



GRIFS Work Package 1 Review

20 February 2009

Gertjan van den Akker



GRIFS Work Package 1

Project Objectives

- Produce an overview report providing an inventory/state of the art on the development and implementation of RFID standards:
 - on a global scale
 - Identifying:
 - the standards bodies
 - the geographical and technical scope of the work
 - opportunities and risks of collaboration, including gap/overlap analysis.
- Responsibility: CEN
 - 2 subcontractors: Praxis Consultants and NEN



Report

1. Stakeholders in standardisation process (formal international standards bodies) and standards making process
2. Standards inventory:
 - Overview of standards
 - Key relationships with other components of the RFID system
 - Significant developments
 - Comparisons and gap analysis



1. Stakeholders in standardisation process (international standards bodies)

- ISO
- ISO/IEC JTC1
- CEN
- ITU
- ETSI
- IEEE
- EPCglobal



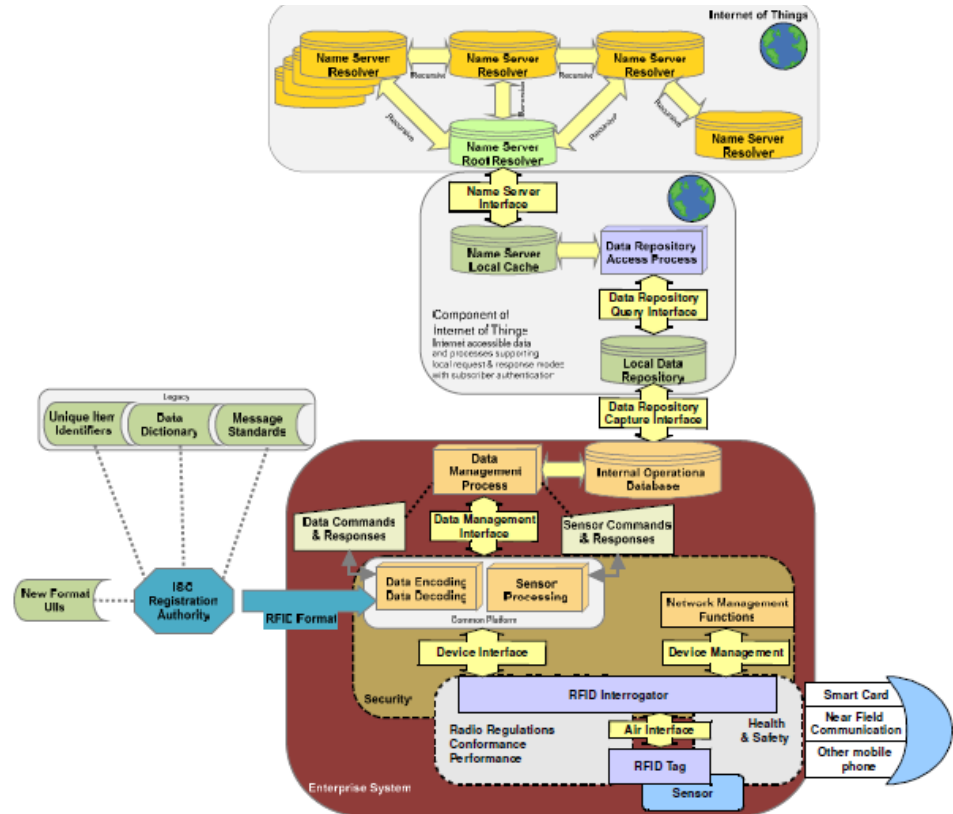
2. Standards inventory

- Starting point: RFID System Architecture model:
 1. Enterprise system: dealing with all aspects where RFID as a data carrier is used to assist with some functional aspects of business or commercial operations.
 2. Internet-based data exchange components that are internal to the enterprise.
 3. Internet-based data exchange that is external with partners and other stakeholders.
 4. The ISO Registration Authority for data format that provides support for conversion legacy data and for new forms of unique item identifiers.



