

-2008 EU-Japan Cooperation Forum on ICT Research -

Next Generation Home Gateway and Appliance Control



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- Introduction
- Survey of Standardization for Home Network
- Home Network and Home Gateway
- New Home Network Services
- Conclusion

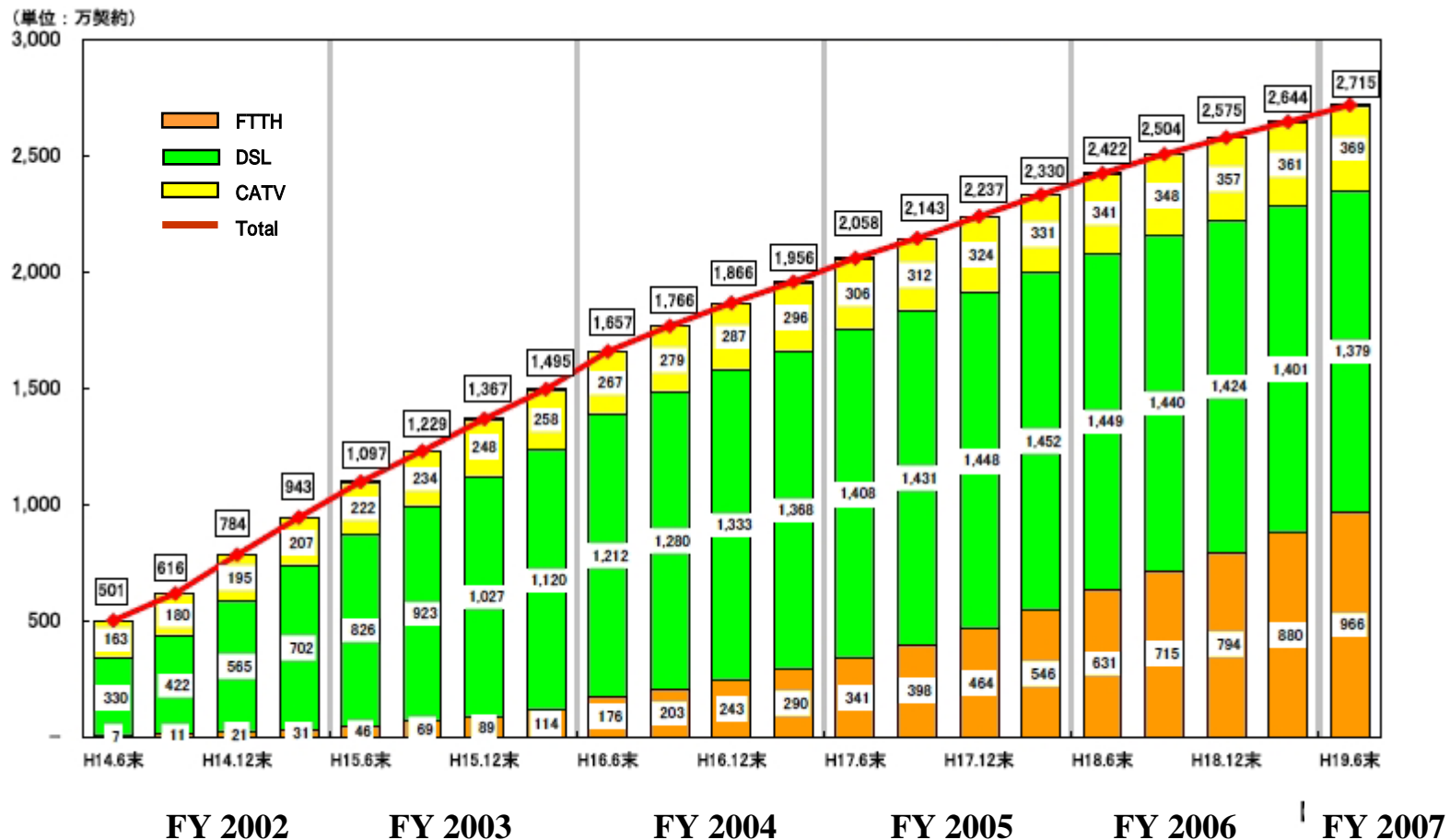
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- Broadband service, especially FTTH
 - High performance
 - Economical fee by fixed rate
 - Networked home appliance
 - Lifestyle based on Internet
 - Communication
 - Search
 - Entertainment
- 
- More convenient life in home by NGN services
- 

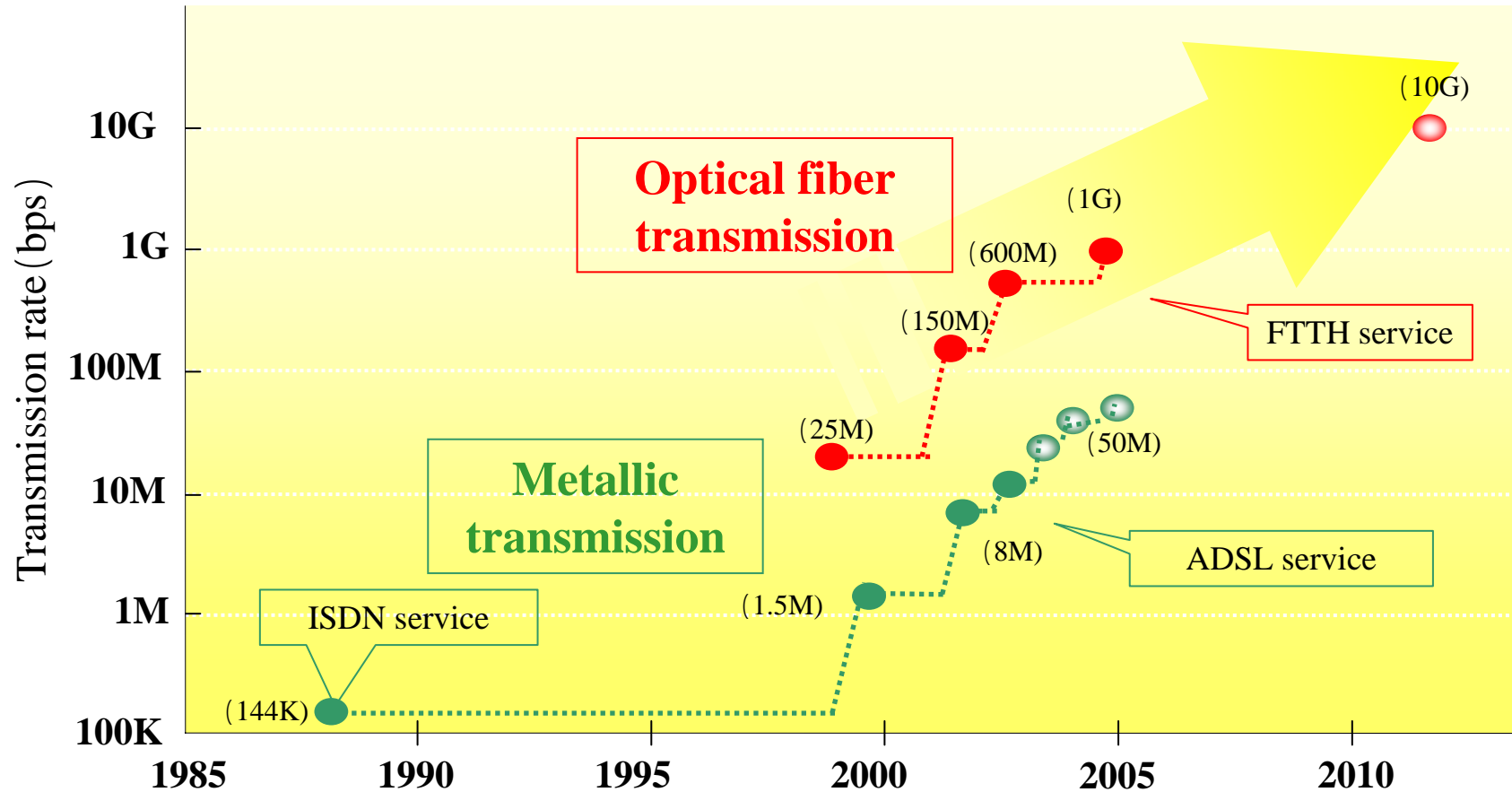
New generation home network and home gateway

