Naming Architecture for Object to Object Communications

<draft-lee-object-naming-00.txt>

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History of previous document

- **Previous document (HIP extensions for object to object communications)**
  - 1st presentation, Dublin meeting (00 version)
    - Presented the necessity of object to object communications
  - 2nd presentation, Minneapolis meeting (01 version)
    - Introduced ITU-T's activities
    - Discussed several technical issues including security
  - 3rd presentation, San Francisco meeting (02 version)
    - Specified protocols for HIP extension

E-mail discussions since last meeting

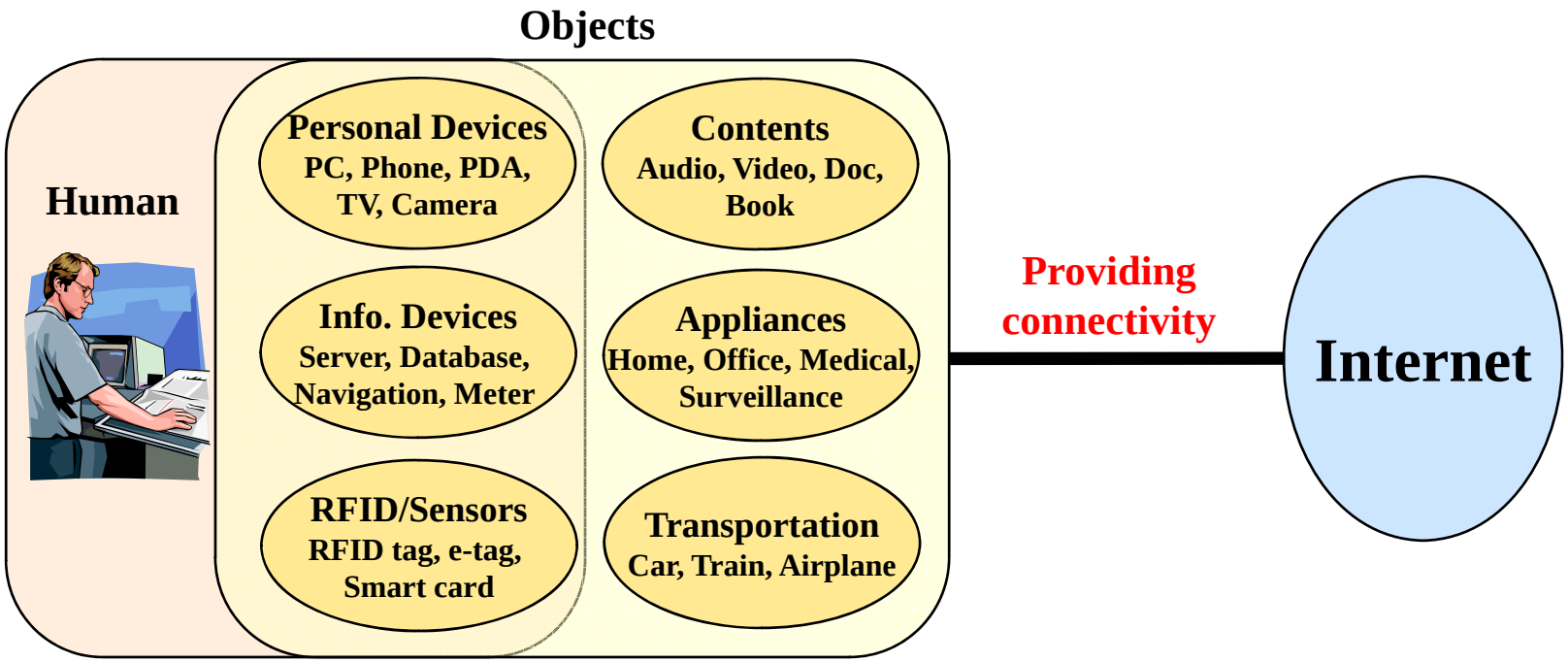
- **Future work on naming objects in HIP**
  - Two possible solutions for RG item
    - Pick up one or both of the existing drafts and work on them as RG documents
    - Work on a more broadly scoped informational document
  - Discussion results
    - Agreed that the topic is interesting
    - Decided to create a new internet-draft on the object naming which concentrates more on conceptual requirements and architecture
- **Develop a new high-level architectural document**
  - Naming Architecture for Object to Object Communications

