of IPv6.



### ■ Environment monitoring (Tottori)

Realizing an environment monitoring system for effective usage of limited sensors by using the plug & play function of IPv6.

# Conclusion

## Future activities in Japan

- For the consumer, the IP telephone and the information appliances will spread gradually.
- In the field like the building maintenance and the sensor network for disaster prevention, the system using IPv6 will spread rapidly.
- We will contribute to spread IPv6 at worldwide scale through the activity such as IPv6 Ready Logo and VoIP System TF.



# Thank you for your attention !



More information:

IPv6 Promotion Council of Japan:

URL: <http://www.v6pc.jp/en/index.html>

e-mail: [info@v6pc.jp](mailto:info@v6pc.jp)