- Trend in the number of broadband contracts

10K Subscribers



2007, Ministry of Internal affairs and Communications



Transmission rate by FTTH will continue development.
Transmission rate by ADSL will be saturated to 50Mb/s.

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Home networks

ITU-T
DSL Forum
(BroadbandSuite)

Home Gateway

OSGi
HGI

Terminals

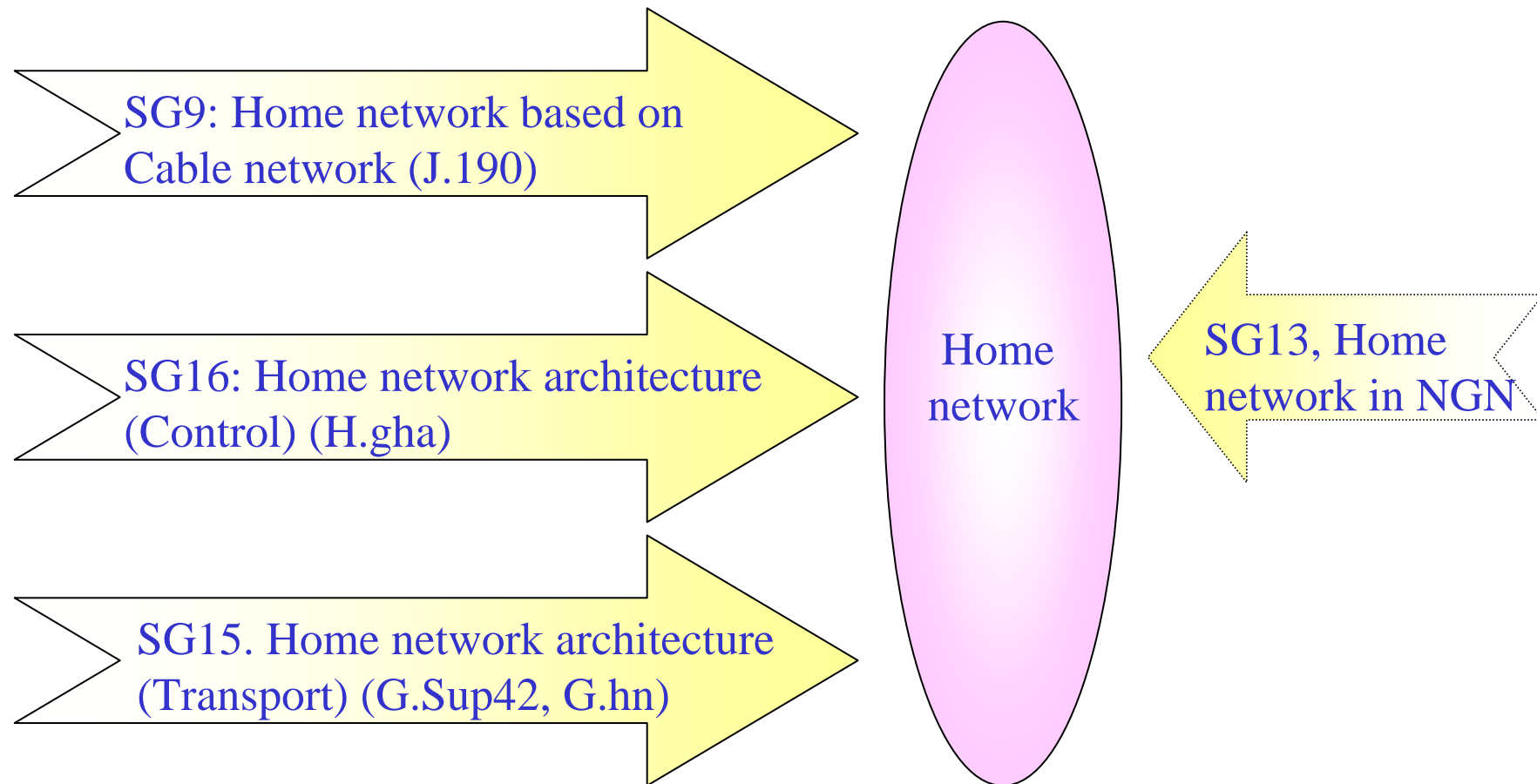
UPnP
DLNA
UOPF*
ECHONET*

Transmission technologies

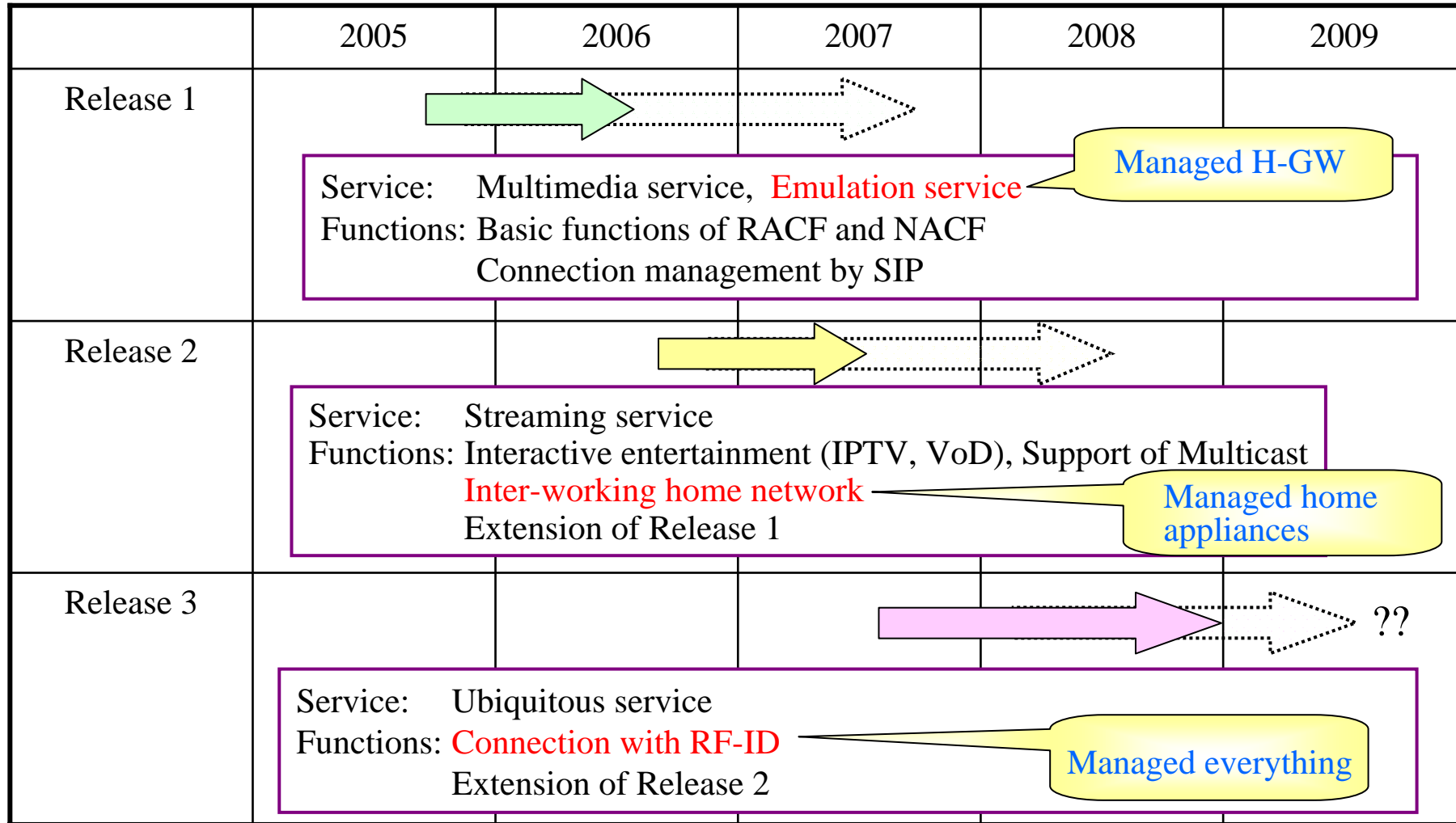
Home plug, CEPCA, UPA, IEEE1901 (PLC)
Home PNA (Phone line)
CLINK/MoCA (Coax)
ZigBee, IEEE802.11/Wi-Fi, Bluetooth (Wireless)
IEEE802.3 (Ethernet)
IEEE1394, USB (Others)

* Japanese domestic

- Several SGs are interested in home networks from several points of view.
- One of view points is NGN service expansion to home network
- Studies in each SG has been.
- In the next study period (2009-2012), it will be one of main topics

