# IPv6 Deployment in Japan
- the way we accomplish -

EC IPv6 Deployment TF –Phase II

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IPv6 Promotion Council

Deployment Scope
shared by both Gov. & Industries

Applications

E-Government

E-Learning

Platform

Community Metropolitan Countryside

Standards

Bring-up Engineers

Evaluation Authorization

Medical Welfare

Base Strategy (Domestic/Intn'l)

Address Admin

Security Legislation

Base system Infrastructure

Intelligent Traffic System

Shopping Logistics

Communication

Finance
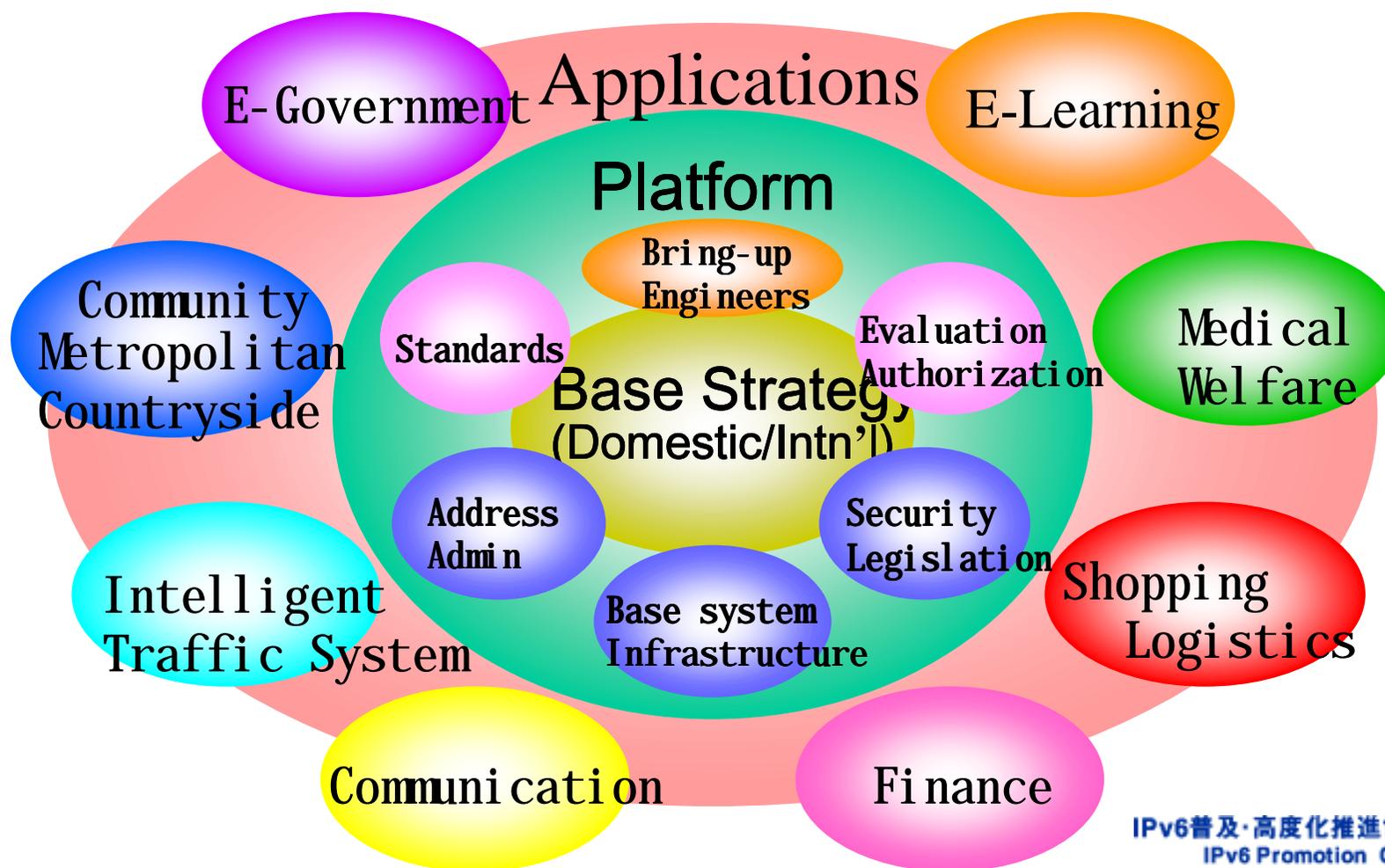
Deployment Promotion Body

- Performance of Promotion Body (Such as IPv6 TF) is the key for deployment
- Establishment of IPv6 PC for this sake

Government

Industry

Business Development

Promotion Body

Company

-Grand Design
-Strategic Planning
-Budget Program

-R&D Project
-Trial Program

-Press
-Magazine
-Event
-Show Rm

-Apps. Trial Program
-Feedback collection

Public People

Consumer Monitor Gr.

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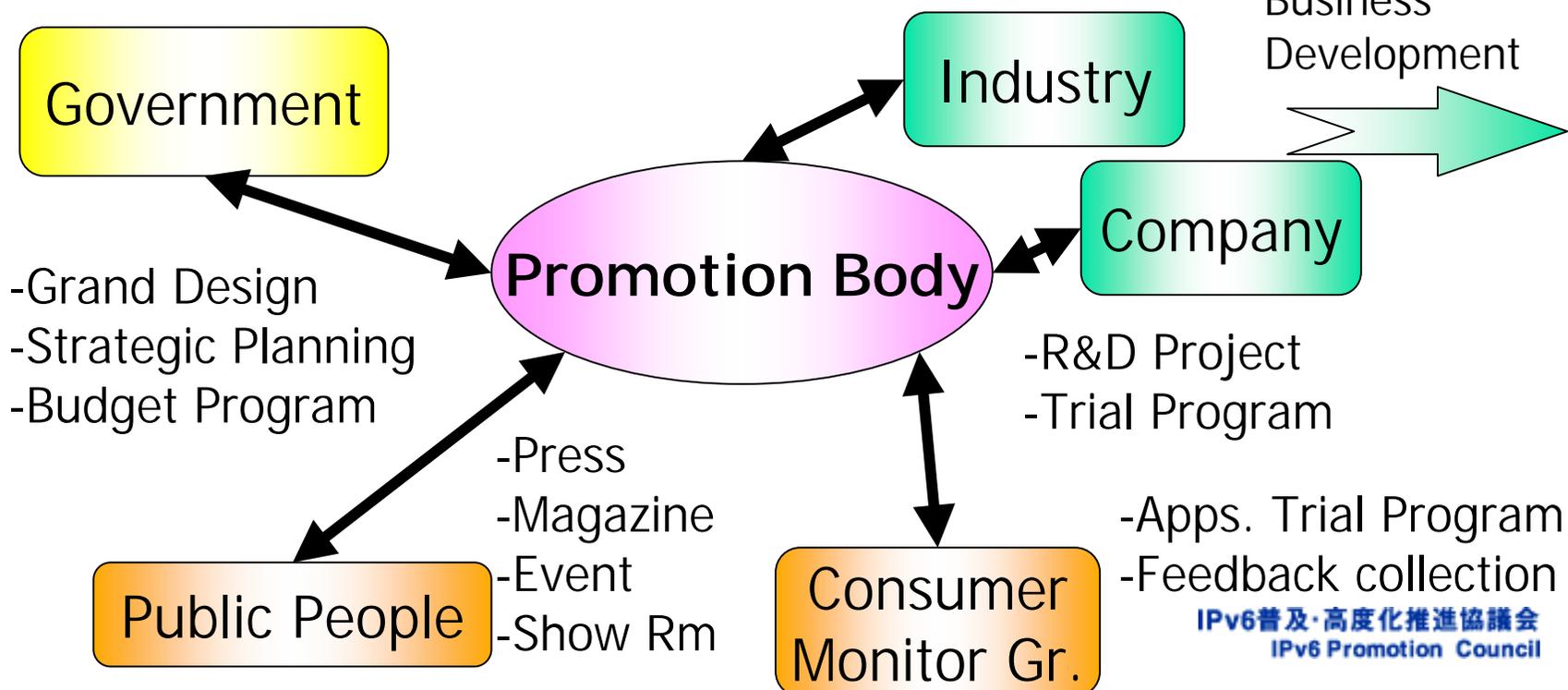
Deployment Status in Japan

