An Approach Based on Network ID Systems to Prepare for Global Environmental/Health Concerns

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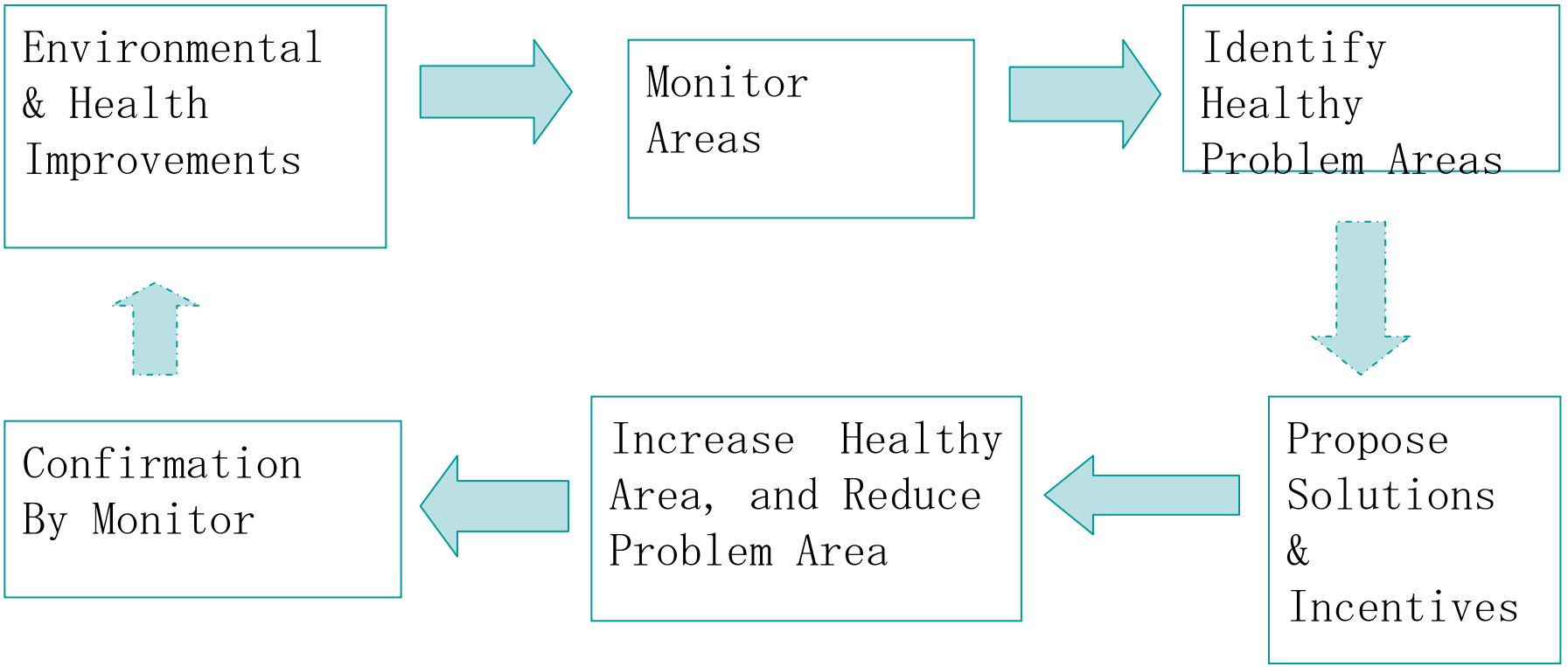
Motivations and Objectives (1)

- Climate change and/or pandemic are global life threatening environmental/health concerns.
  - Not only our lives but also future generation lives
- There will be many different technical/medical solutions.
- To verify the effectiveness of technologies and solutions for reducing those concerns is important.
  - Effective solutions should be promoted and expanded.
- ICT can play an important role to verify the effectiveness of technologies and solutions.
- A region(/area) could adopt different technologies and solutions.

