モバイルデータキャリア

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ユビキタスのレイヤ

これまで開発されたRFID技術規格

- エアーインタフェース　ISO/IEC 18000シリーズ
- データプロトコル　ISO/IEC 15961, 15962
- コンフォーマンス　ISO/IEC TR18047シリーズ
- パフォーマンス　ISO/IEC 18046シリーズ
- タグ固有ID　ISO/IEC 15963

これまで開発されたRFID応用規格

- ISO 17363～367　サプライチェーン用RFID
- ISO 18185シリーズ　海上コンテナ用電子シール
- ISO 10374　海上コンテナ識別
- ISO 11784,11785　動物識別

産業用途

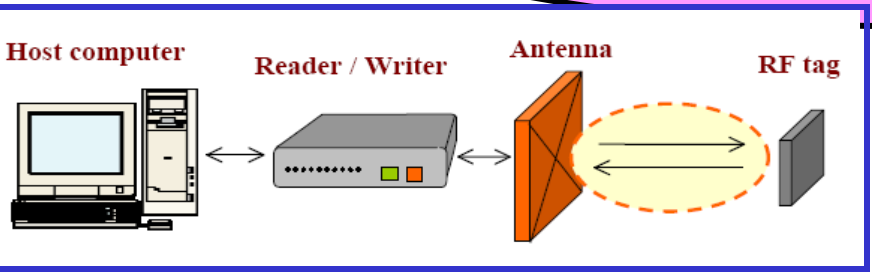
モバイルRFID技術規格

モバイルRFID応用規格

センサーネットワーク

モバイルRFID
コンシューマ市場へ拡大

ユビキタスネットワーク



RFID ベンダー　**産業ユーザー**　**一般消費者**　**通信事業者**

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モバイルRFIDの各国活動状況

＜韓国＞
・2005-02 Mobile RFID Forumを設立
（63組織が参加、300名以上の関連技術者）
・2006-06 18000-6Cに準拠の、携帯用リーダー開発
・2006-10 最初の実証実験をスタート
各種携帯電話規格に対応した製品開発中
・2006-12 50件の規格、技術レポートを完成

併行して、ITU-T、JTC1/SC6、SC31に規格化の提案を実施。

＜日本＞
・携帯電話でQRコードを読取り、各種情報の入手サービス実施中
・2005年経済産業省の携帯電話用RFリーダを用いた実験（書籍）
・2006年KDDIが携帯電話用RFリーダを開発＆販売
・2007年2月経済産業省の実証実験でNTTドコモが携帯電話用RFリーダを用いた決済デモ（コンビニ）

＜SC31国内委員会対応＞
・8月：対応するAd Hoc委員会を設立
・9月：第1回会議、その後数回の会議
（日本の考え方を整理・検討）

日本の意見反映

＜米国＞
・韓国のRFIDを用いたMobile RFID提案に対し、各種のAIDC技術を取り込んだ形を提起。
・Mobile RFID提案を共同推進。

＜SC31国際の場での経過と今後のスケジュール＞
2007-01 SC31/WG4/SG3会議にてプレゼンテーション
2007-03 SC31/WG4会議にてプレゼンテーション
Mobile RFIDのWG設立検討がスタート
2007-06 SC31総会　Mobile RFID Ad hoc設立決定
2007-10 第1回Ad hoc開催（韓国・ソウル）

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モバイルRFIDに関する韓国提案

◆ 2007-08-17モバイルRFIDに関する新規提案　投票期限：2007-11-22

Title：Information technology - Automatic identification and data capture techniques - Air interface specification for Mobile RFID interrogator

Scope (and field of application)

Mobile RFID is a kind of RFID technology combined with mobile communication. Therefore, a Mobile RFID terminal device which has RFID reader functions embedded in a mobile phone, accesses RFID tags as the existing RFID interrogators.

It, however, has particular characteristics, e.g. limited electric power, limited processing capability, and unpredictable interferences caused by many users in an area. In particular, there should be a high possibility of collision among multiple mobile RFID interrogators Therefore, this work item covers the air interface for Mobile RFID interrogators. This work item is not going to develop any new air interface solely for Mobile RFID terminal device, but to arrange the air interface features of the ISO/IEC 18000-6C for Mobile RFID, for example, limiting the maximum EIRP and alleviating the spectrum mask. This work item shall specify the transmitting and receiving parameters for UHF (860-960 MHz) air interface for Mobile RFID interrogators, which include data rates, modulation/demodulation format, data encoding/decoding, spectrum mask, and commands. This work item may include basic requirements and technical norms for air-interface physical specifications for a Mobile RFID. Analysis and guidelines for Mobile RFID environment will be informed in this work item including channel spacing, channel access schemes.

