

# Towards Secured M2M-based Service-Oriented Systems

Laboratoire d'InfoRmatique en Image et Systèmes d'information

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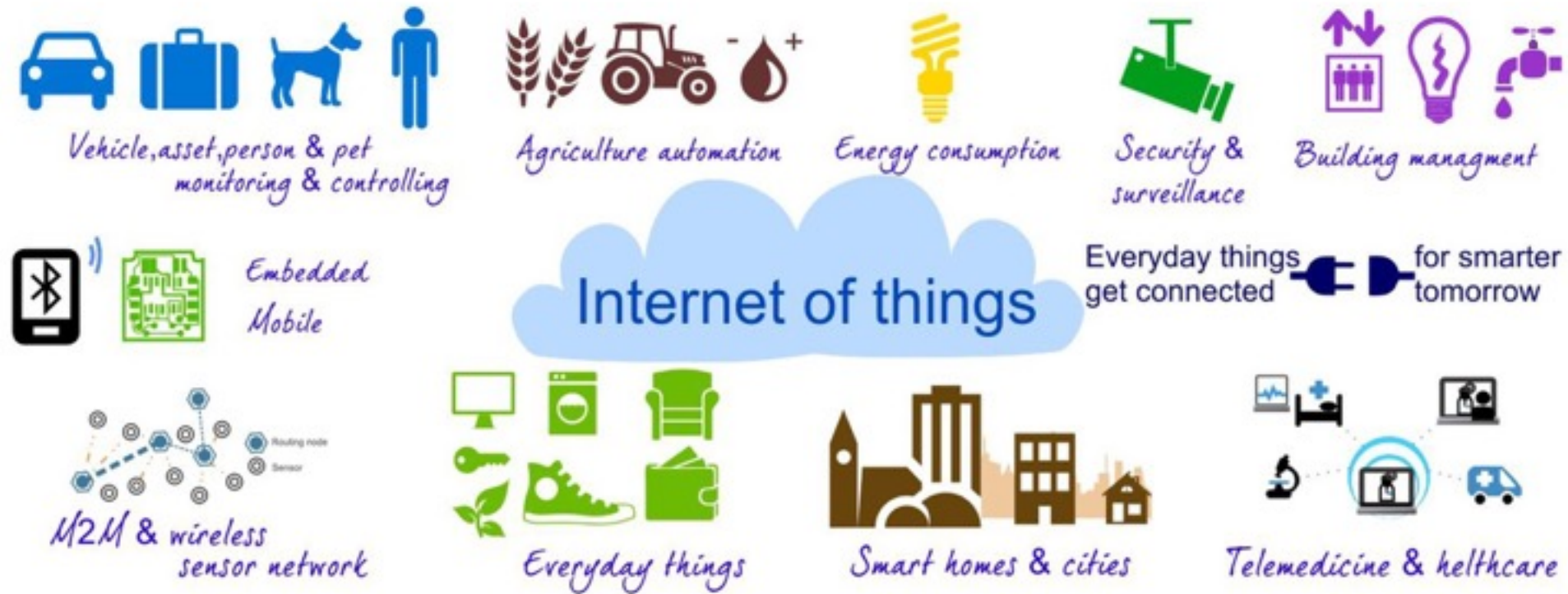
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# IoT Scope



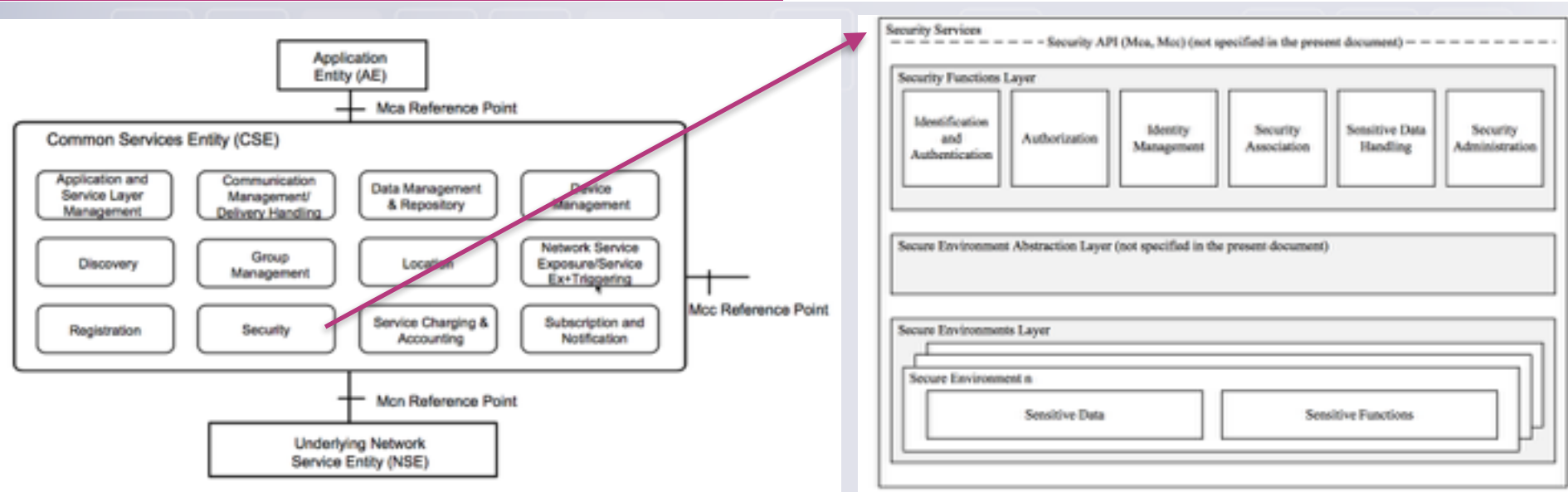
Interconnectivity    Heterogeneity    Scalability    Dynamic Changes    Limited Resources

# IoT Security Challenges

- Interconnectivity
- Heterogeneity
- Scalability
- Limited Resources
- Dynamic Changes

- Confidentiality
- Authentication
- Authorisation
- Availability
- Privacy

# IoT SOA Security Architecture



- Provide security as a service or one component in entire IoT systems
- Provide simple tools to users to configure the security policy
- Develop our own security modules in the entire security services component.
- If users need this security function, they could load the corresponding security module.

# Privacy Preserving Services Module for Mobile Devices

- Campus map
- 24 mobile devices
- Device a0 sends a message to a1
- No end-to-end connectivity
- Store-carry-and-forward
- Mobility pattern
- Protect mobility pattern
- Protect the source and the destination of message
- This module uses our new routing algorithm to preserve privacy

# Privacy Preserving Services Module for Mobile Devices

The screenshot displays a network simulation software interface. The main window shows a floor plan with various rooms and corridors. Numerous nodes are placed throughout the plan, each labeled with a unique identifier such as p1, p2, p3, p4, p5, p6, p7, p8, p9, p10, p11, p12, p13, p14, p15, p16, p17, p18, p19, p20, p21, p22, w18, w19, w20, w21, w22, and l23. The nodes are represented by small green circles with their labels inside. The interface includes a top toolbar with navigation and control buttons, a scale bar in the top left, and a 'Nodes' list on the right side. The bottom section contains an 'Event log controls' panel with checkboxes for 'all', 'connections', 'up', 'down', 'messages', 'created', 'started relay', 'relayed', and 'delivered'. The 'Event log' panel is currently empty.

Questions?