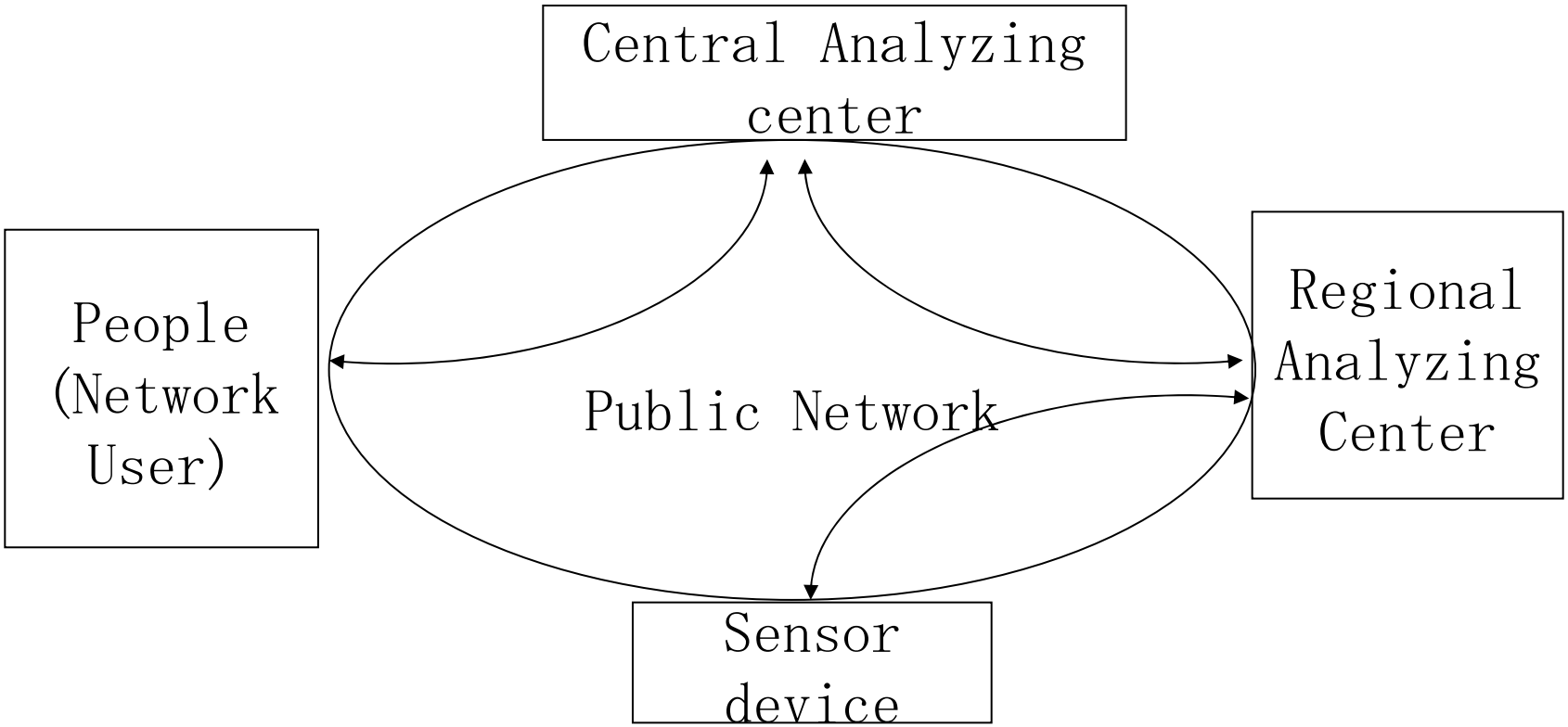
Motivations and Objectives (2)

- To identify and separate problem areas from other healthy areas is required.
  - A problem area: The adopted technologies and solutions may not be effective in the area.
  - A healthy area: The adopted technologies and solutions may be effective in the area.
- Monitored data are timely collected via network and analyzed by experts.
  - A large number of monitoring devices are required.
- A network system based on device ID that would deliver the device information and its monitored data and attributes to scientists, decision makers and users who can make a good use of the data.
- An international institute to coordinate those activities and analyses, and to promote

