IPv6 Forum and Trends

WiMAX Forum PCC

July 10th, 2006

Kosuke Ito

IPv6 Forum Liaison to WiMAX Forum

IPv6 Promotion Council of Japan

IRI Ubiteq, Inc.

Introduction of IPv6 Forum

- Leaders:
  - Honorary Chair: Vint Cerf
  - President: Latif Ladid
  - Chair of Technical Directorate: Jim Bound

- Global Effort driving IPv6 deployment
  - Supported by Internet Society, IAB/IETF
  - Chapters around the world
  - More than 180 direct members worldwide

- IPv6 Ready Logo Program
  - Voluntary Program for Interoperability
  - Program chair: Hiroshi Esaki

IPv6 Forum Chapters (10)
IPv6 Task Forces (20)

CALIFORNIA IP v6 TASK FORCE

NORTH AMERICAN IPV6 TASK FORCE

European IPv6 Task Force

China IPv6 Council

ipu6 IPv6 Promotion Council

IPv6 Forum Korea

IPv6 Task Force América Latina y el Caribe

IPv6 TASK FORCE MEXICO

BRAZIL IPv6 TASK FORCE

EGYPT IPv6 TASK FORCE

IPV6 FORUM INDIA

Thailand IPv6 Forum

.tw IPv6 Forum

Indonesian IPv6 Forum

I6P Task Force France

BELGIAN IPV6 TASK FORCE

Danish IPv6 Task Force

IPv6 Task Force Germany

Italian IPv6 Task Force

IPv6 FORUM AU/NZ

IPv6 Task Force Espanol

SWISS

PORTUGAL IPv6 Task Force

UKIPv6 TASK FORCE

IPV6 FORUM SLOVAKIA

IPv6 TaskForceAustria

Polish IPv6 Task Force

Finnish IPv6 TF

Swedish IPv6 TF

Netherlands IPv6 Task Force

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and trends

IPv6 Ready Logo
▶ Program

2003/2004:

137 Products

Dr. Hiroshi Esaki

22 **5** **110**

Ben Schultz

Cesar Viho

Hiroshi Miyata

IRISA

institut de recherche en informatique
et systèmes aléatoires

PLUGTESTS
THE INTEROPERABILITY SERVICE
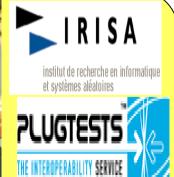
IPv6 Forum Vision of 2010 Internet

- IPv6 is not only for IT industry, but for all industrial segments, by the improvement of RoI and by applying the Internet technology
- Service development and deployment
    - Integration of **real-space** and cyber-space
    - Apply to **public service** infrastructure
    - Integration with **broadcast** business
    - Deployment of **peer2peer** applications
- Architecture
    - True **mobility** supporting
    - **Unwired** connectivity
    - Remove NAT-boxes
    - Provide IP layer **end2end security** (i.e., IPSec) and ease of O&M
- Governance (leaded by private sector)
    - Global address management policy
    - Global capacity building (regions, tech.liaisons, human-resource)
    - Strategic inputs to NGN and FMC from the Internet point of view

▶IPv6 is…

- IPv6 is for the next generation network
- Major benefits:
  - Number of global IP addresses sufficient to accommodating network devices to connect Internet
  - Auto-configuration feature for managed network (DHCPv6)
  - Mobility (MIPv6)
  - Simplified Architecture for secured communication (IPsec)

  And Others…

- When these features are coupled with a Broadband Wireless medium, potential of creating a new market is greatly increased which is longed for.

Potential Market with IPv6/WiMAX

- Mobile P2P service supplementing 3G/4G
  - Mobile Voice, Data communication service

- Mobile broadcasting service
  - Easy and low-cost
  - Anytime, Anywhere Live-broadcasting

- Public Service
  - Emergency, Disaster-prevention and recovery
  - Short-term deployment, Low-cost implementation and operation

- Safety and Security Service
  - Flexible installation of monitoring cameras
  - Collection of Sensor data