Overview of object naming document

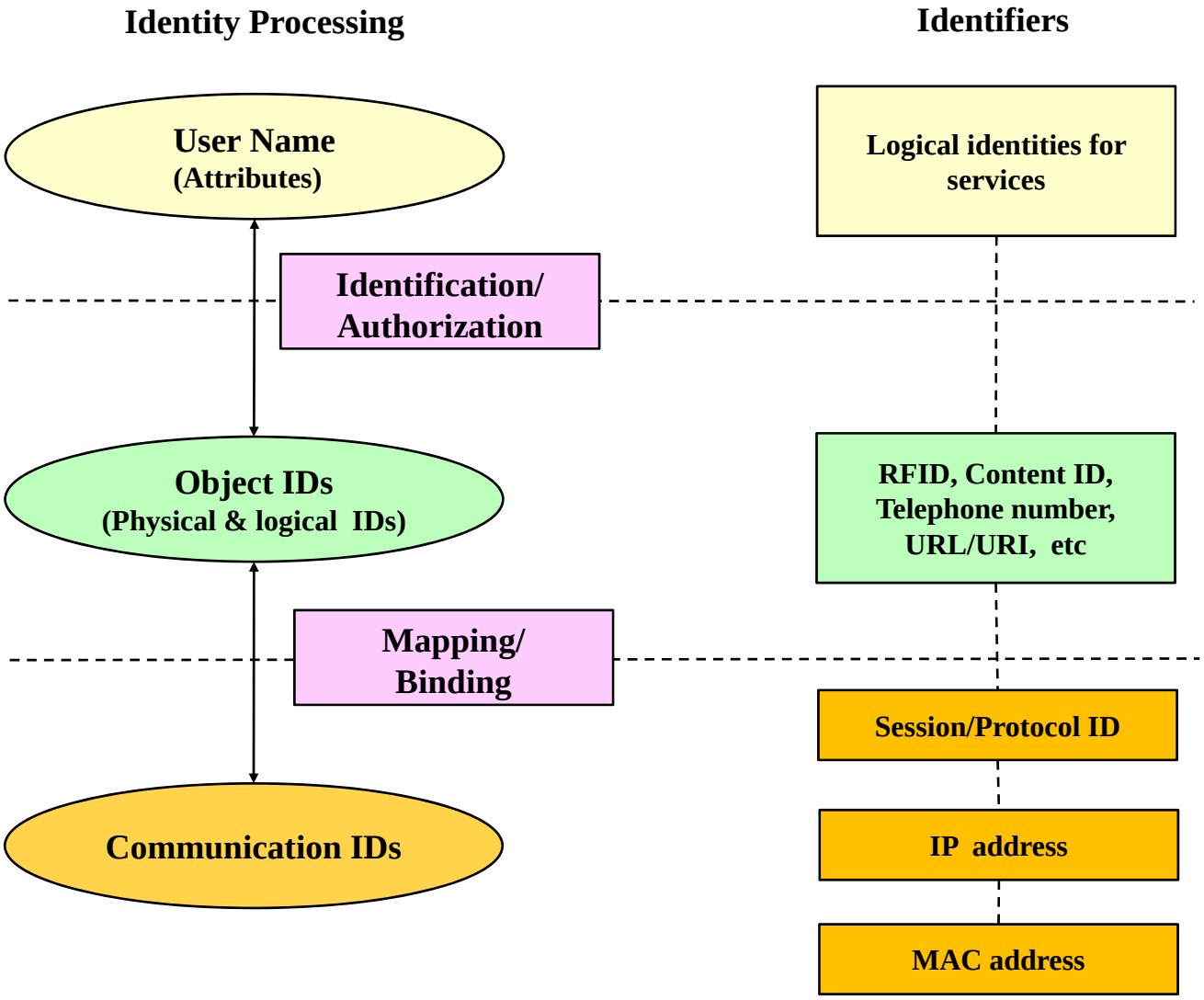
- **Object to object communications (ubiquitous networking)**
  - New types of objects connected to the network for enabling the use of various communication services
  - Each object delivers information using network with/without the help of humans. (e.g., sensor networking, etc)
- **Objective**
  - Connecting to anything using object identification
    - Protection of object (including right management)
    - Service and location discovery
  - Protocol development for object naming

