



Home Network for Sustainable Society

ECHONET™: Energy Conservation & Homecare Network

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Director of ECHONET Secretariat
ECHONET Consortium

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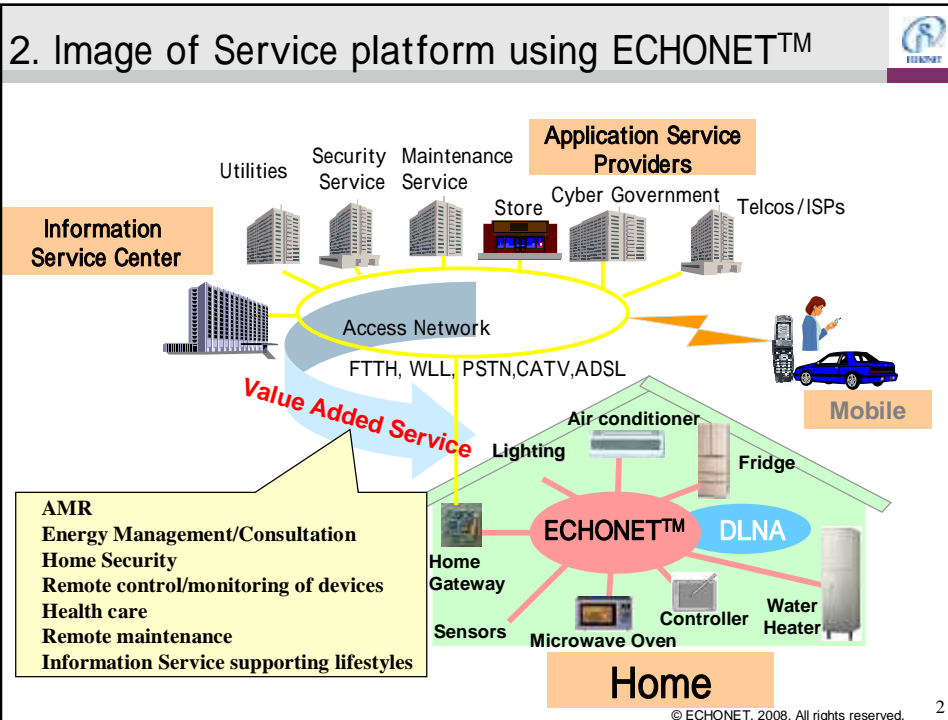
1. Overview of ECHONET Consortium



- Non Profit Industrial Consortium consists of about 90 companies including foreign companies.
- Founded in December 9, 1997 Hitachi, Mitsubishi, Panasonic and Toshiba. And Sharp and Tokyo Electric power co. joined as the promoters.
- Our Objectives
 - Development and Standardization of Home network which contribute to solve social issues “global warming” and “aging of society”
 - Sharing the Open Standard in the industry
 - ECHONET™: Energy Conservation & Homecare Network
 - <At the time>
 - ◇ Internet wasn't available in general.
 - ◇ Kyoto Protocol hasn't been ratified yet.
 - Contribution to the international standardization
- Development: the specifications for home network systems that conserve energy, improve home security and healthcare, enable remote monitoring & control of equipments, and so on.

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3. Today's ECHONET™

- ECHONET™ Specifications have been opened to the public since 2000
 - The latest specification opened to the public in Nov. 2007
- Potential market is spreading
 - More than 7 million of ECHONET™-Ready appliances were shipped in Japan
- International Standardization
 - IEC62394 & IEC62457 was ratified as IS, four items are on the way
- Interoperation with UPnP (DLNA) devices for user friendly interface
- Home Energy Management System is key solution for Global warming

CEATEC Japan 2004
Interoperability Demo among 7 companies

ECHONET™ - UPnP™ Interoperation

• Interoperation technologies based on Taxonomy and Lexicon

UPnP™	ECHONET™
UPnP™ Control Point	ECHONET™ Device Object
UPnP™ Virtual Device (Air Conditioner)	ECHONET™ Device Object (Air-conditioner)
UPnP™ Virtual Device (Refrigerator)	ECHONET™ Device Object (Refrigerator)

Interoperation with UPnP

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4. Networked-Ready Appliances