▸MetroNet6

- ## MetroNet6 is:
  - End-2-End secure network communications for first responders and across their metropolitan area of operations emergency support infrastructure
  - using IEEE 802.11x, IEEE 802.16x, Satellite Communications
  - Internet Protocol suite supporting IPv6 and Mobile IPv6 to provide connectivity, interoperability, discovery, security
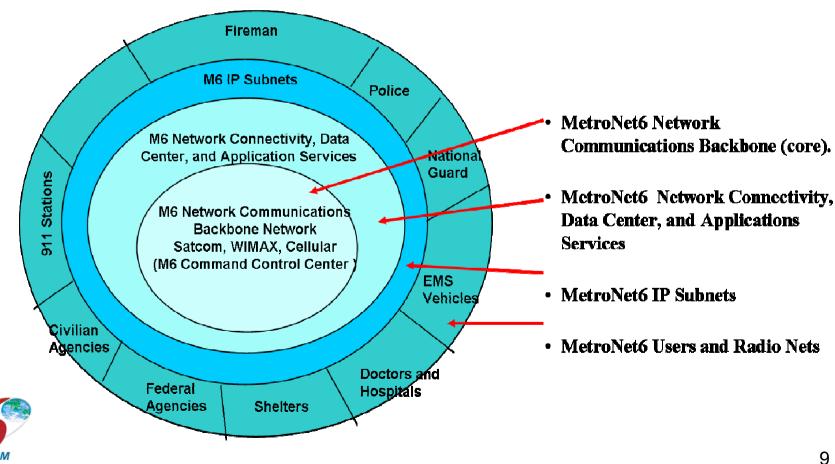
- ## Services:
  - Voice, Video, Graphics, Intelligence, Medical, and other forms of data through multimedia communications 24x7x365

- ## Lead by California IPv6 TF, North American IPv6 TF
  - Supported by Moonv6

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MetroNet6

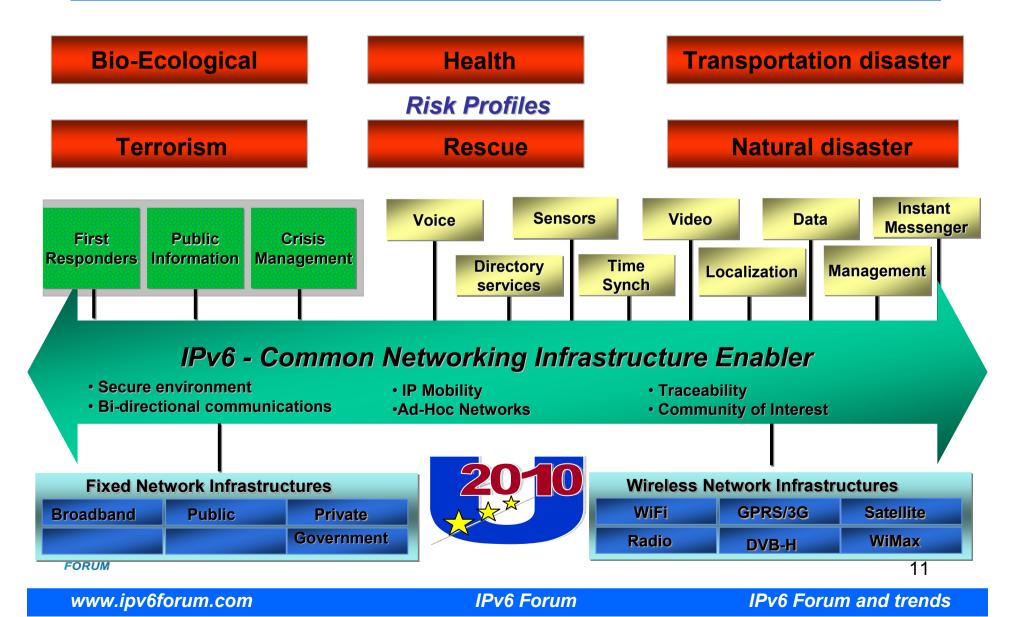

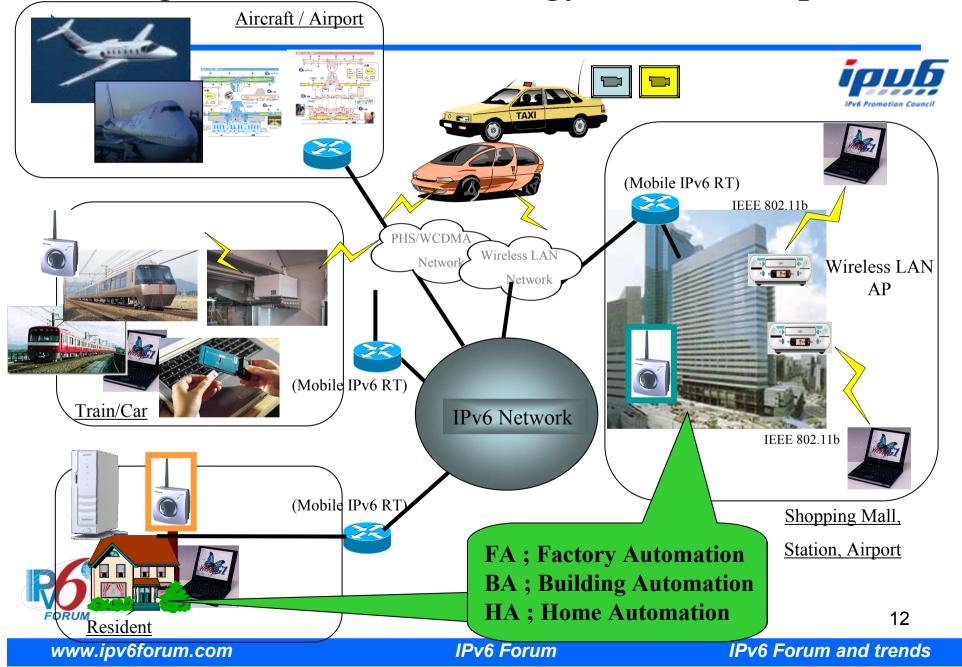MetroNet6 (M6) Network Communications Architecture Layers