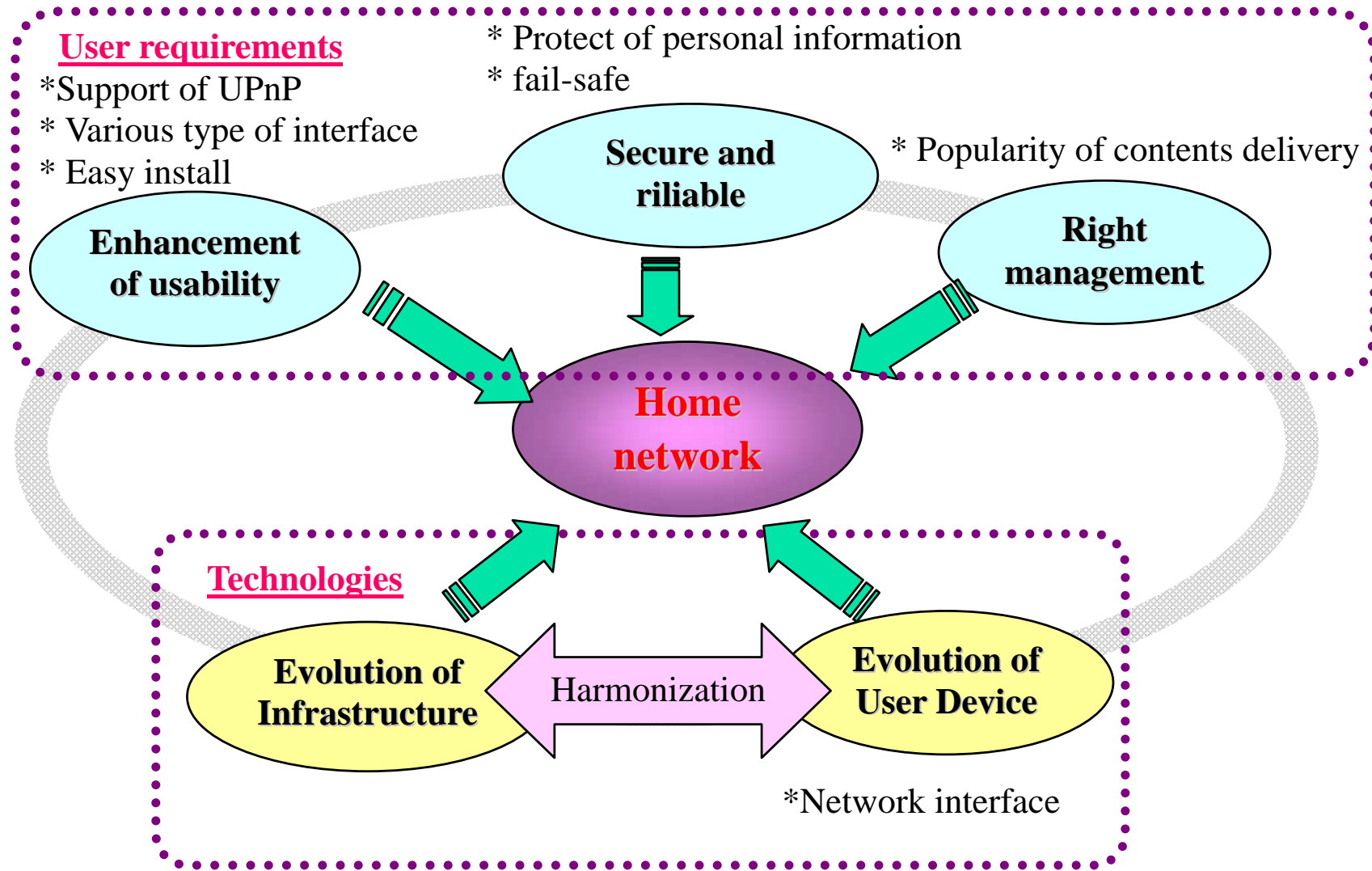


•NGN Release roadmap and relationship with home network

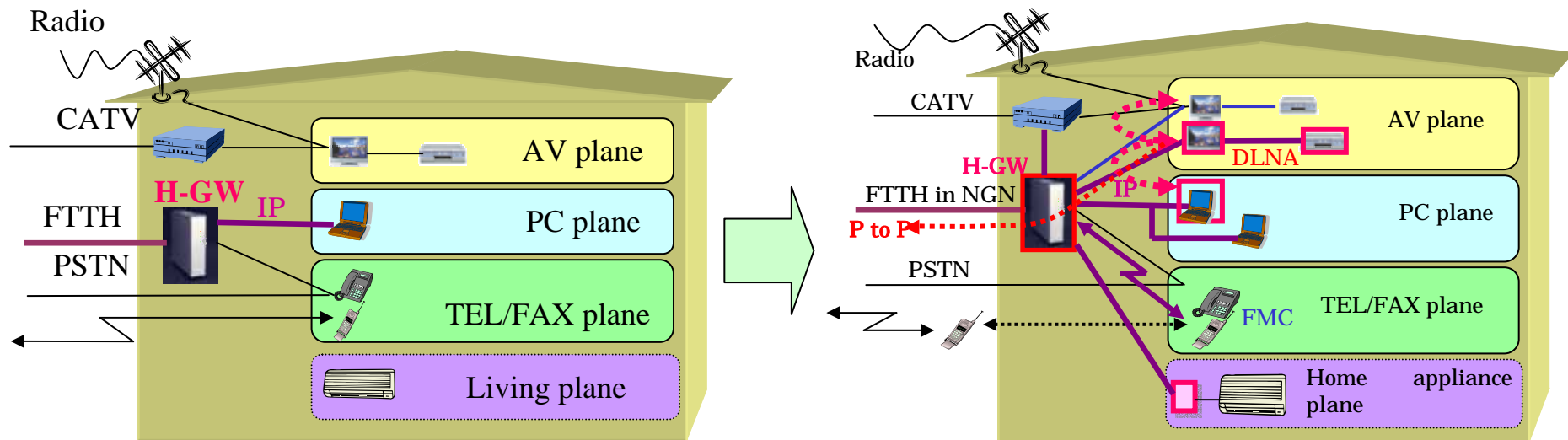


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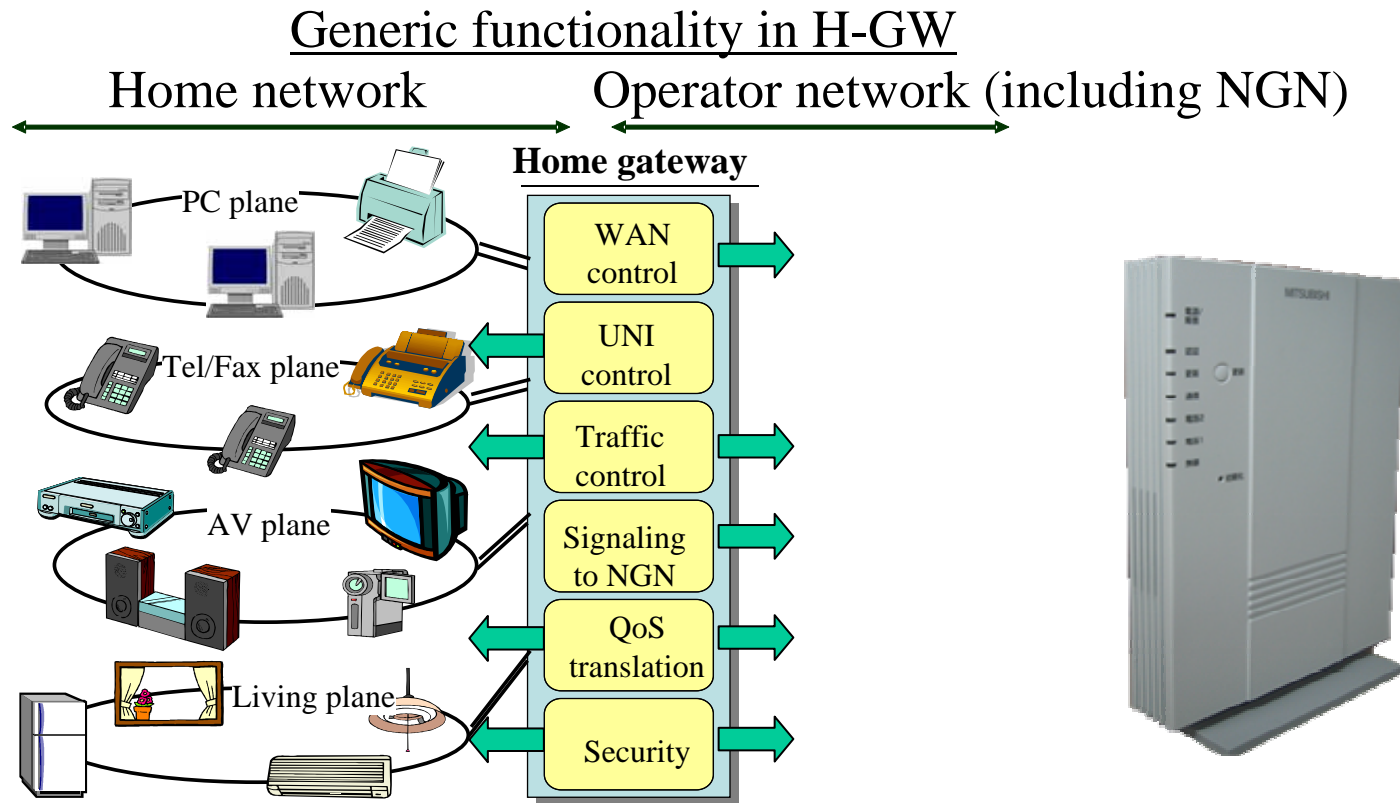
- User requirements and required technologies for home networks