ECHONET™-Ready appliance

Home appliance with Simple & Low-cost ECHONET™ Interface

Over 7 million were shipped in Japan

Potential Market "to be Connected" is growing steadily

Standardization of the ECHONET™ Adapter

*ECHONET Middleware & medium are Implemented

Standardization of the communication interface

Deployment of ECHONET™ -Ready Appliances

Deployment of ECHONET™ Adapters & HGW

Value Added Service through Networks

HGW:Home gateways

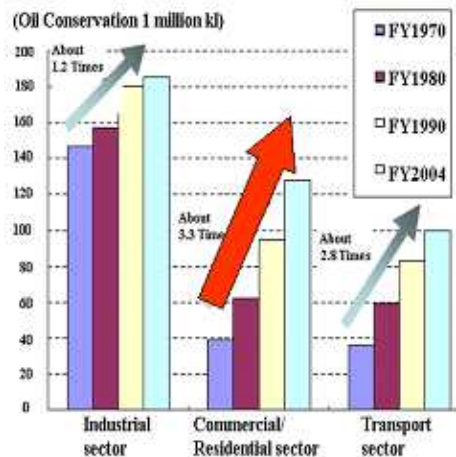
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5. Home Network for Sustainable Society



- The significant growth of energy consumption in the Commercial /Residential sector
- Energy Conservation in Home is essential for sustainability
- No regulatory for the emission for energy consumption of home use
- Home Energy Management System using ECHONET™ is a key solution
 - Reduction of Energy Consumption in home
 - Demand Side Management /Demand response to level the electric load



Transition in Final Energy Consumption by Sector

Reference from Fiscal 2005 Energy Report », METI

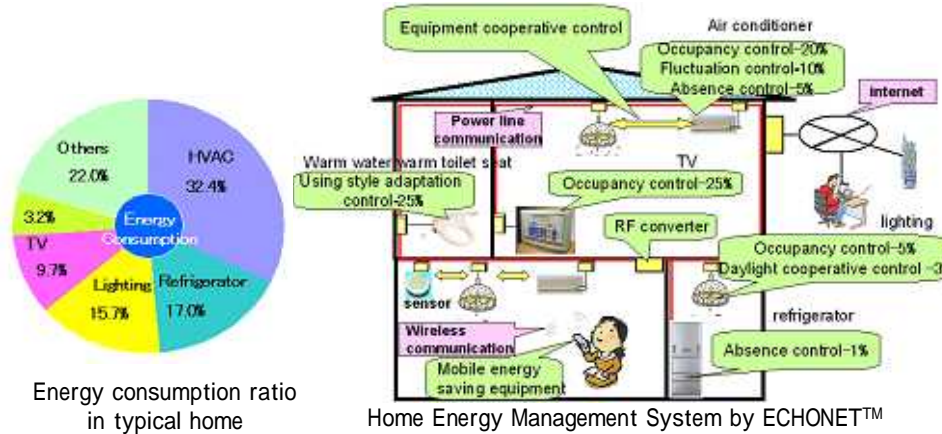
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6. Home Energy Management System (HEMS)



- Optimization of Energy consumption in home by autonomous control for home appliances
- HEMS showed 10% reduction of electric power consumption in our experimental trial.
- HEMS enables the precise demand control



7. How to promote the deployment of HEMS



<HEMS as the infrastructure of sustainable society>

- Sustainable society is our common goal.
- HEMS should be a part of social infrastructures.
- Motivation is important for the deployment.
- Emission of greenhouse gases by using energy in home should be controlled by regulation as auto emission is.

<Our challenge>

- Ratification of ECHONET™ as a “de jure Standard”
- Promotion the replacement of home appliances to ECHONET™ -Ready appliances which is easily connected to home network
- Promotion of HEMS as the social infrastructure for sustainability
- Promotion of other public service applications such as home-care for elderly living alone, health monitoring, etc.

8. Conclusion



- Home networks have an important role in sustainable society.
- The deployment of home networks is an effective measures against social issues.
- We need the regulation to promote the deployment of ECHONET™-ready appliances for forming the foundation of Common Service Platform at first.
- Adding ECHONET™ adapters & gateways after that, **Common Service Platform for Home** will be achieved.
 - ◇ Resolution for Global Warming and Aging of society
 - ◇ Supporting our lifestyle
 - Home Security, Remote Control/Monitoring, Remote maintenance
 - ◇ Improvement our Quality of Life
- ECHONET consortium is willing to offer our technology and experience for sustainable society.

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Thank you for your attention.

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