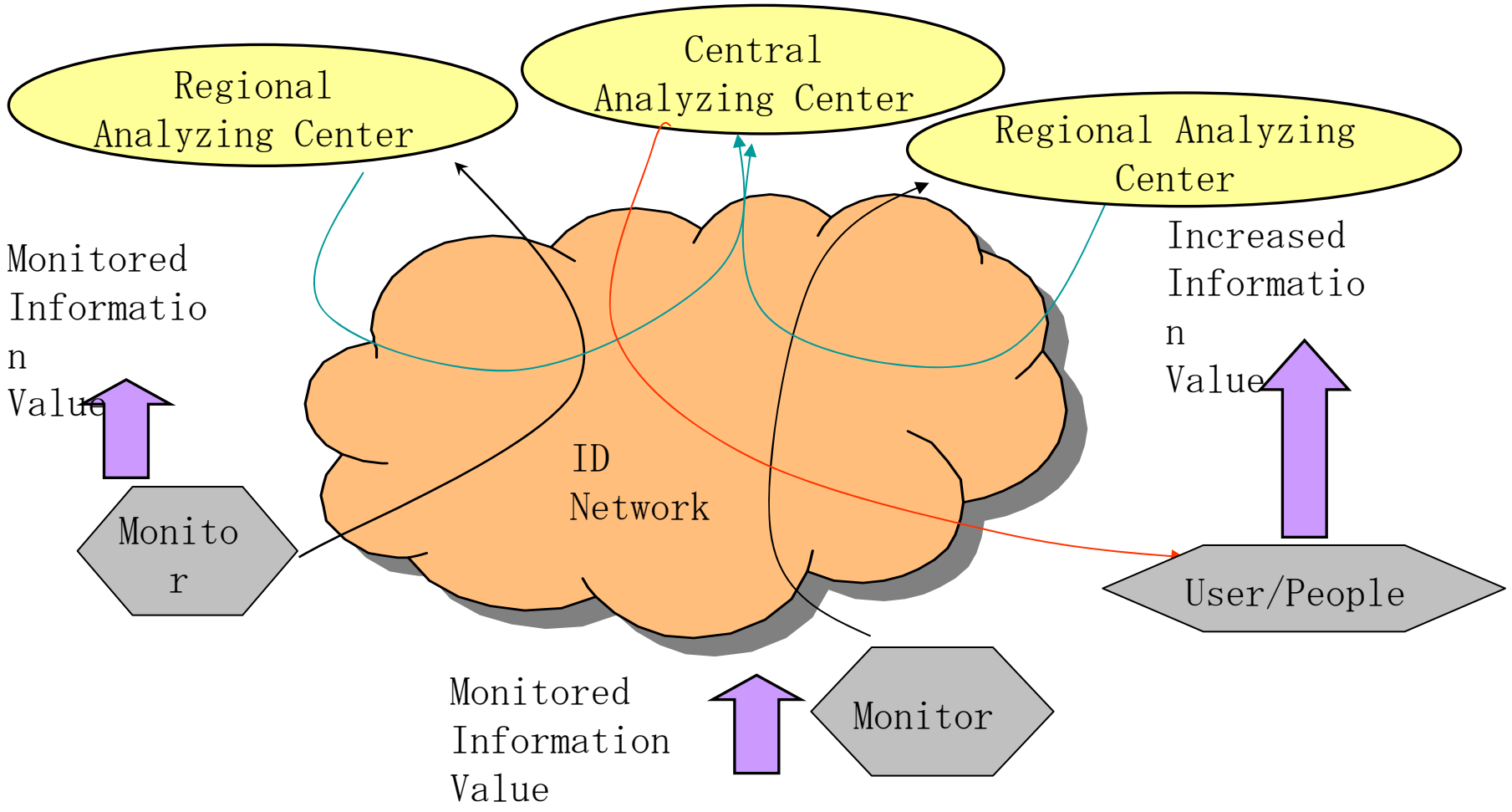
Action Flows of Environmental and Health Improvemer



Information Flow for Network ID Systems to Prepare for Climate Change / Pandemic Concerns