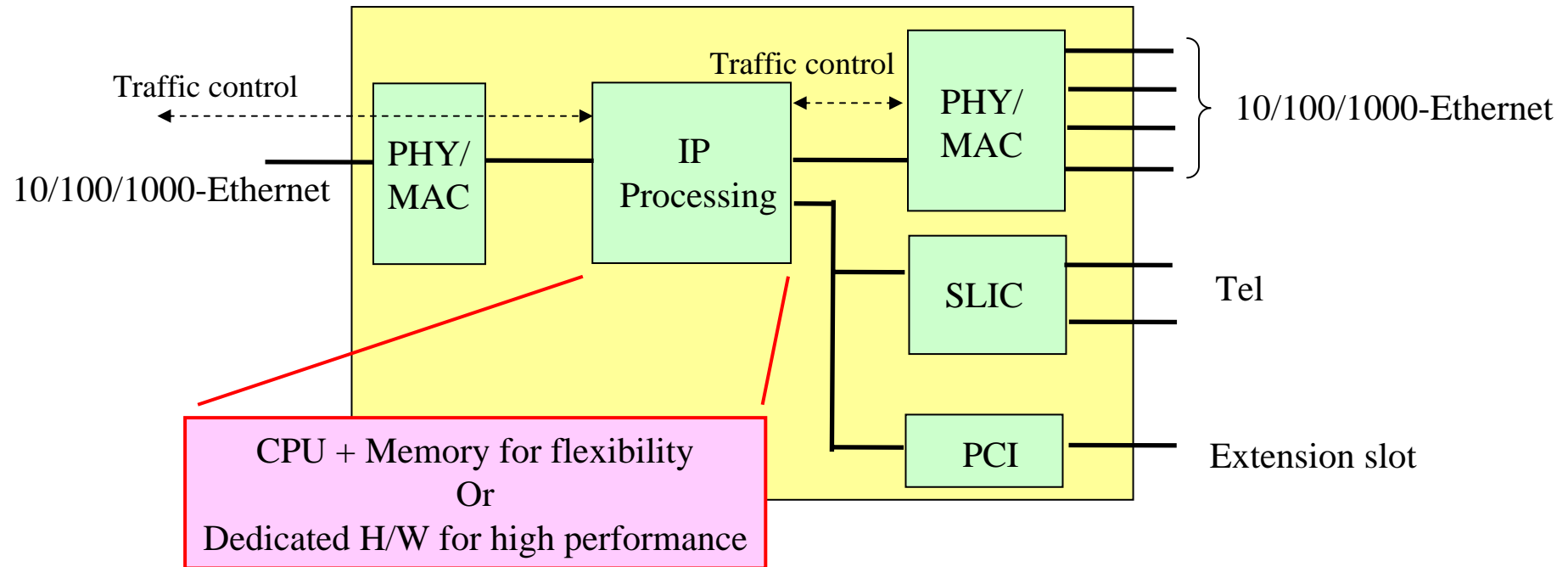
- Physical home network configuration is typically “Tree” or “Star” centralized by gateway, such as home gateway.
- Logically, terminals or home appliances are categorized into 4 planes, such as PC, Phone/fax, AV, and living planes.