Key concept

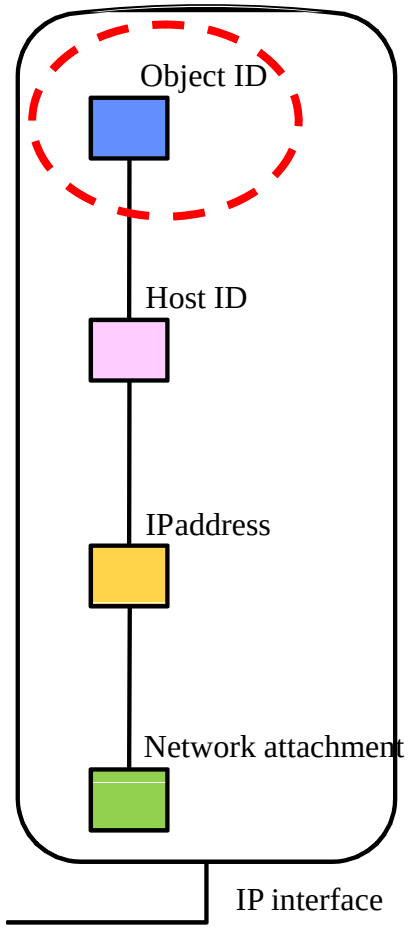
- **Communications with objects through Internet**



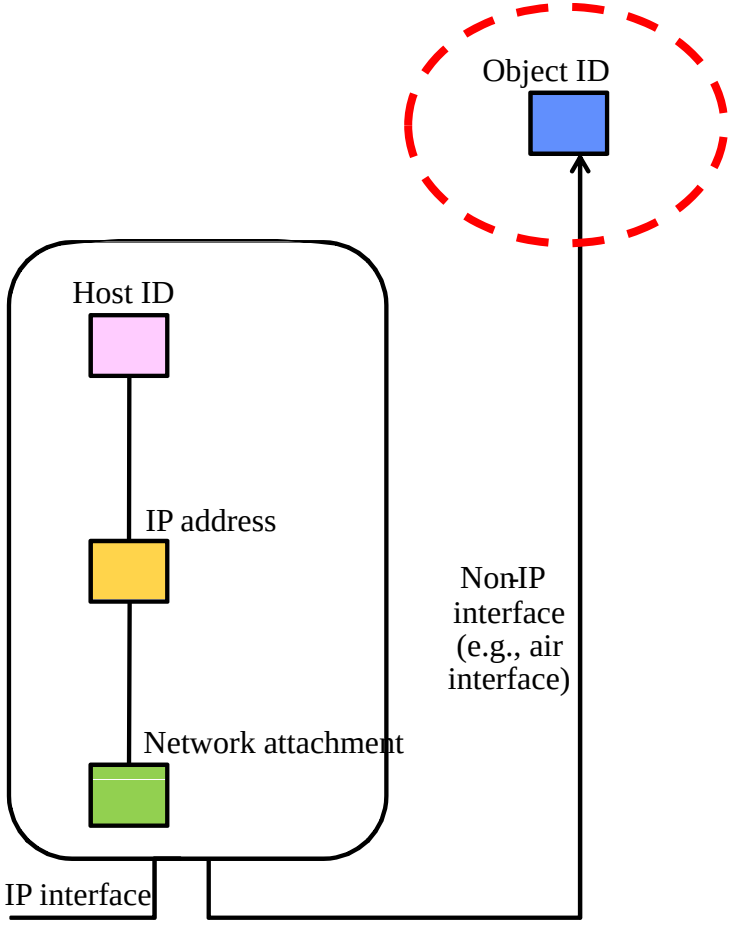
Layered architecture for identity processing



