

Dependability of RFID systems

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CTSYS background

- Design validation of ICs
- ICs testing
- Test generation and testability analysis of real time critical systems
- Code level diagnosis
- Software component on line testing and diagnosis

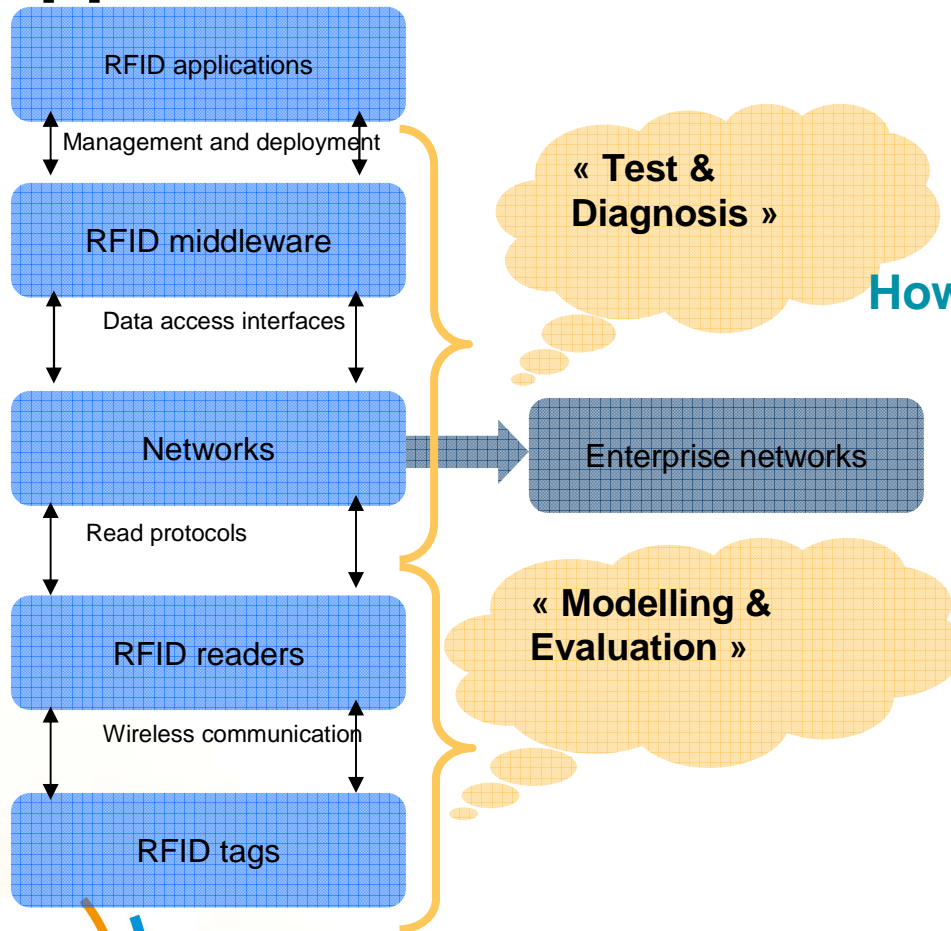
Context

- Collaboration with RFTLab
- Existing works on RFID security, less on RFID dependability

Objective

- RFID systems dependability →
fault detection, diagnosis, isolation
- Considering the entire RFID system: tags,
readers, protocols, middleware
(hardware and software components)

Approach



Appropriate middleware and
on line test and diagnosis

How to validate the entire RFID system?

How to ensure RFID systems
fault tolerance?

Abstraction level?
Failure modes?
Fault model?
Simulation tools?

Main tasks

- System and failure mode analysis (component interactions, environment disturbances, middlewares operations ...)
- RFID system modelling
- Development of adequate test and diagnosis methods
- RFID middleware specification and development
- Simulation
- Prototyping and case studies