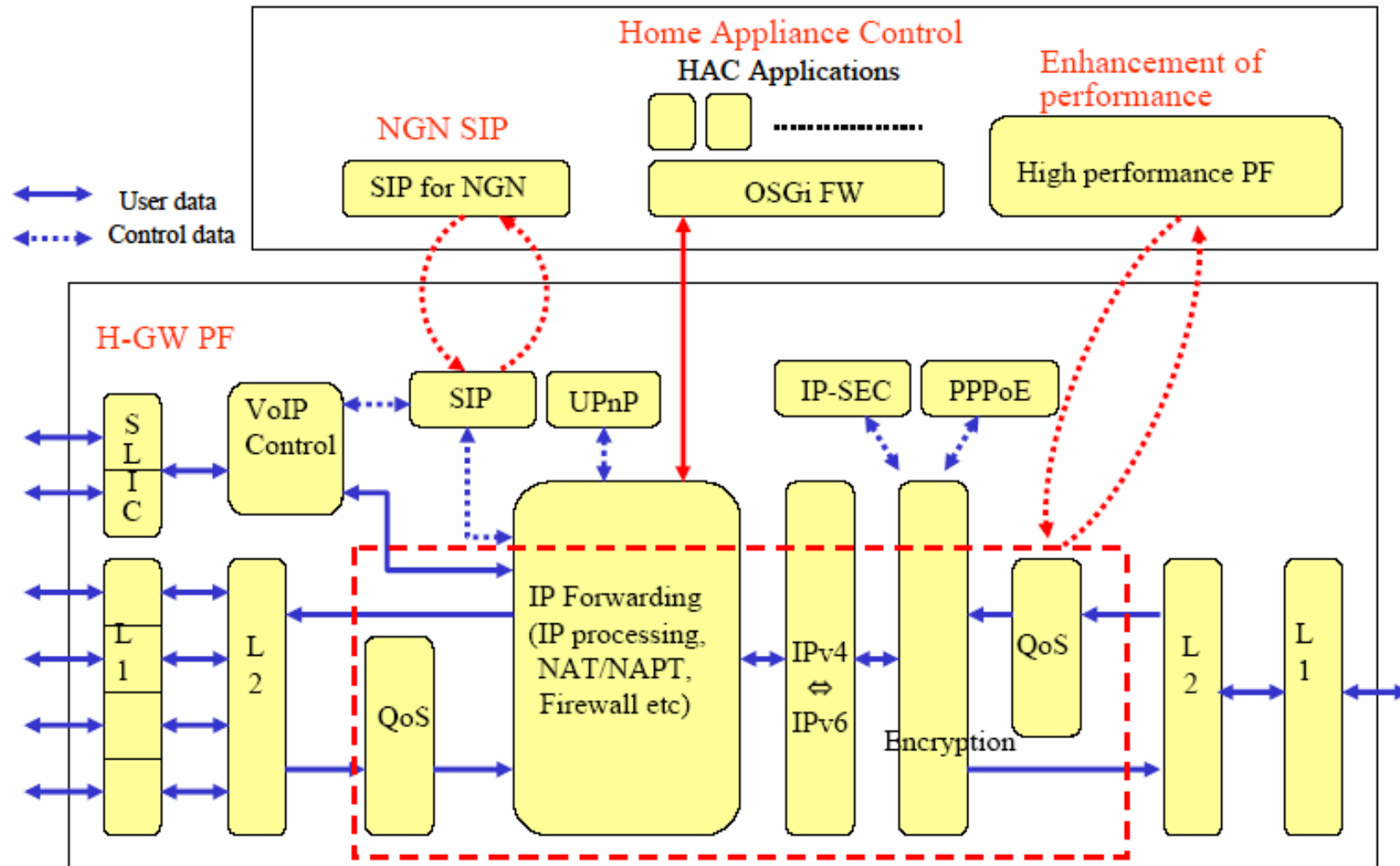


- Home gateway is a “key player” for home network.
- Home GW has a lot of functions, is categorized into several types, and has several evolution steps



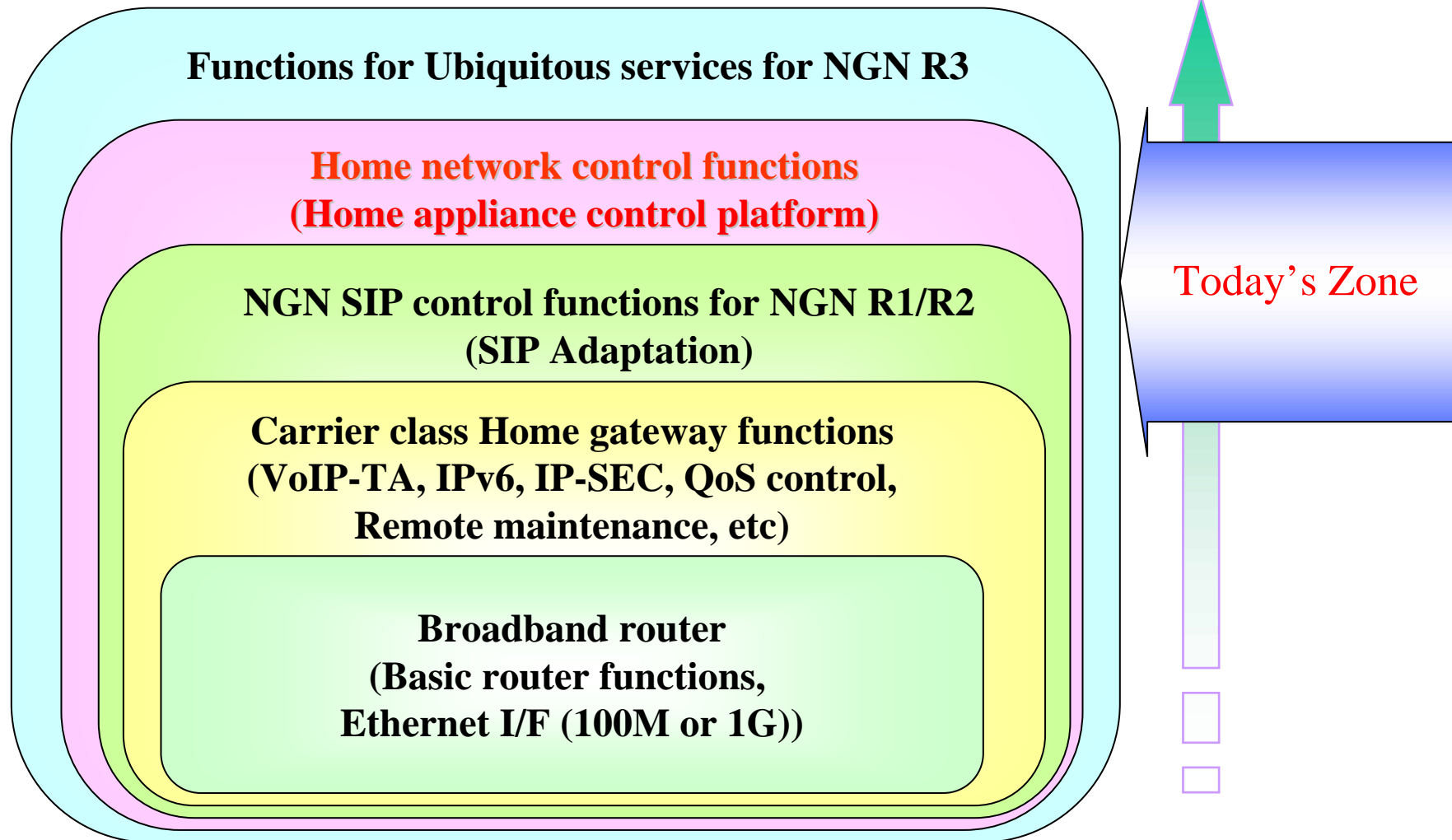
- Typically H/W configuration of H-GW as platform