All parts get ready in JP:

- **Government Support IPv6 in "e-Japan"**
- **Major ISPs have started services**
  - Even start-ups and rural small ISPs
- **Backbone and IX providers have started**
- **Major router venders are "v6-ready"**
- **Major terminal venders started trials**
  - Home appliances, sensors, Web-cameras, etc.
- **Other service area started trials**
  - Internet Car/Train, Medical, On-line Games, etc

ISPs

- IIJ
  - 1st IPv6 service (tunnel) in 1998
  - Offer Dual, IDC, Consultation at current
  - More than 100 customers
- NTT Communications
  - 1st commercial IPv6 service in 2001
  - Started Dual services for ADSL users
  - World-wide global transport service

ISPs (cont.)

- **Others offer trial services**
  - Powered Com
  - Japan Telecom
  - KDDI
    - Also started tunnel service for Mobile phone
  - Fujitsu, Panasonic, Sony, DTI, Mitsubishi for home users
  - Chita Medias (a local CATV provider)
  - MIS (Mobile IP/802.11b "Hot-spot" service)

ISPs (cont.)

- **Others**
  - JGN (Japan Gigabit Network)
    - Funded by Government
    - Nation-wide research network
    - Native IPv6 transport (not tunnel)
    - IPv6 over ATM
    - 622 Mbps capacity
    - 45 access points in nation
      - This site is also connected to Kita-Kyushu point

IXs

- **NSPIXP6**
  - Operated by WIDE Project
  - About 40 ISPs and organizations connected
  - 180 Mbps recorded in peak
- **JPIX**
  - 1st commercial IPv6 IX with APNIC/JPNIC special allocation for Ixs
- **MEX (Media Exchange)**
  - Started transit service

Router venders

- **All Japanese venders are ready to go**
  - HITACHI
  - Fujitsu
  - NEC
  - Furukawa Electric
  - YAMAHA
  - Etc…

YAMAHA
Home Router
NTTC/OCN Dual Stack
Service approved

Promotion Activities

- **IPv6 Promotion bodies helps activities**
  - **IPv6 Deployment Committee**
    - Est. 2001 under Internet Association of Japan
    - IPv6 Operation Study Group
      - Solve issues in IPv6 operation and study for standardization proposing to IETF
    - Publish IPv6 related articles in IA Japan Review
    - Play a role of liaison to IPv6 Forum
    - Plan and execute "Global IPv6 Summit in Japan"

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Promotion Activities (cont.)

- **IPv6 Promotion Council of Japan**
  - Basic activities funded by Government
  - Help conducting many trials
    - Home Appliance
    - Internet Trains
    - Broadcasting (multi-angle views of Baseball games)
    - Tele-control/sensing
  - International Coordination
    - EU-JP cooperation: IPv6 TF, Eurov6
    - Korea-JP operation meeting
    - China-JP collaboration: 6TNet
    - Taiwan-JP collaboration
  - Hosting IPv6 Showroom "Galleria v6"