This work item is required to facilitate the interoperability of multiple Mobile RFID interrogators. Also, this work item provides informative contents about a reference design specification for implementing Mobile RFID interrogators.

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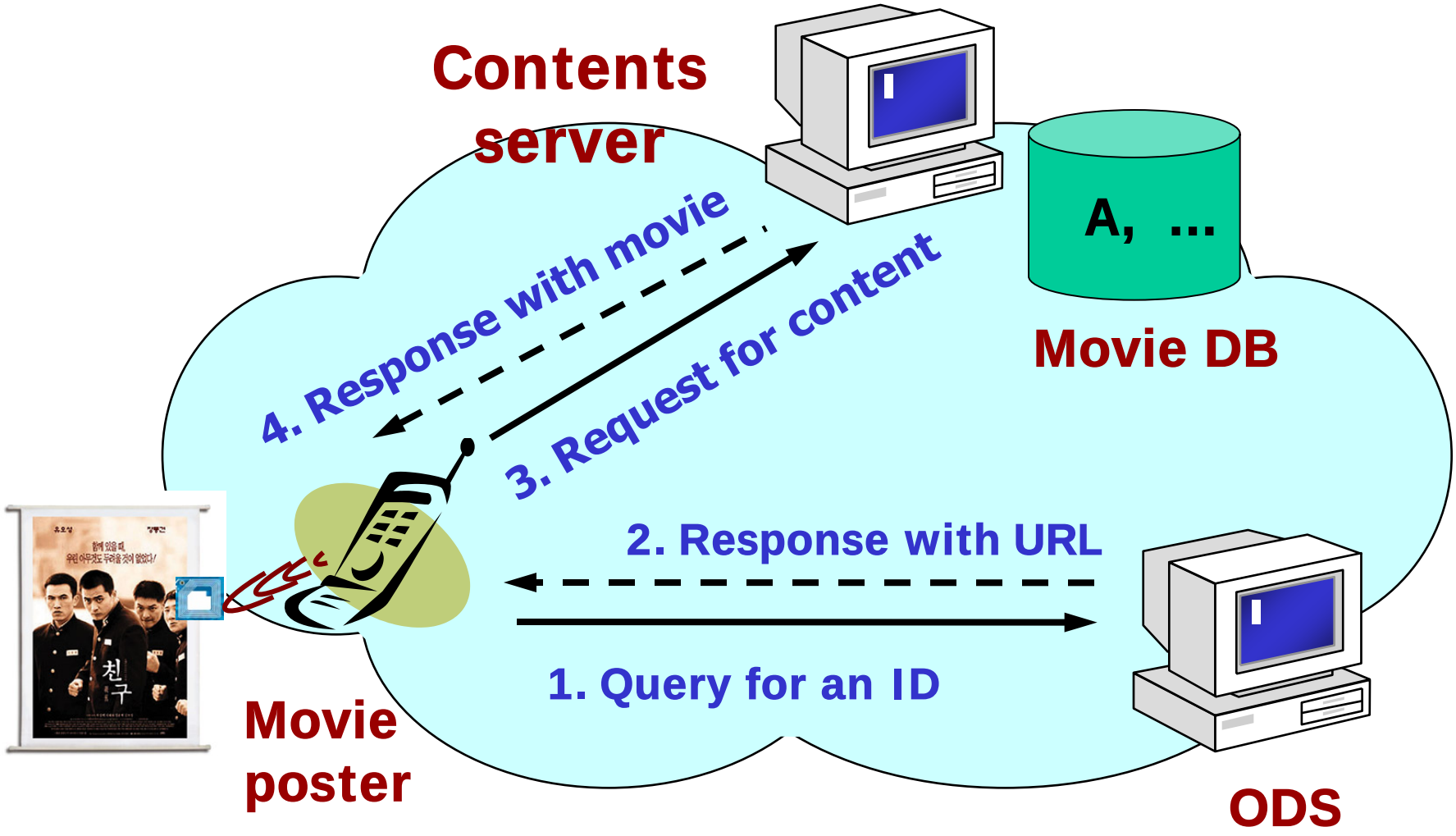
米国、韓国がイメージするモバイルRFID



Mobil RFID service reference model

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米国、韓国がイメージするモバイルRFID

Task Definition
The ad hoc group on *Mobile item identification and management in support of consumer applications* shall coordinate those work items assigned by the SC 31 secretariat with regard to new standardization activities in the field of mobile item identification and management in support of consumer applications providing item identification management web services through use of portable consumer devices, by embedding mobile RFID interrogators and optically readable media (ORM) readers into portable consumer devices and providing standards for interoperability of ubiquitous sensor networks.