Functions of ID provider and Information Provider



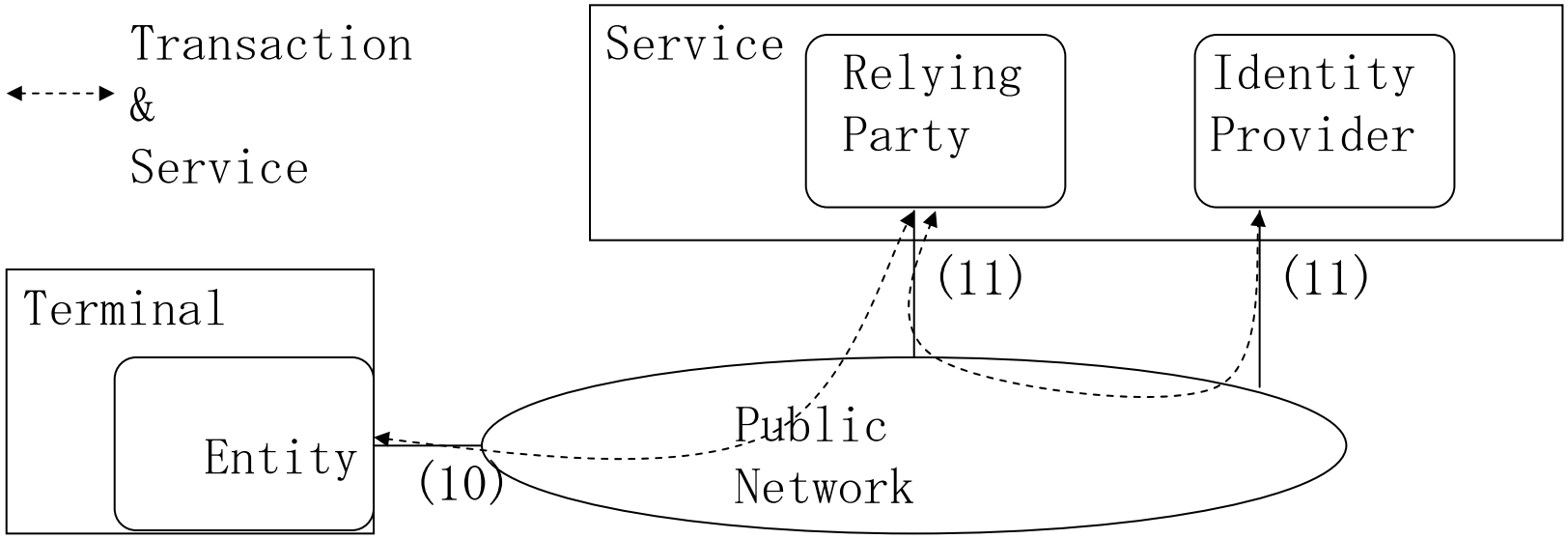
Standardization requirements of such ID network

- standardized interfaces between ID network and devices (physical and logical layers)
- standardized procedure to identify, verify and exchange device ID, attributions and collected data, and