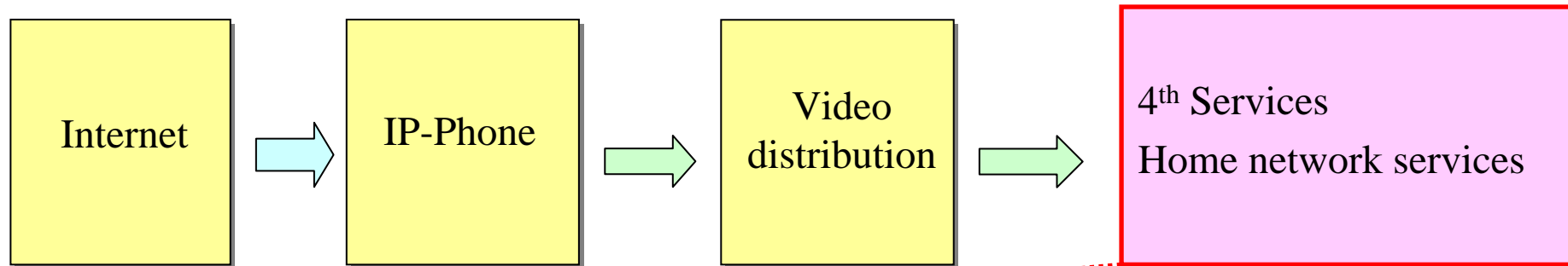




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- Evolution steps of home gateway

