Telecommunications and Information Exchange Between Systems

ISO/IEC JTC 1/SC 6

Document Number:	N14173
Date:	2010-01-06
Replaces:	
Document Type:	Liaison organization contribution
Document Title:	Ecma International's liaison statement to ISO/IEC JTC 1/SC 6 HoDC and Plenary meeting in Barcelona
Document Source:	Ecma International
Project Number:	
Document Status:	For consideration at the SC 6 HoDC and Plenary meeting in Barcelona.
Action ID:	FYI
Due Date:	
No. of Pages:	16

ISO/IEC JTC1/SC6 Secretariat Ms. Jooran Lee, KSA (on behalf of KATS)

Korea Technology Center #701-7 Yeoksam-dong, Gangnam-gu, Seoul, 135-513, Republic of Korea ;

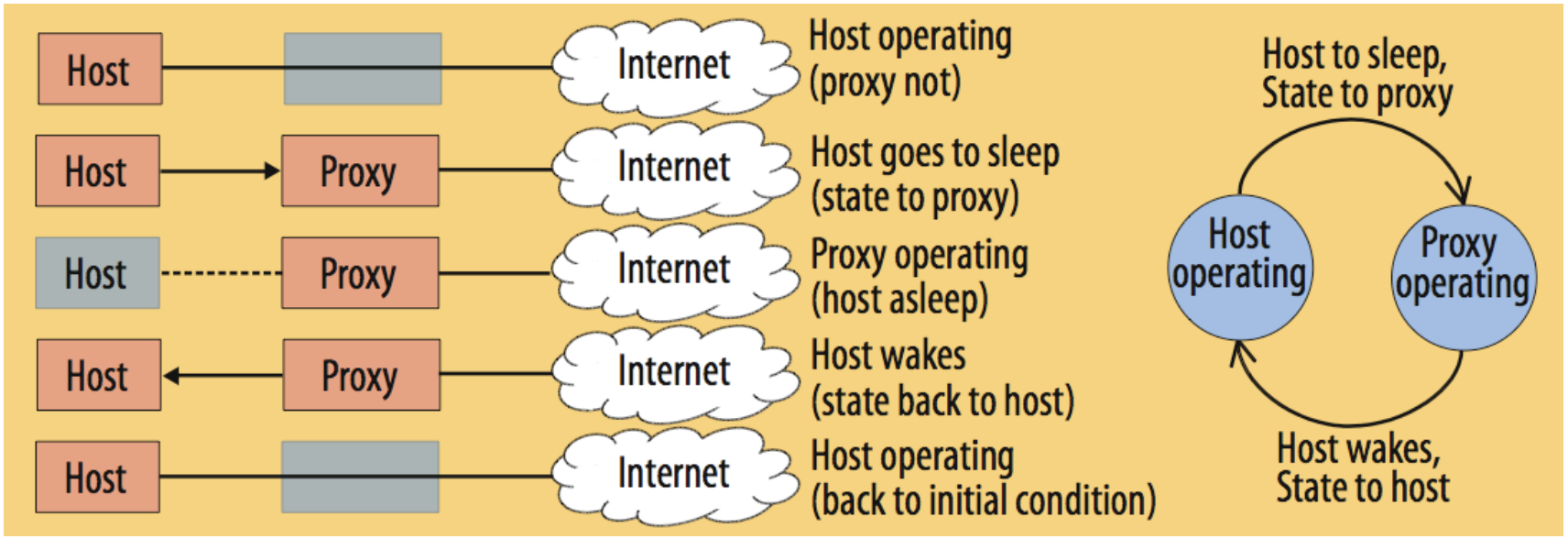
Telephone: +82 2 6009 4808 ; Facsimile: +82 2 6009 4819 ; Email : jooran@kisi.or.kr

Ecma/GA/2009/0xx
24 December 2010

Liaison Report on work to ISO/IEC JTC 1/SC 06, Barcelona, 24 December

Ecma International

- ProxZzzy™ maintains IP network presence while ICT & CE Host sleeps with minimal energy consumption;
- PCs, printers, set-top boxes and game consoles may save about 50% of annual energy use;
- Inexpensive method to save large amounts of energy



