



ITU-T Workshop

“Networked RFID: Systems and Services”

GENEVA, 14-15 FEBRUARY 2006

Introduction

ITU-T is hosting the workshop “Networked RFID: Systems and Services”, in collaboration with ITU’s Strategy and Policy Unit (SPU), in Geneva, 14-15 February 2006, at the International Conference Centre Geneva (CICG) www.cicg.ch/

Radio-Frequency Identification (RFID) is the much-touted system that enables data to be transmitted by a tiny portable device, called a tag, which is read by an RFID reader and processed according to the needs of a particular application. The development of RFID systems creates new possibilities for the support of object-to-object communications. Analysts predict that RFID will revolutionize areas of industry including supply chain management, security and mobile telecommunication services. Additionally, RFID is expected to play an important role in the realization of the Ubiquitous Network Society. All this will create a yet unquantified demand on telecommunication networks.

Currently, the market for RFID standards is extremely fragmented. Special standards for certain limited fields of applications exist, as well as quasi-proprietary or proprietary standards. Many RFID applications still lack global standards for data formats, compatibility, interoperability, interference problems, personal information protection, authentication, key management and others.

Objectives

The event will focus on the use of RFID technology in networked environments and review international standardization. Particular emphasis will be given to the impact that networked RFID applications will have on telecommunication networks, especially on network and service capability requirements and interworking aspects.

- Present the status of RFID technology and identify future trends
- Review current and future applications, services and business models
- Identify NRFID aspects relevant to telecommunications
- Analyse how far existing standards can support NRFID applications and services
- Identify elements for a roadmap for a standardization framework

Exhibition

A small exhibition will be running alongside the workshop to give companies and organizations an opportunity to display equipment and other material relevant to workshop topics. This exhibition will take place outside the meeting room.

For a live audio webcast of this workshop, please see:
www.itu.int/ibs/ITU-T/rfid06/

For more information please go to the workshop web site at:
www.itu.int/ITU-T/worksem/rfid/

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Programme

DAY 1, 14 FEBRUARY 2006

09:30–10:30 OPENING SESSION

Session Chairman: Pierre-André Probst (Chairman of SG 16, Chairman of the Workshop Steering Committee)

Objectives: This session will provide an overview of the status of RFID technology and present efforts by several organizations towards global NRFID standards.

- *Opening Remarks:* **Yoshio Utsumi** (ITU Secretary General)
- *Welcome address:* **Houlin Zhao** (TSB Director)
- *RFID-Tutorial:* **Jean-Pascal Curty** (EPFL, Switzerland)
- *ITU-T:* **Tony Rutkowski** (Verisign, USA)

10:30–10:45 SHORT BREAK

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10:45–12:10 OPENING SESSION (continued)

- *ISO/IEC:* **Craig Harmon** (QED Systems, USA)
- *EPCglobal:* **Henri Barthel** (EPCglobal)
- *Ubiquitous ID center:* **Noboru Koshizuka** (Ubiquitous ID Center, Japan)
- *Experience simplicity with near-field communication (NFC):* **Reinhard Meindl** (Philips, Austria)

12:10–13:30 SESSION 1: INTRODUCING RFID – VISIONS AND IMPLICATIONS

Session Chairman: Lara Srivastava (ITU/SPU)

Objectives: This session will explore the key visions behind RFID, national strategies, public policy considerations, and their impact on the development of technical standards.

- *Visions of ubiquity – Things in cyberspace:* **Lara Srivastava** (ITU/SPU)
- *RFID – A European perspective:* **Florent Frederix** (European Commission)
- *Visions and strategy in Japan:* **Masao Matsumoto** (MIC, Japan)
- *Vision and trends in US RFID markets – A start-up perspective:* **Yael Maguire** (ThingMagic, USA)

13:30–14:30 LUNCH BREAK

14:30–16:10 SESSION 2: RFID APPLICATIONS – A SECTORAL APPROACH

Session Chairman: Ryo Imura (Hitachi Ltd; University of Tokyo, Japan)

Objectives: Presentations of key B-to-B and B-to-C applications of NRFID in different industry sectors and their requirements for the development of technical standards.

