

The Concept and Model of Unique Name Service for Convergent Networks

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Agenda

- Motivation
- A new concept: Unique Name Service (UNS)
- Case studies and practical approaches
- The abstract UNS model
- Evaluation



Focus/Goal of the Presentation

- Not to discuss everything in details
- Raise interest about the topic
- Not to repeat, but rather augment the paper
- To give a practical approach
- Encourage the audience to read the paper



Motivation

- IP based communication networks with standard and common transport and control are still not widely deployed
- Present fact: heterogeneous network and service environment
- The consequences of this heterogeneity are:
 - several (communication) service contracts per user (GSM, xDSL, fixed line, IPTV, CaTV, etc.)
 - multiple user IDs (mobile number, fixed line number, fax number, e-mail address, VoIP number/ID, etc.) even with convergent (e.g. FMC) services
 - Not the user is identified, rather the endpoint which belongs to a certain technology
- The presently available ID generalization methods do not solve the described problem – do not provide a unique and technology independent user ID
 - ENUM, UCI, etc.
- There is neither such theoretical method nor such service that would provide a technology independent unique user ID.



A New Concept:

Unique

Name

Service

Unique Name Service (UNS)

- Definition
 - UNS is a generic framework, which suggests a solution for the problem of unique user identification.
- Major features of UNS
 - Provides unique user IDs
 - The format of this ID is not restricted
 - Generic
 - Flexible
 - Future proof
 - Technology independent



Terminology

- **U**nique

- Because each person has only one ID
- Subscribers can be reached via different technologies with a single ID

- **N**ame

The standard (ETSI) terminology is applied here

- **Name:** **identifier** of an entity (e.g. subscriber, network element) that may be resolved/translated into an **address**.

Identifier: a series of digits, characters and symbols used to identify uniquely subscriber(s), user(s), network element(s), function(s) or network entity (entities) providing services/applications.

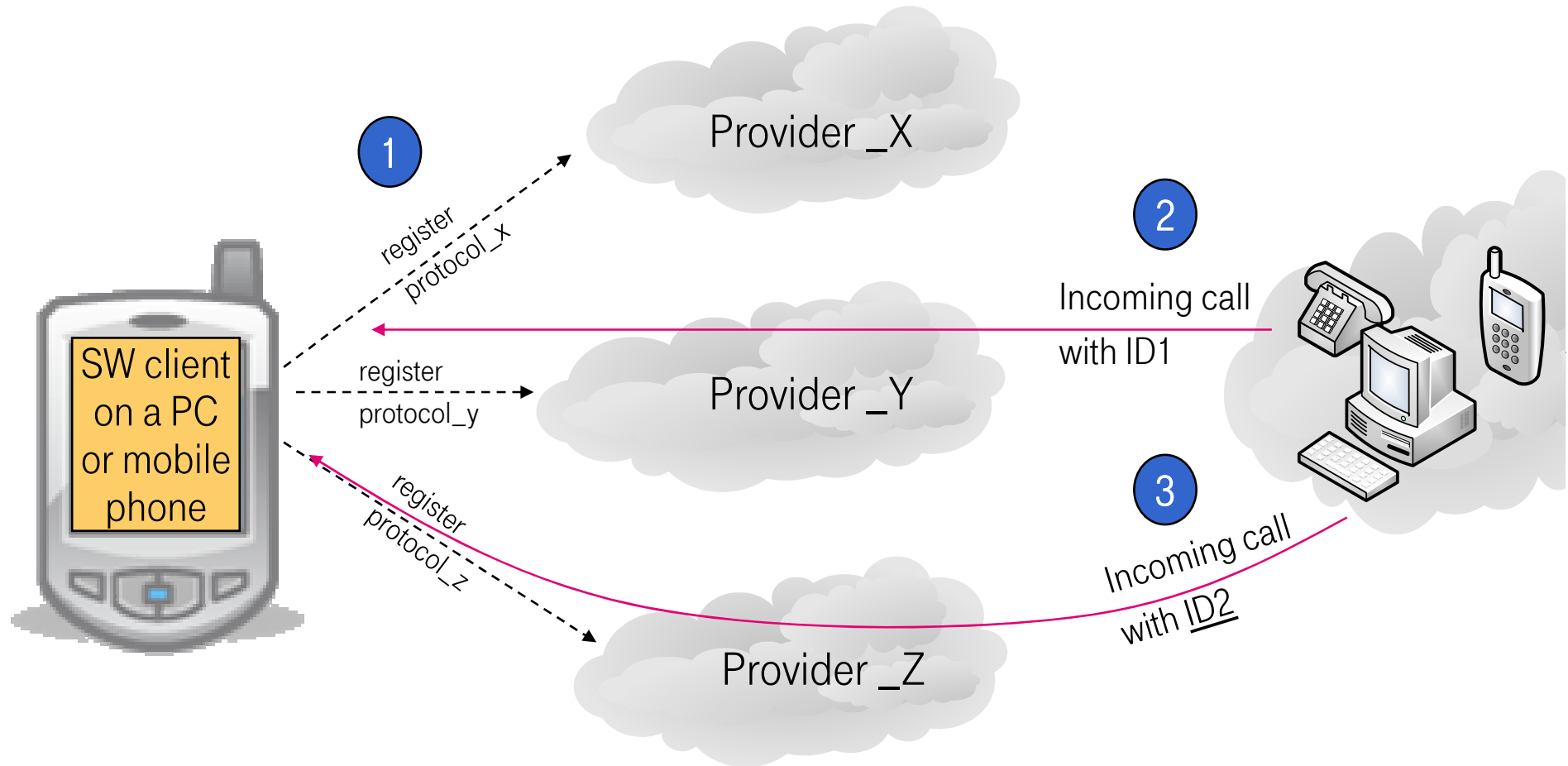
Address: identifier for a specific termination point and used for routing to this termination point.