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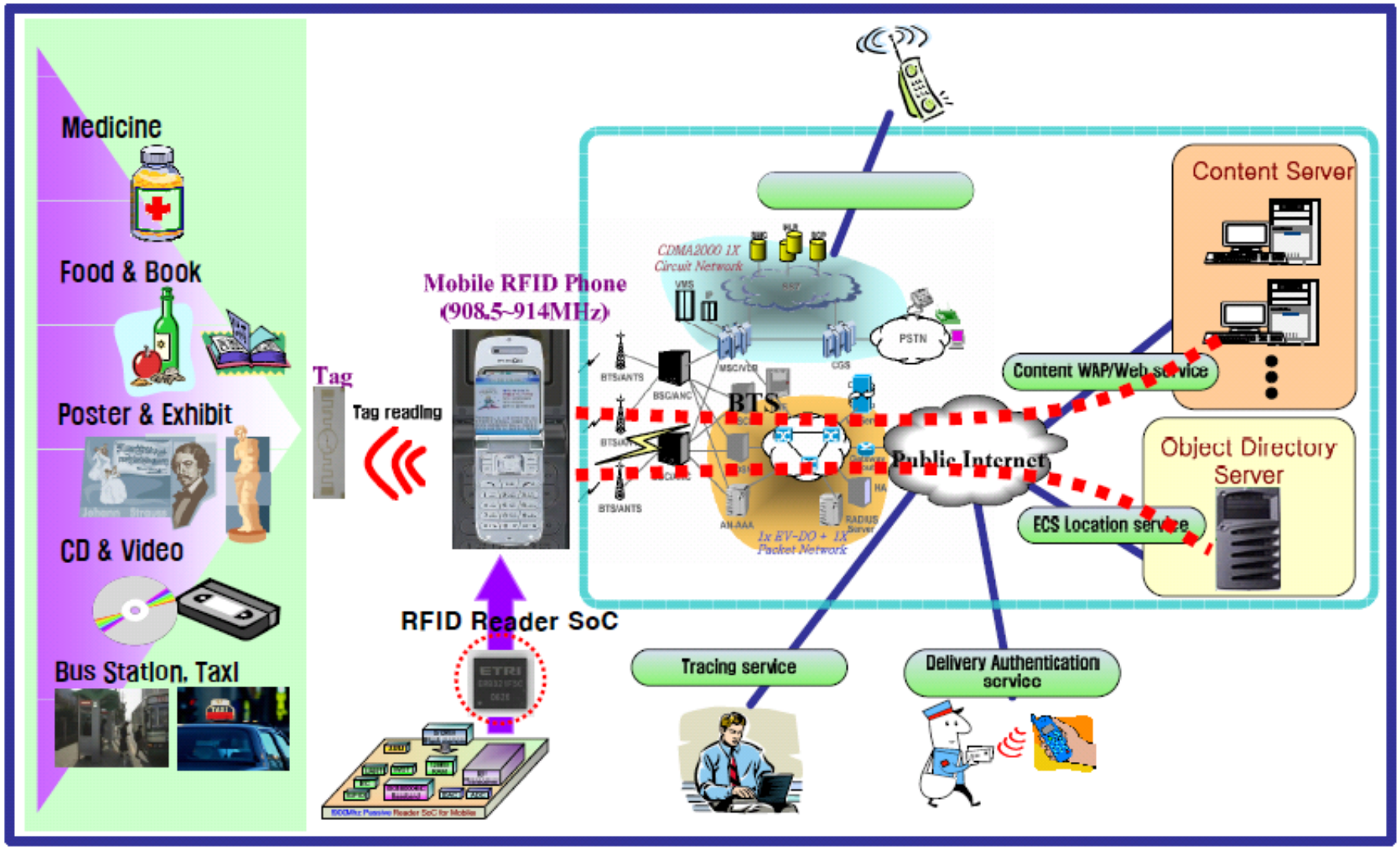
韓国提案のモバイルRFIDのコンセプト