- *Networked RFID for use in the food chain:* **Peter Jones** (Hitachi Europe)
- *RFID for Telecommunication network maintenance:* **Edoardo Cottino** (SIRTI, Italy)
- *Transport: Container (ISO/TC104):* **Lani Fritts** (Savi Networks, USA)
- *Automotive industry and RFID:* **Christian Mory** (Michelin, France)
- *RFID solutions for e-health:* **Robert Gaisch** (MBBS, Switzerland)

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16:10–16:40 COFFEE BREAK

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16:40–18:00 SESSION 3: RFID AND NEW BUSINESS MODELS

Session Chairman: Ryo Imura (Hitachi Ltd; University of Tokyo, Japan)

Objectives: Presentation of key applications of NRFID, their business models and their impact on technical standards from the perspective of different service providers.

- *Mobile RFID services and its business impacts:* **Hyoung Jun Kim** (ETRI, Korea)
- *RFID, applications and business models – the Telco perspective:* **Bjørn Thorstensen** (Telenor R&D, Norway)
- *RFID, a gateway to M2M:* **Alain Pfeffer** (France Télécom, France)
- *RFID's three application models: Positioning, SCM and presence management:* **Ichiro Kase** (NTT Comware, Japan)

09:00–18:00 EXHIBITION

DAY 2, 15 FEBRUARY 2006

09:00–10:00 SESSION 4: SECURITY AND PERFORMANCE ISSUES REGARDING RFIDS

Session Chairman: Heung Youl Youm (Rapporteur Q.9/17; Soonchunhyang University, Korea)

Objectives: This session will discuss key performance, security, data protection, encryption, authentication functions in RFID and supporting protocols.

- *Security issues in RFID and sensor networks:* **Kyo Il Chung** (ETRI, Korea)
- *Authentication and privacy capabilities suitable for RFID:* **Matt Robshaw** (France Télécom R&D, France)
- *Malicious traceability within RFID systems:* **Gildas Avoine** (EPFL, Switzerland)

10:00–10:30 COFFEE BREAK

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10:30–12:10 SESSION 5: NETWORKING ARCHITECTURE AND CAPABILITIES OF RFID

Session Chairman: Rajiv Kapoor (Cisco Systems, USA)

Objectives: This session will seek to identify architectural models for RFID services from a networking perspective, identifying, for example, the various different network configurations between end-user devices and RFID servers. Based on these models, proper networking capabilities and currently used protocols (including relevant identification frames) will be investigated, with a view to supporting RFID communication requirements including QoS and security.

- *The EPCglobal network architecture:* **Henri Barthel** (EPCglobal)
- *RFID – An IP networked application:* **Monique Morrow** and **Mallik Tatipamula** (Cisco Systems, USA)
- *Networked ID applications and standardization topics:* **Yong Woon Kim** (ETRI, Korea)
- *The interferences among passive type UHF-RFID systems in dense environment – analysis and proposals:* **Toshihisa Kamemaru** (Mitsubishi Electric Corporation, Japan)
- *Self-organizing sensor and actuator networks:* **Martin Glänzer** (Siemens, Germany)

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12:10–13:30 LUNCH BREAK

13:30–15:10 SESSION 6: FUTURE TRENDS IN NRFID AND UBIQUITOUS NETWORKS

Session Chairman: Hellmuth Broda (Sun Microsystems, Switzerland)

Objectives: Based on advanced research on the evolution in ubiquitous services and applications, the role of NRFID, sensor networks and their impact on future standards will be analysed in this session.

- *Integration of RFID with smart and wireless sensor networks:* **Kang Lee** (NIST, USA)
- *Advanced RFID and smart tags – vision & trends:* **Daniel Evers** (Siemens, Germany)
- *Future trends for the applications, viewpoint based on future technologies:* **Laurent Sciboz** (HEVs – University of Applied Sciences, Switzerland)
- *Future trends in Japanese RFID technologies and market:* **Noboru Koshizuka** (The University of Tokyo, Japan)

15:10–15:40 COFFEE BREAK

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15:40–17:00 SESSION 7: PANEL ON AN RFID STANDARDIZATION ROADMAP

Session Chairman: Pierre-André Probst (Chairman of SG 16, Chairman of the Workshop Steering Committee)

Objectives: This panel session will review the outcomes of the previous sessions and identify possible elements of a standardization roadmap for NRFID, in particular identifying key issues and priorities for interworking, and means for coordination and harmonization of the work between the different stakeholders.

09:30–16:00 EXHIBITION

For updated information, please see: www.itu.int/ITU-T/worksem/RFID

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