Source: IEEE Computer

TC38-TG4 proxZzzy™

Proxy history and status

- Identified in ENERGY STAR® Computer spec v5.0
- Ecma developed ProxZzzy™ standard
- Beginning to be introduced into products

Next steps

- Solicit advance comments in Open-ProxZzzy
- Reference by ENERGY STAR® and possibly by EU EuP/ErP Lot 26 Networked Standby implementing measure
- Consider feedback and wider deployment

NFC-FEC

- Finalised NFC-FEC, which complements NFC-WI, planned for Fast Track

NFC-SEC

- Finalised NFC-SEC-PS, ISO/IEC DIS 13157, that specifies generic service definitions and a protocol for NFCIP-1;
- NFC-SEC-01, ISO/IEC DIS 13158, is a specific cryptography standard (that refers to 13157);
- BRM for DIS 13157 and 13157 on 20 and 21 January 2010.

NFCIP-1, 3rd edition ECMA-340

- Reviewed 5th draft that clarifies RFUs, corrects typos, editorials and provides support for NFC-SEC; updates posted in 6th draft;
- Address dispositions on DIS 13157/13158.

Visual Light and closed capacitive communication

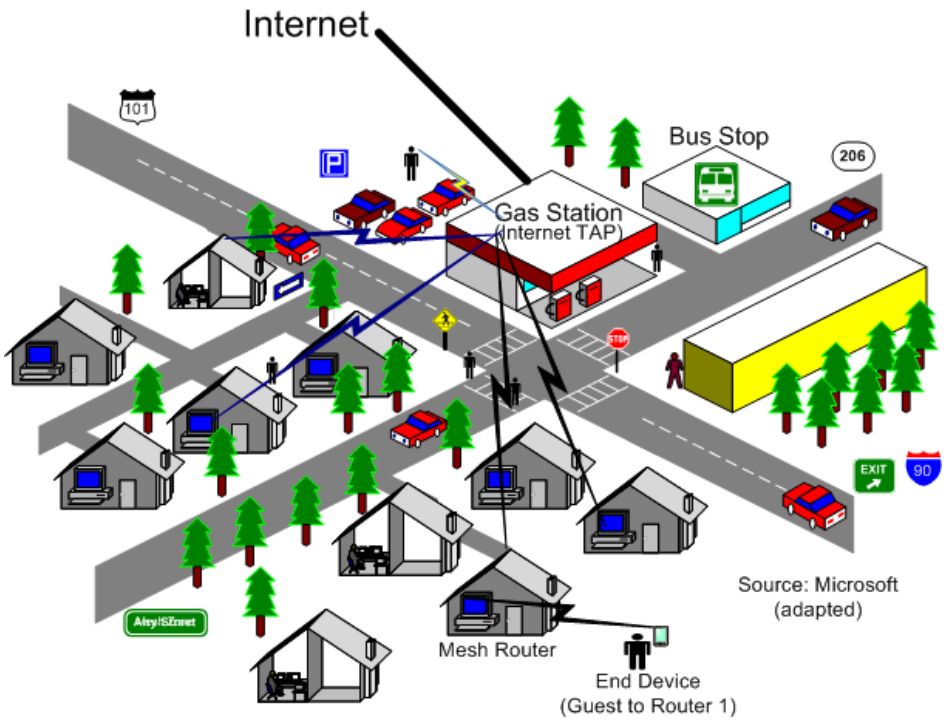
- Ongoing

Ecma TC48-TG1
TV White Spaces Standard

- *Is a high-speed wireless networking standard for use in the Television White Spaces: broadcast television spectrum not being used by licensed services at a given location;*
- *takes advantage of the superior propagation characteristics of the UHF-TV bands;*
- *Delivers more robust wireless connectivity, extend the coverage range and result in cost effective networking solutions, both indoors and outdoors.*
- *Complies with personal/portable device FCC rules to allow unlicensed radio transmitters to operate in spectrum white spaces. Others, e.g. OFCOM in the UK, are working on similar regulations;*
- *Uses cognitive radio technology to avoid interference with licensed services and other incumbent users; and*
- *Is based on the contribution from Cognitive Networking Alliance (CogNeA) that promotes white space devices in a collaborative and complementary fashion with Ecma's standard development.*