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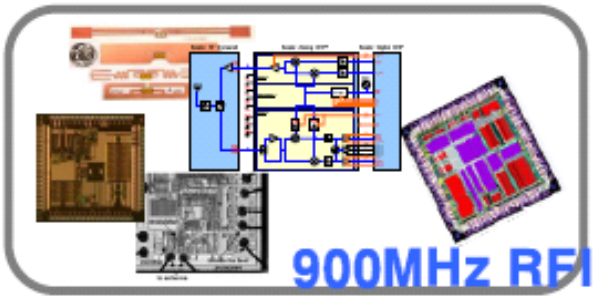
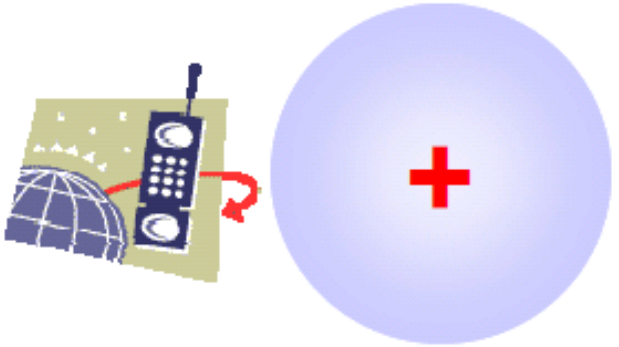
韓国提案のモバイルRFIDアプリケーション



900MHz RFID

UHF band
as most popular RFID

Longer and adjustable
cover range



Ubiquitous terminal device
(u-device)

Mobile Phone

Convergence and
easy implementation

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韓国が提案するモバイルRFIDアプリケーション

Food Tracing Information

Movie Information Providing

Wine Information Providing

Genuine Whiskey Checking

Secure Taxi Service

Bus Information Providing

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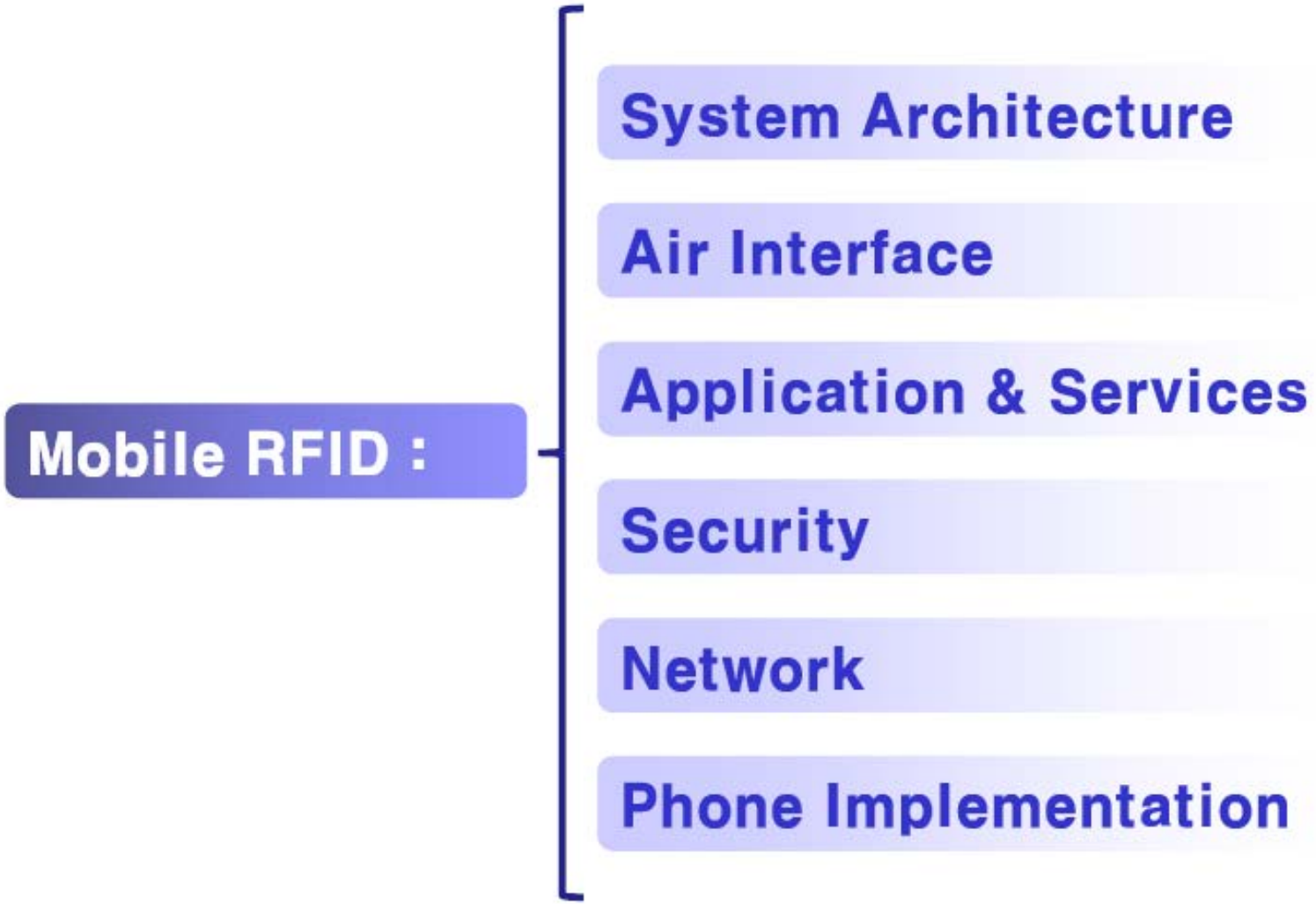
韓国提案のモバイルRFIDの標準化項目