- standardized process to maintain accuracy of collected data.

ID related activities in ITU-T

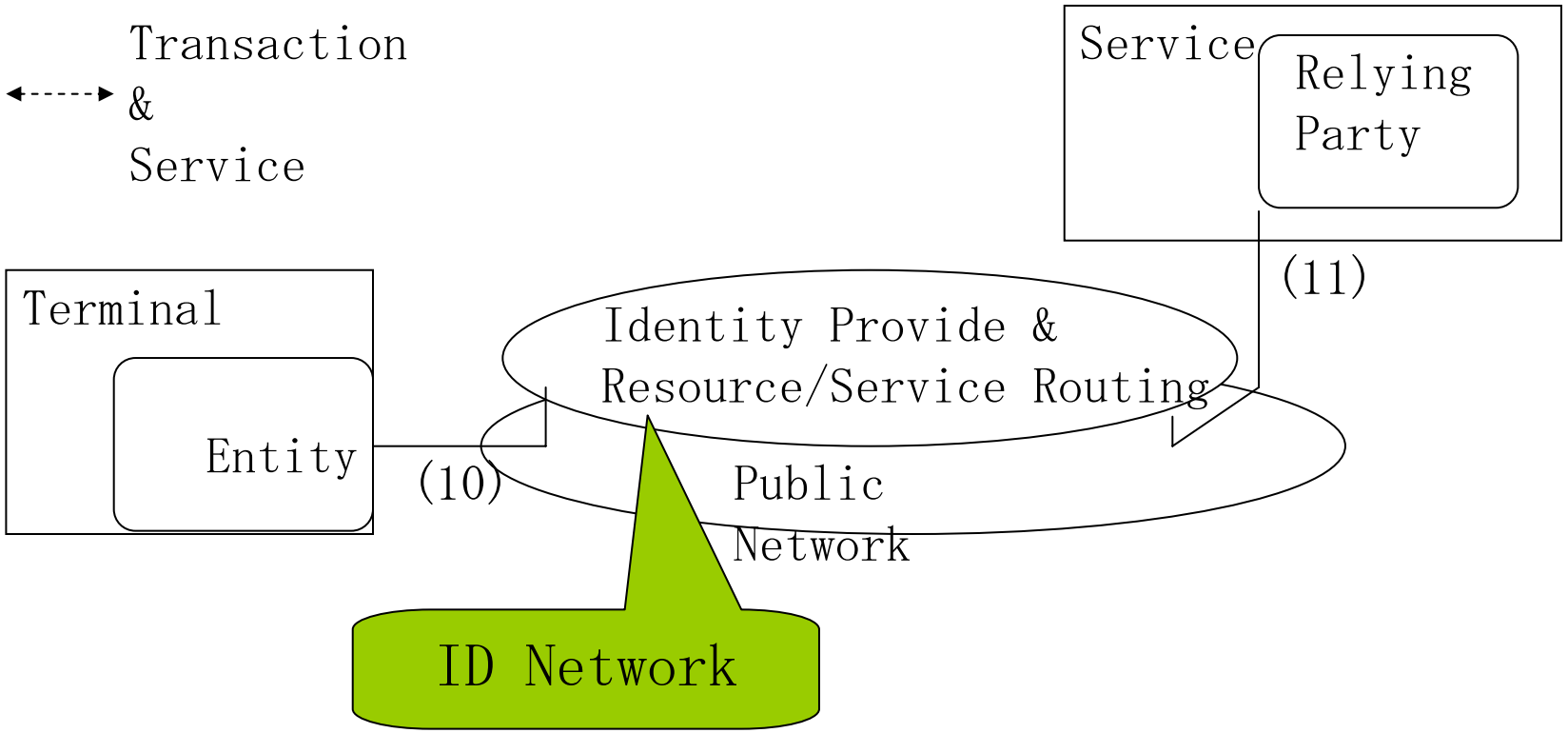
- JCA-NID
  - http://www.itu.int/ITU-T/jca/nid/index.html
  - ID terminal, public network & services
- JCA-IdM/ IdM-GSI
  - http://www.itu.int/ITU-T/jca/idm/index.html
  - Entity, Identity Provider & Relying Party