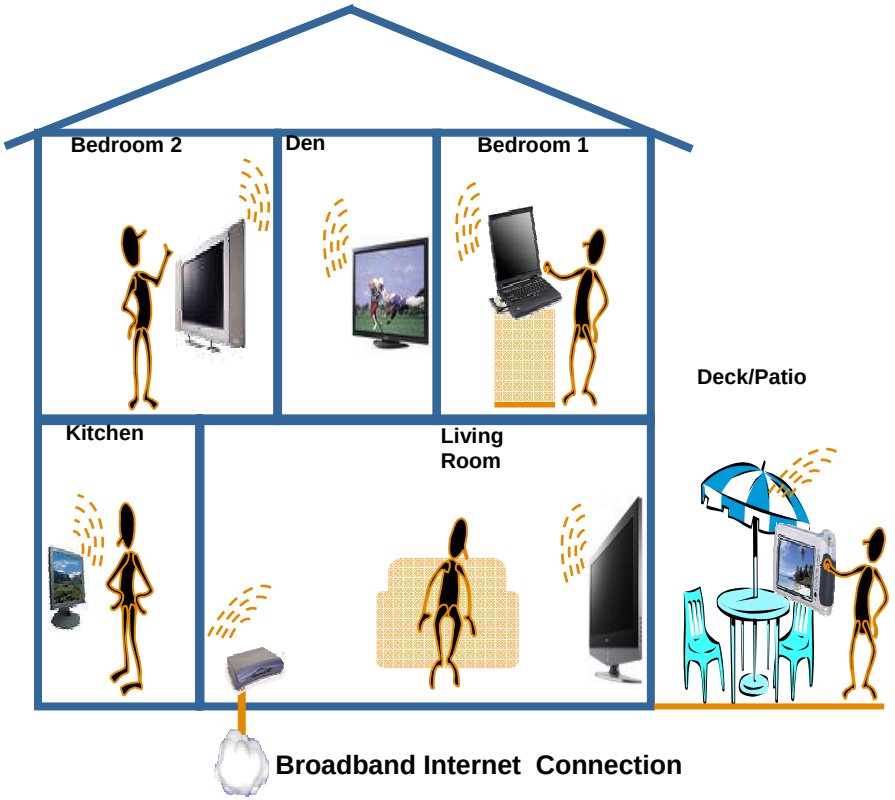
Internet Access application

- *Television white spaces will provide more widely available and cost effective access to the internet in underserved markets.*
- *The superior propagation characteristics provide much greater coverage range than existing unlicensed technologies.*



Ecma TC48-TG1
Whole Home application

- *Television white spaces will enable wireless distribution of high-quality high-definition television for whole home, vastly improving the DTV experience.*
- *The new standard will provide reliable and robust coverage anywhere in a home, while consuming much lower power.*



TC50

Close Proximity Electric Induction Data Transfer

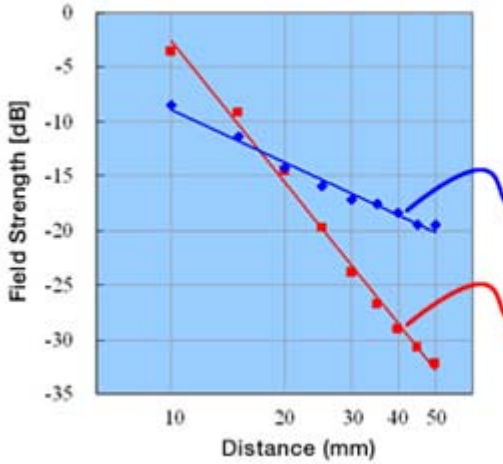
Wireless low-power interface standard for bi-directional data streams between two active devices in very close proximity

- *Proximity Interface - Intuitive Model*
  - *Bring two active devices close together and the data transfer begins*
- *High Speed*
  - *560 Mbps (max) for the physical layer*
  - *375 Mbps (max) effective throughput*
- *Instant, ad-hoc touch triggers the connection*
- *Limited spatial reach ensures inherent privacy and security*
- *Induction coupler and low power minimize interference effects*
- *Excellent co-existence with other systems*