Promotion Activities (cont.)
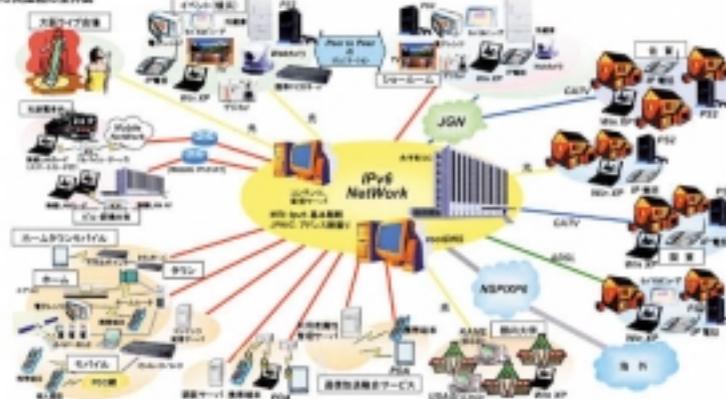
Other Activities

- **Publication:** *increase public awareness*
  - IPv6 Magazine (former "The IPv6 Journal")
    - Issued quarterly as an extra number of "Internet Magazine"
    - IPv6 experts in Japan contribute writing
    - Pick up hot topics in technical standards, operation, services, products, overseas activities update, etc.
    - IPv6 PC contribute articles regularly

Other Activities

- **Publication (cont.)**
  - Web news "v6start" by Nikkei-BP

    http://v6start.net/
    - Hot topics, educational corner, political discussion, etc
  - So-called "v6-Press Club"
    - Call all interesting press members by IPv6 PC
   - Contacting every event or news happen

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Trails:

- Please take a look video provided from IPv6 PC

    http://www.v6pc.jp/data_e.html

1st IPv6 Internet Live Concert in History
@ NetLiferium (Internet/ISP event for consumers)
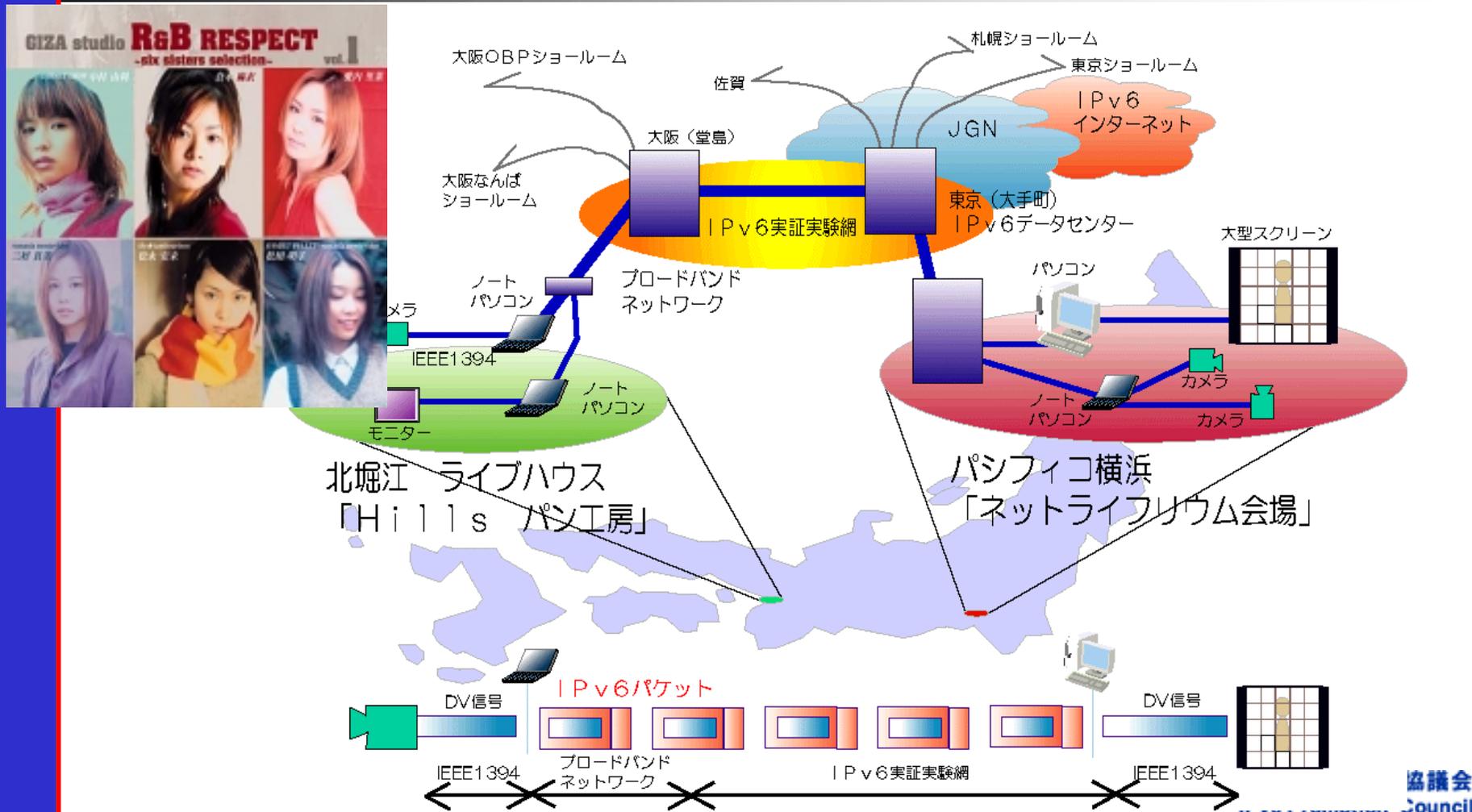
Ex: WLAN Access on Trains