Object mapping – extension of stack architecture

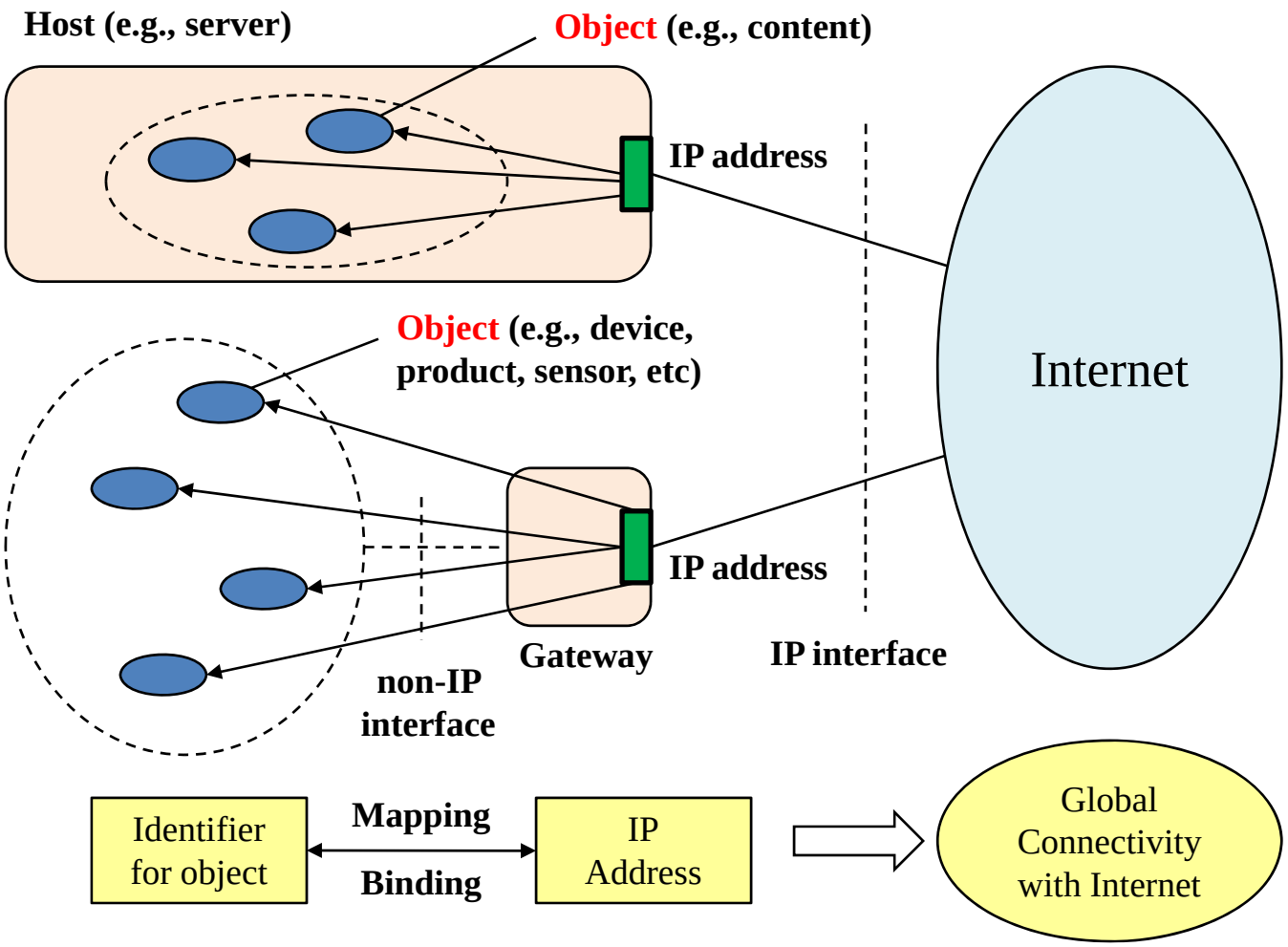


(a) Direct mapping (Object in a host)



(b) Indirect mapping (remote objects)

Conceptual diagram for providing connectivity to objects



Issues for object naming

- **Detailed requirements**
  - How to identify all of objects
  - How to support security
- **Architectural aspects**
  - Extensible to all of objects
  - Interoperable with a new naming/addressing architecture (e.g., ID/LOC splits)
- **Alternative protocol solutions**
  - Reuse existing protocols (e.g., extension of HIP)
  - Develop a new protocol (e.g., object identity protocol)

Next steps

- **Proposals**
  - Adopt as Research Group Item?
    - We already have consensuses on importance of this topic through e-mail discussion
  - How to develop this document?
    - Officially make a design team for more progresses
- **Update the document**
  - Inputs from feedbacks and comments using mailing list
  - Inputs from experts/design team of HIPRG