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モバイルRFIDアドホック会議の設立

RESOLUTIONS OF THE THIRTEENTH ISO/IEC JTC 1/SC 31 PLENARY

Centurion Lake Hotel, Pretoria, South Africa
8 June 2007

Creation of ad hoc group under JTC 1/SC 31 on Mobile RFID

Resolution 11: ISO/IEC JTC 1/SC 31 approves the creation of an ad hoc group to coordinate the way forward with regard to new standardization activities in the field of Mobile RFID.
Unanimous

Creation of ad hoc group under JTC 1/SC 31 on Mobile Item Identification and Management in Support of Consumer Applications

Resolution 12: Per resolution 11 ISO/IEC JTC 1/SC 31 resolves to create an ad hoc group, reporting directly to the JTC 1/SC 31 Chairman, called "Mobile item identification and management in support of consumer applications" to coordinate the way forward with regard to new standardization activities in the field of mobile item identification and management in support of consumer applications. Reference SC031-N-2305 (SC031-N-2305 - MobileItem_IDandMgmnt.doc).
Unanimous

＜次回総会（2008年6月）に、検討結果を報告＞

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モバイルRFIDアドホックグループ会議

Date: 30, October 9:00 - 17:30
31, October 9:00 - 16:30
Location: Renaissance Seoul Hotel
Participants: approx. 45

National Body:
Korea, Japan, USA, Germany, Austria, China, Russia, Netherlands, Sweden

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モバイルRFIDアドホックグループ会議アジェンダ

1. Opening of the Meeting — Mr. Craig K. Harmon
2. Welcome by the Host — Representative from Korea
3. Roll Call of Participants — Mr. Se Won Oh
4. Remarks by Chairman — Mr. Craig K. Harmon
   - 4.1 Comments from ISO/IEC JTC 1/SC 31 — Mr. Craig K. Harmon
   - 4.2 Appointment of Drafting Committee — Mr. Craig K. Harmon
5. Adoption of Agenda — Mr. Craig K. Harmon
6. Review of Terms of Reference — 31n2305
7. Presentations from member bodies
   - 7.1 Korean view on Mobile RFID
   - 7.2 Japanese view on Mobile ORM
   - 7.3 IEEE view on Sensors
8. Provisional areas of work (prospects, trends, and analysis on MIIM, mobile RFID service cases,mobile ORM service cases, pilot projects and technology analysis.)
   - 8.1 Common Services for AIDC technologies and Mobile Telephony to deliver web content
   - 8.2 RFID and Mobile Telephony to deliver web content
   - 8.3 Optically Readable Media and Mobile Telephony to deliver web content
   - 8.4 Sensors and Sensor Networks
9. Review and schedule for New Work Items assigned by the SC 31 Secretariat

（以下省略）

Craig K. Harmon

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モバイルRFIDアドホックグループ会議アジェンダ

1. Review of Terms of Reference
2. Presentations from member bodies
   - > Korean view on Mobile RFID
   - > Japanese view on Mobile ORM
   - > Sweden view on Mobile RFID

- Provisional areas of work (prospects, trends, and analysis on MIIM, mobile RFID service cases, mobile ORM service cases, pilot projects and technology analysis.
  - 1.1.1. Mobile RFID in Europe
  - 1.1.2. Air Interface protocol for Mobile RFID
  - 1.1.3. Data Interface between phone and interrogator for Mobile RFID
  - 1.1.4. Mobile RFID application interface for Mobile RFID services
  - 1.1.5. RFID ODS(object directory service) for Mobile RFID services
  - 1.1.6. ID scheme and encoding format for Mobile RFID services
  - 1.1.7. Multiple ID resolution service for Mobile RFID services
  - 1.1.8. Service broker for Mobile RFID services
  - 1.1.9. Application data format for Mobile RFID services
  - 1.1.10. Security and privacy protection for Mobile RFID services
  - 1.1.11. Conformance and Test standards for Mobile RFID specifications
  - 1.1.12. Mobile ORM and RFID for Consumer Product Safety

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ご清聴、ありがとうございました

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