A Composed Architecture Model

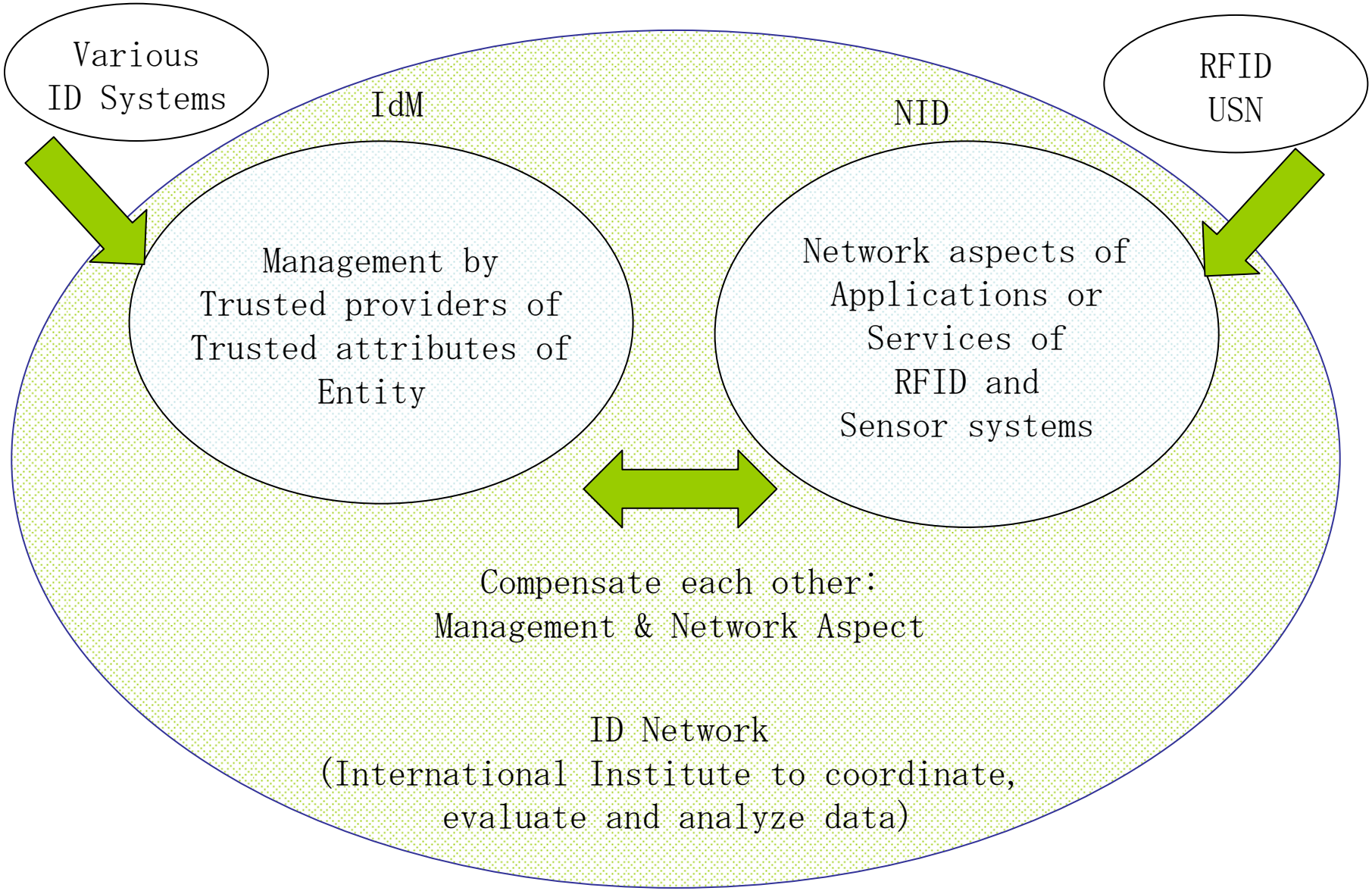


The terminal/end user equipment accesses to the public network via the User Network Interface UNI (10).
Then, it contacts a necessary service via the reference point (11).
The service will provide additional information back to the termina user.