- MetroNet6 Network Communications Backbone (core).
- MetroNet6 Network Connectivity, Data Center, and Applications Services
- MetroNet6 IP Subnets
- MetroNet6 Users and Radio Nets

U-2010

Outline:

- **3 years duration**
- **16 Partners**
  - **including major players in the IP business**
  - **with proven expertise in their fields.**
  - **The governments of Luxembourg and Slovenia participate to support the emergency service trials**
- **€M 6.5 Project with €M 4.15 EC Contribution**

Leveraging

- **IPv6**
- **usage of existing technology and networks,**
- **respecting international standards**
- **creating solutions that are as universal as possible**

U-2010 – an IPv6 Public Safety Framework

Bio-Ecological

Health

Transportation disaster

Risk Profiles

Terrorism

Rescue

Natural disaster

First Responders	Public Information	Crisis Management

Voice

Sensors

Video

Data

Instant Messenger

Directory services

Time Synch

Localization

Management

IPv6 - Common Networking Infrastructure Enabler

- Secure environment
- Bi-directional communications

- IP Mobility
- Ad-Hoc Networks

- Traceability
- Community of Interest

2010
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Fixed Network Infrastructures		
Broadband	Public	Private
		Government

FORUM

Wireless Network Infrastructures		
WiFi	GPRS/3G	Satellite
Radio	DVB-H	WiMax

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Integration of IP Technology with Real-Space

Aircraft / Airport

(Mobile IPv6 RT)

IEEE 802.11b

Wireless LAN
AP

PHS/WCDMA
Network

Wireless LAN
Network

(Mobile IPv6 RT)

IPv6 Network

IEEE 802.11b

Train/Car

(Mobile IPv6 RT)

Shopping Mall,
Station, Airport

FA ; Factory Automation
BA ; Building Automation
HA ; Home Automation

Resident

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Vehicles with the Internet

WiMAX applied scene in Urban area

- WiMAX/WiFi Hybrid
- IPv4/IPv6 dual architecture

WiMAX BS

WiMAX Home CPE

WiMAX-Wi-Fi convert.

WiMAX

Wi-Fi

802.16e
Terminal

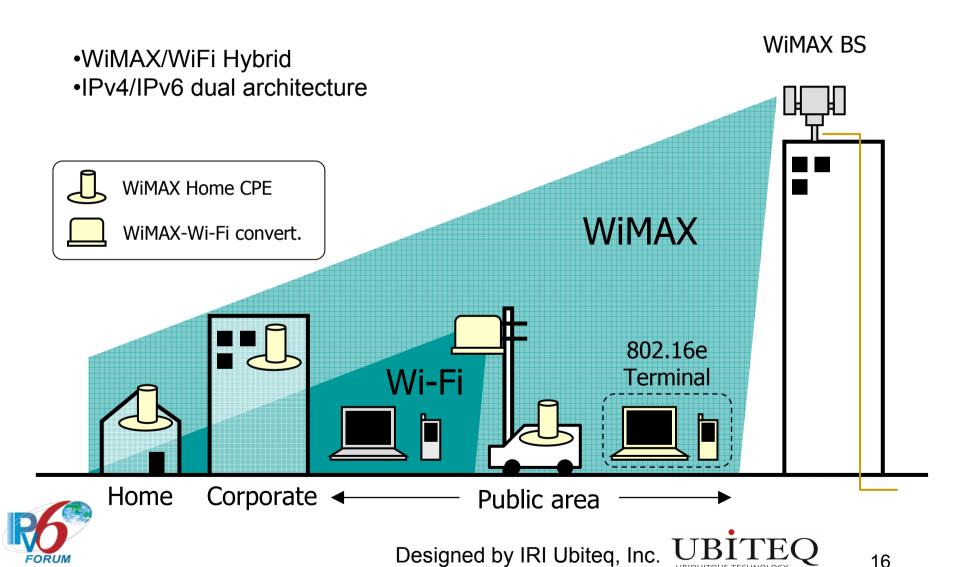Home   Corporate ← Public area →

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UBIQUITOUS TECHNOLOGY

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Collaboration for future

- To realize the potential market together, keep updating each forum activities and exchanging thoughts for the collaboration

- Proposal: starting WG to support both technology deployment and defining time frame and milestone

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Any Question?

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