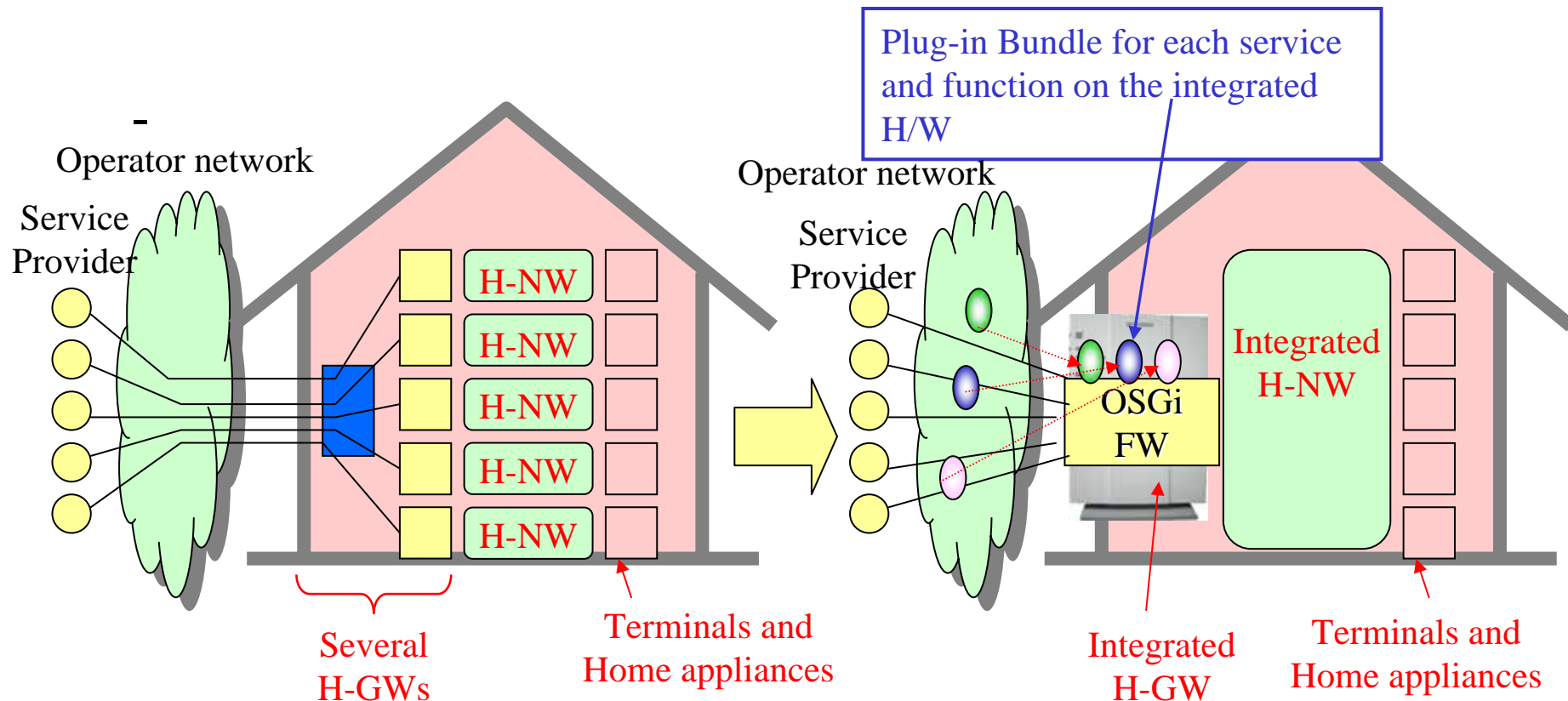




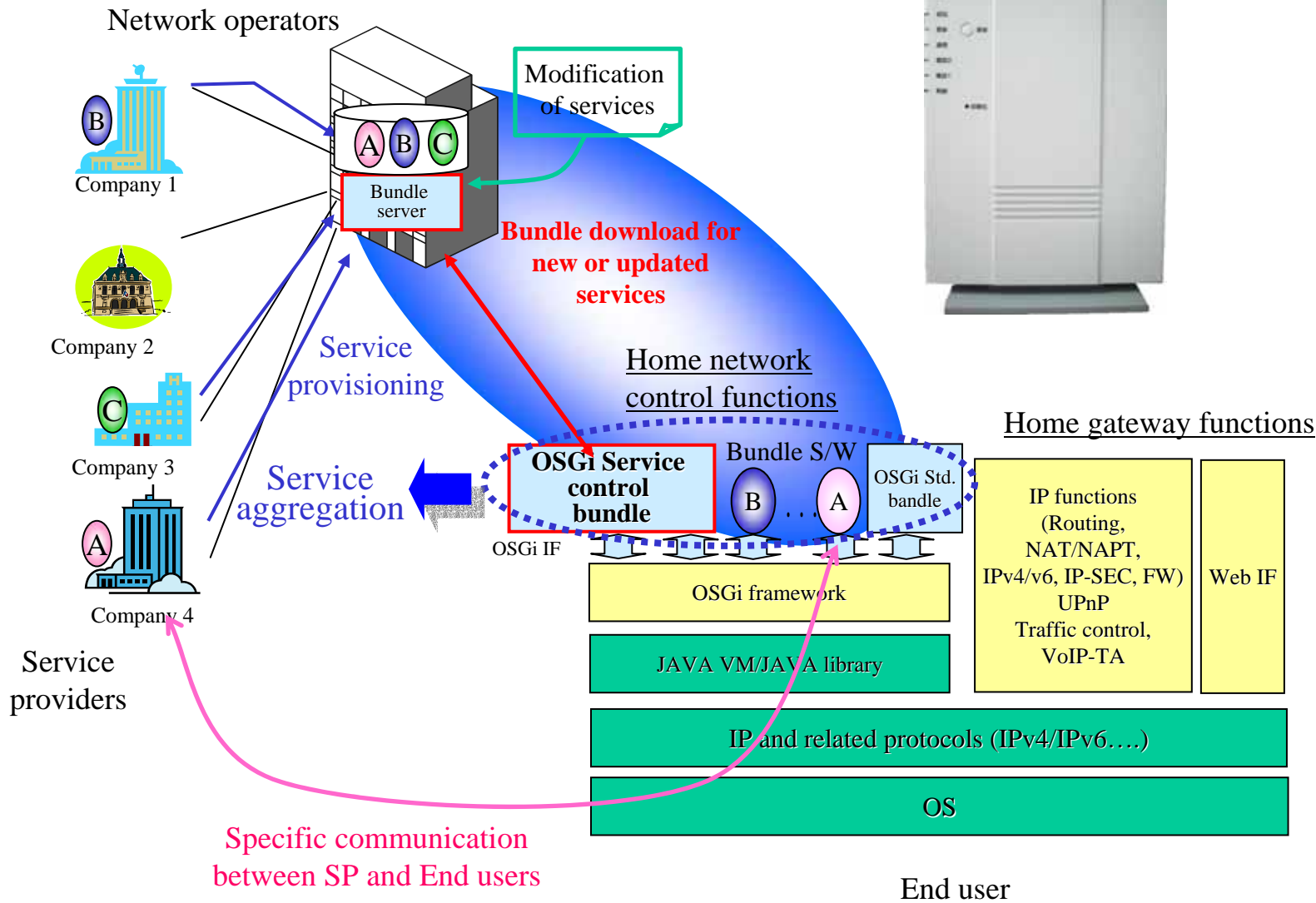
Example of candidates

- Home security
- Remote monitor
- Urgent information delivery (Earthquake, Accident, Appearance of suspicious person, etc)
- Information delivery for delay life
- Remote appliance control and management
- Medical and health consultation
- Energy management
- etc

- Home appliance control platform using OSGi framework
 - Advantages of home network by OSGi architecture

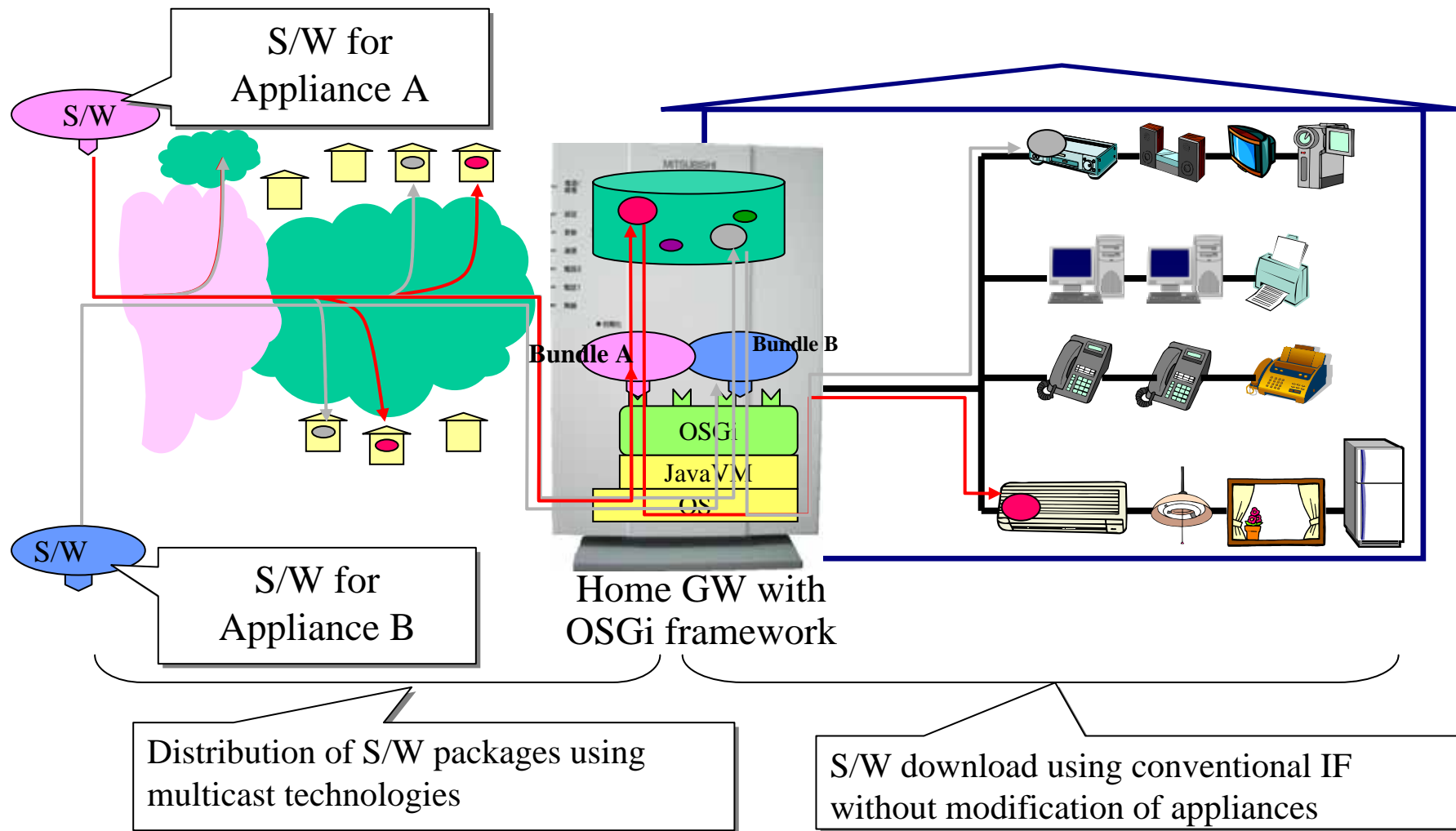


Home network services using OSGi framework



One of new services

- Enhancement of functions for home appliance by software update



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- Survey of broadband service in Japan
- Requirements of home network
- Home gateway architecture
- Introduction of new services beyond triple play
- OSGi for new home network services

Acknowledgement

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Thank you for your attention!!

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