Wireless LAN service inside moving trains.

ODAKYU(TOKYO)   KEIKYU(TOKYO)

NEX(TOKYO)

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Test-bed participants:

- Carriers/ISP :
  - **NTTc, Yusen, IP Revolution, Tokyo-Metallic, JCN, Biglobe, Nifty**, etc.
- Data Center :
  - **NTT Communications**, and others
- Modem (cable, ADSL):
  - **Panasonic, Hitachi, Yamaha** and etc.
- Security (IPSec/IKE/PKI/IDS/DDoS) :
  - **INTEC** and others
- Operating System :
  - **Microsoft** (including WMP)
  - And…

Test-bed participants: (Cont.)

- Contents Delivery Service : **Accelier**
- VoIP/IP Phone : **SoftFront**
- Wireless : **NOKIA, SHARP, NTT-DoCoMo, J-Phone**
- Sensor node : **Yokogawa , NTTc**
- Game gear : **SONY**
- Home Appliances: **Toshiba, Panasonic, Sanyo**
- Digital Camera: **Sanyo**
- Web Camera: **Canon, NEC**, etc.

…and others

Situation in Japan:

- **IPv6 is becoming a basic technology**
  - Adoption of IPv6 is not special anymore
  - IPv6 access services are getting ready
- **Japan is moving to the 2nd stage**
  - The focus is moving to new application for next generation of Internet market
  - Hardware venders also challenge to introduce new network-oriented products
  - Some new applications emerge

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Words from Japan:

- **Contribute to global advancement**
  - Global effort and advancement is necessary to lower the cost
- **Share the deployment experience**
  - Organic link of Promotion Bodies is important
- **Many trials from many different aspects**
  - Nobody knows which application will break
- **Obtain more attention of various kinds of people**

Announcement:

- **Global IPv6 Summit in Japan 2002**
  - Dec. 18-19, 2002 @ Yokohama
  - "Share Vision and Know-how for Business development"
  - Workshop Day (Dec. 18th)
    - IPv6 setup tutorial
    - IPv6 implementation session for Company Network
    - IPv6 conscious application development tutorial
    - IPv6 embedded system development session
  - Conference Day (Dec. 19th)
    - Panel discussions

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Thank you and
Let's do together!

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