Basic Technology

Center Frequency	4.48 GHz
Bandwidth	560 MHz
Transmission Power	≤ -70 dBm/MHz
Transmission Rate	560 Mbps (physical)
Modulation	Direct Sequence Spread Spectrum (DSSS)
Communication Distance	Up to a few centimeters
Data Transfer Direction	Bi-directional, symmetric
Antenna Element	Electric Induction Coupler
Connection Topology	1-to-1, Point-to-Point

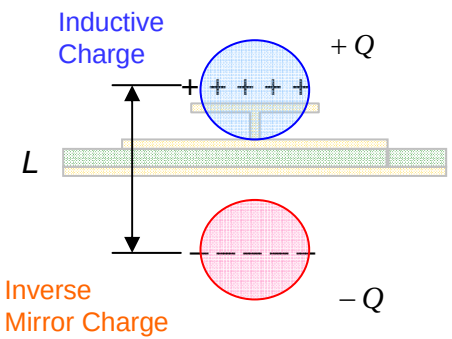
Electric Induction Principle

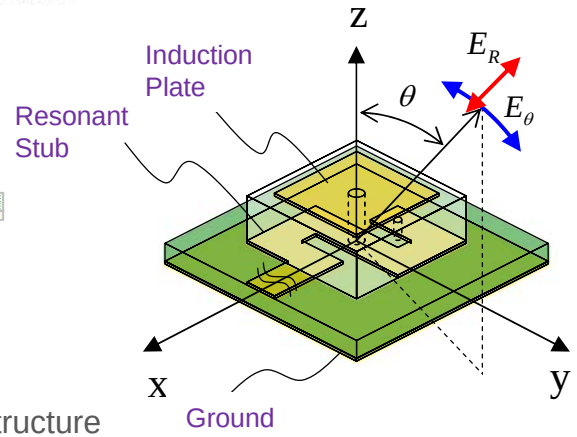


- Good sensitivity in near field
- Rapid attenuation in far field
- No polarization effects
- No loss due to radiation

Conventional antenna

Electric Induction Coupler





Generic Structure

Electric Induction Coupling Mode

Longitudinal Component

$$E_R = \frac{pe^{-jkR}}{2\pi\varepsilon}\left(\frac{1}{R^3} + \frac{jk}{R^2}\right)\cos\theta$$

Transverse Component

$$E_\theta = \frac{pe^{-jkR}}{4\pi\varepsilon}\left(\frac{1}{R^3} + \frac{jk}{R^2} - \frac{k^2}{R}\right)\sin\theta$$

$$H_\phi = \frac{j\omega pe^{-jkR}}{4\pi}\left(\frac{1}{R^2} + \frac{jk}{R}\right)\sin\theta$$

Quasi-Static

Induction

Radiation

Telecommunication Applications

- *Developing Object Model in UML for CSTA Interface based with language mappings to CLI & Java, Planned for 2010*
- *Finalise 2nd edition of Application-Session (ISO/IEC 25437) with Web Service (WS) Eventing and BaseNotification, planned for 2010*
- *Developing next edition of WS for CSTA (ECMA-348) with same extensions as to ISO/IEC 25437, planned for 2010.*

TC32-TG17
Enterprise Networks

- *Ongoing: TR/Next Generation Corporate Networks (NGCN)- Mobility in Corporate Networks (session level handover, roaming in NGCNs)*
- *Published TR/100: "NGCN - Security of Session-based Communications", Fast Track ballot on ISO/IEC 16166 ends on 11 May 2010*
- *Published TR/101: "NGCN – Emergency Calls", Fast Track ballot on ISO/IEC 16167 ends on 11 May 2010*

Personal Area Network (PAN)