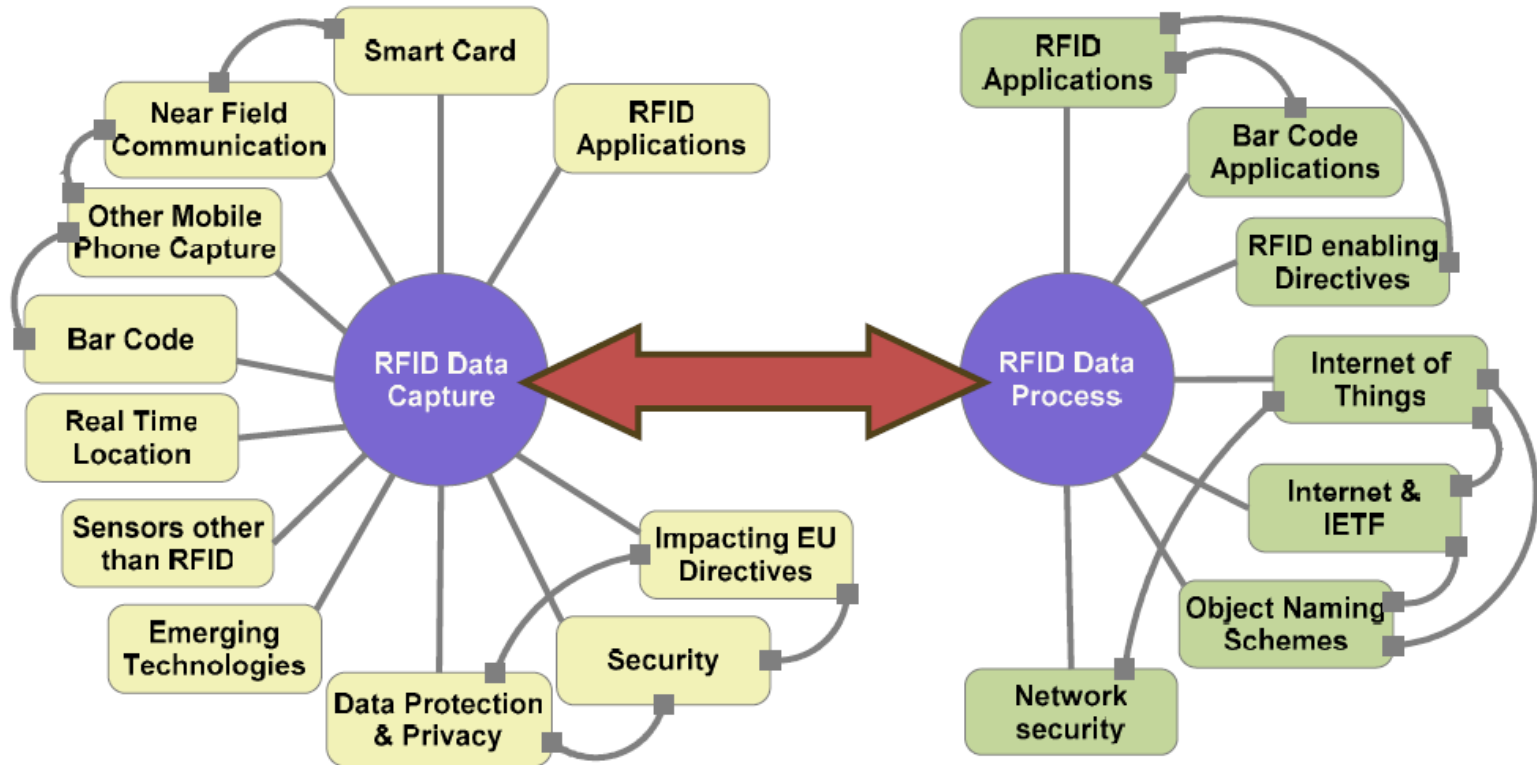
RFID System Architecture model

The report presents standards based on this model





The Standards Map - Need to Cover the Wider Scope





Standards map (1)

Following RFID System Architecture model a spreadsheet with **125** standards has been created in the following areas:

- Frequency regulations
- Health and Safety regulations
- Data protection and privacy regulations
- Air interface standards
- Sensor standards
- Conformance and performance standards
- Device interface standards
- Data encoding and protocol standards (often called middleware)
- Data standards
- Application standards
- Environmental regulations (e.g. WEEE, packaging waste)
- Data exchange standards and protocols
- Security standards for data and networks
- Real time location standards
- Mobile RFID



Standards map (2)

- For each standards area:
 - Overview of standards
 - Key relationships with other components of the RFID system
 - Significant developments
 - Comparisons and gap analysis



Standards map (3)

Examples of overlapping initiatives

- **13.56 MHz** – used for Smart Card, RFID for item management, and mobile phones by Near Field Communications Forum
- **Mobile phones** – NFC Forum (focussing on 13.56 MHz), SC31 WG6 (UHF technology and bar code) recently GS1 Mobile Communications group
- **Namespaces for unique identifiers** – ITU-T and JTC1 SC31
- **Privacy and security**



Standards map (4)

- By following model, the standards map allows an understanding of the interrelationships between standards (and certain regulations) in various areas.
- But: prerequisite for drawing these interrelationships is the accuracy of the data in the spreadsheet.
 - Very difficult to obtain all relevant information that should be available on a standard.
 - Since the development of standards progresses in time, it became clear that some information in the spreadsheet should already be updated.
- These two problems related to the accuracy of the data in the spreadsheet not only apply for creation of the spreadsheet but will certainly apply for future revisions of the information.



RFID MoU

- Coordination between the various standards making bodies is important.
- Possible solution: a Memorandum of Understanding (MoU) between the various standards making bodies.
- Example for the creation of such a MoU could be the MoU on electronic business between ISO, IEC and ITU.



Database

- One of the important tasks of the RFID MoU would be the (decentralized) maintenance of the database with RFID standards.
- Maintenance of database would allow the identification of potential overlap between standards or the identification of new standardisation areas.
- Major benefit: stakeholders not directly involved in standardisation would have a complete and up-to-date overview of all relevant RFID standards.
- More information:
<http://www.grifs-project.eu/index.php/downloads/en/>



Thank You

Questions?