A New Approach of the Architecture



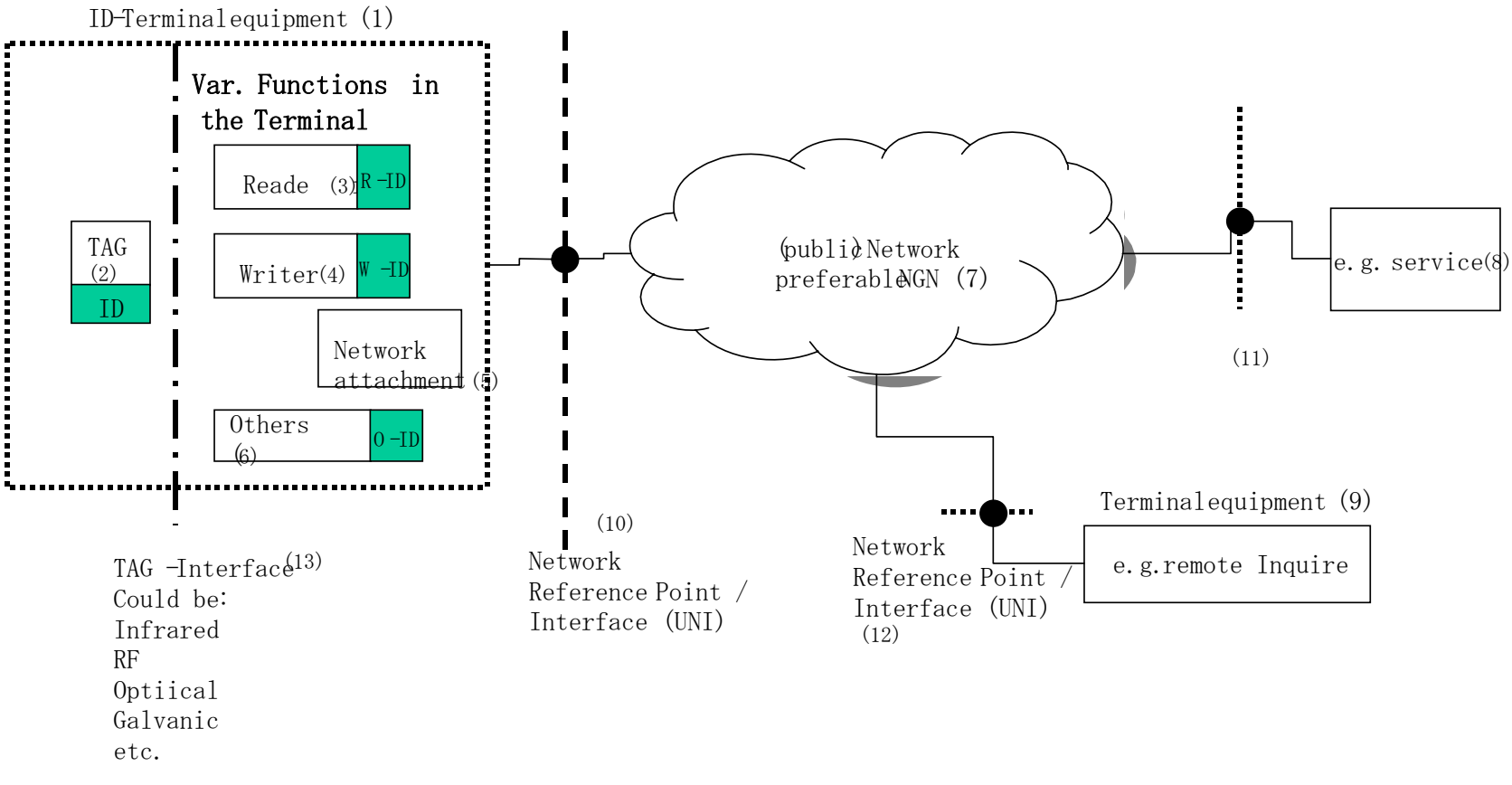
Relationship between IdM and NID



Reference

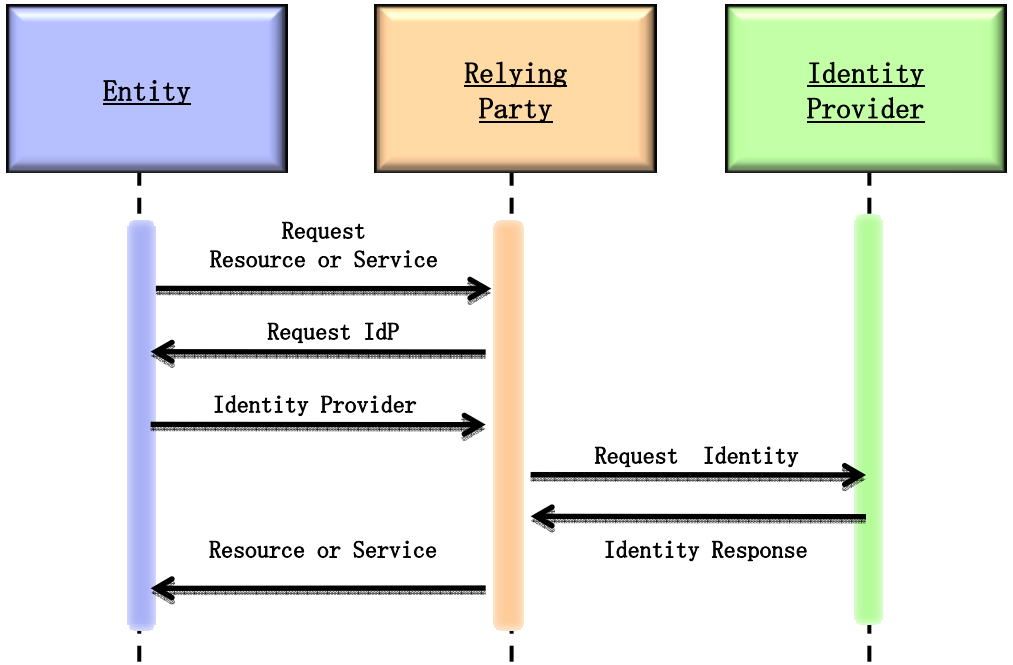
NID Reference Architecture

JCA -NID High Level Ref.Architecture



General IdM Architectural Model

- Entity – a User or a Requestor, who seeks Service from a Relying Party, and provides a claimed Identity to that Party.
- Relying Party (RP) – Needs to have this Identity authenticated before providing the Service. Queries Entity for the name of the Identity Provider for the claimed Identity. Queries Identity Provider for validation of the claimed Identity (and for the attributes of that Identity).
- Identity Provider (IdP) – Authenticates the claimed Identity, and may return attributes of the Identity to the RP. Uses trust



- IdM Query-response mechanisms should be "well-structured", with syntaxes and profiles that are known or potentially obtainable by each of the parties involved