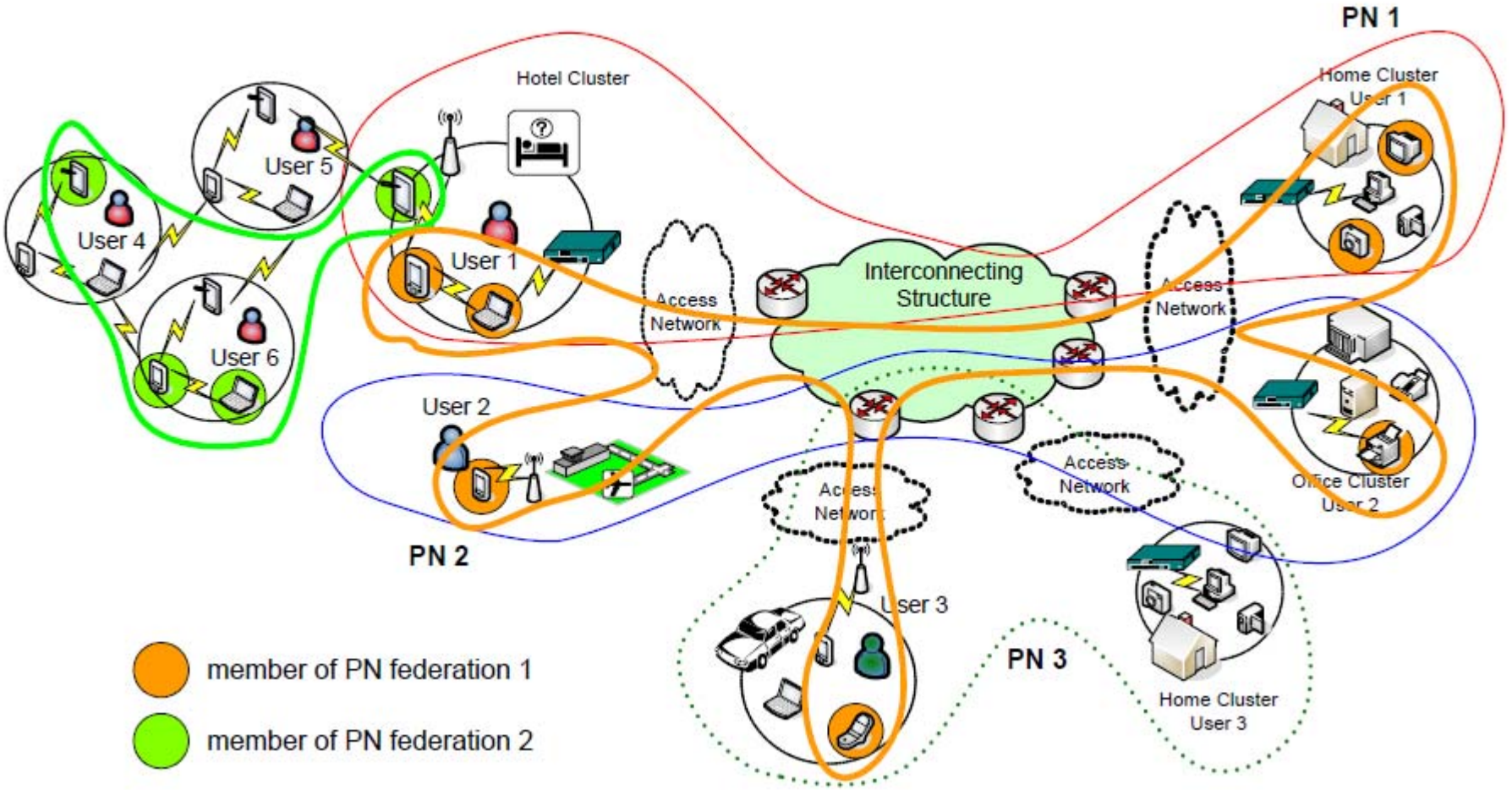
Network connecting devices in the close vicinity of a person/personal entity → **local scope**

Personal Network (PN)

Overlay network on network infrastructure in reach connecting information & communication resources of a person/private entity independent of their location

- **User centred**
- **Secure and trustworthy**
- **Virtual vicinity** of local and remote resources
- **Self-organisation** of network connections
- **Heterogeneity** of technologies

Example: PNs & federations



TC32 established Editor Group on 'Personal Networks (PN) and their Federations (PNF)' in August 2008

Develop Technical Reports that analyse standardization needs:

- *Umbrella TR (Architecture, terms, scenarios, regaps,)*
- *Networking TR (addressing & routing, interfaces, trust)*
- *Enabling Services TR (Identity/access mgnt, service discovery)*
- *Federations TR (PN/Service interworking)*

Collaboration with TC32-TG17 (IP-based Communications)

Involved companies/organisations:

- *TU Delft, IBBT, CSEM, TNO, SEN*

Objective: TG or TC to specify standards on PNs