- **S**ervice



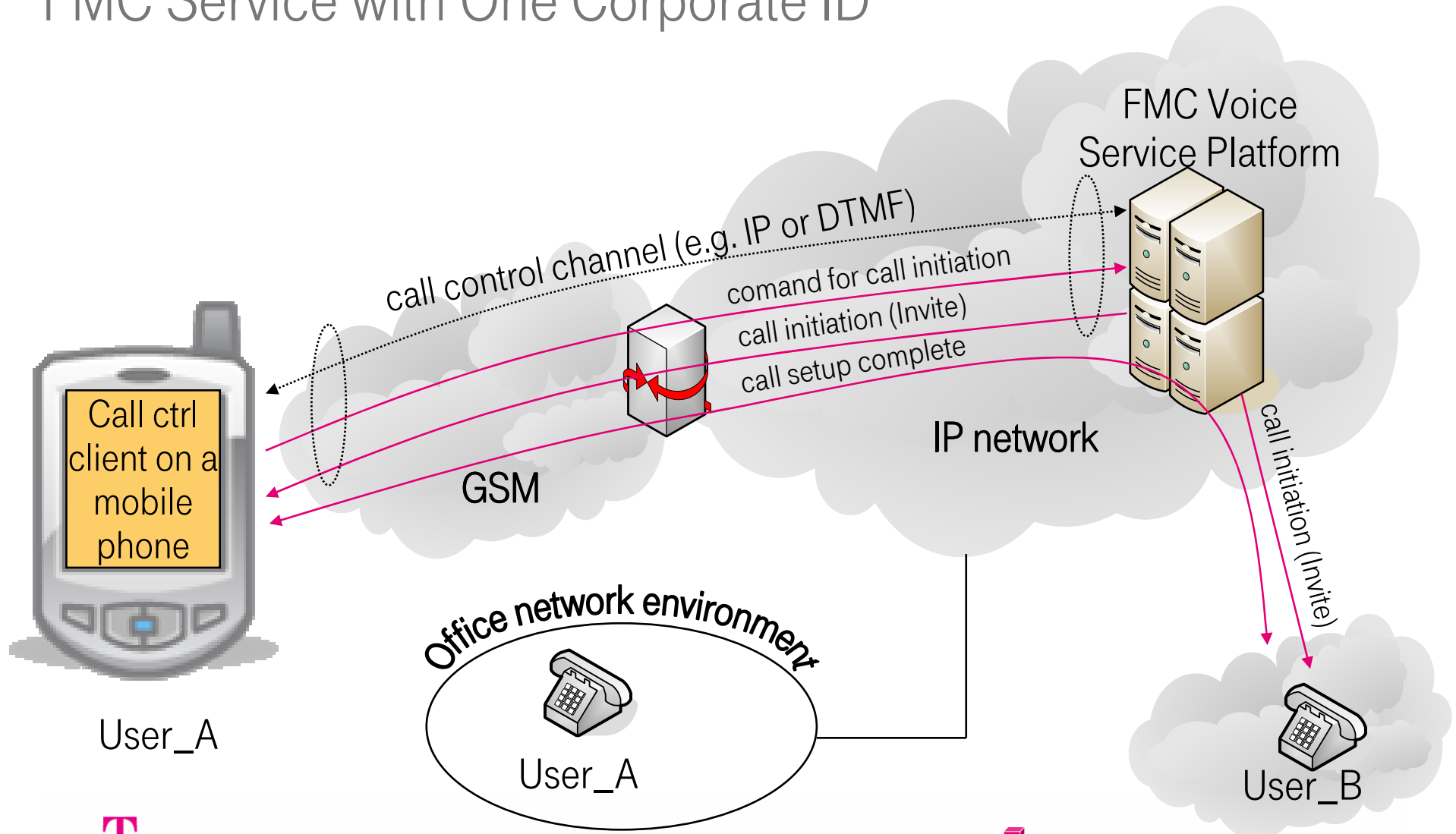
Case Studies based on Existing Services

Common Client Handling More Subscriptions



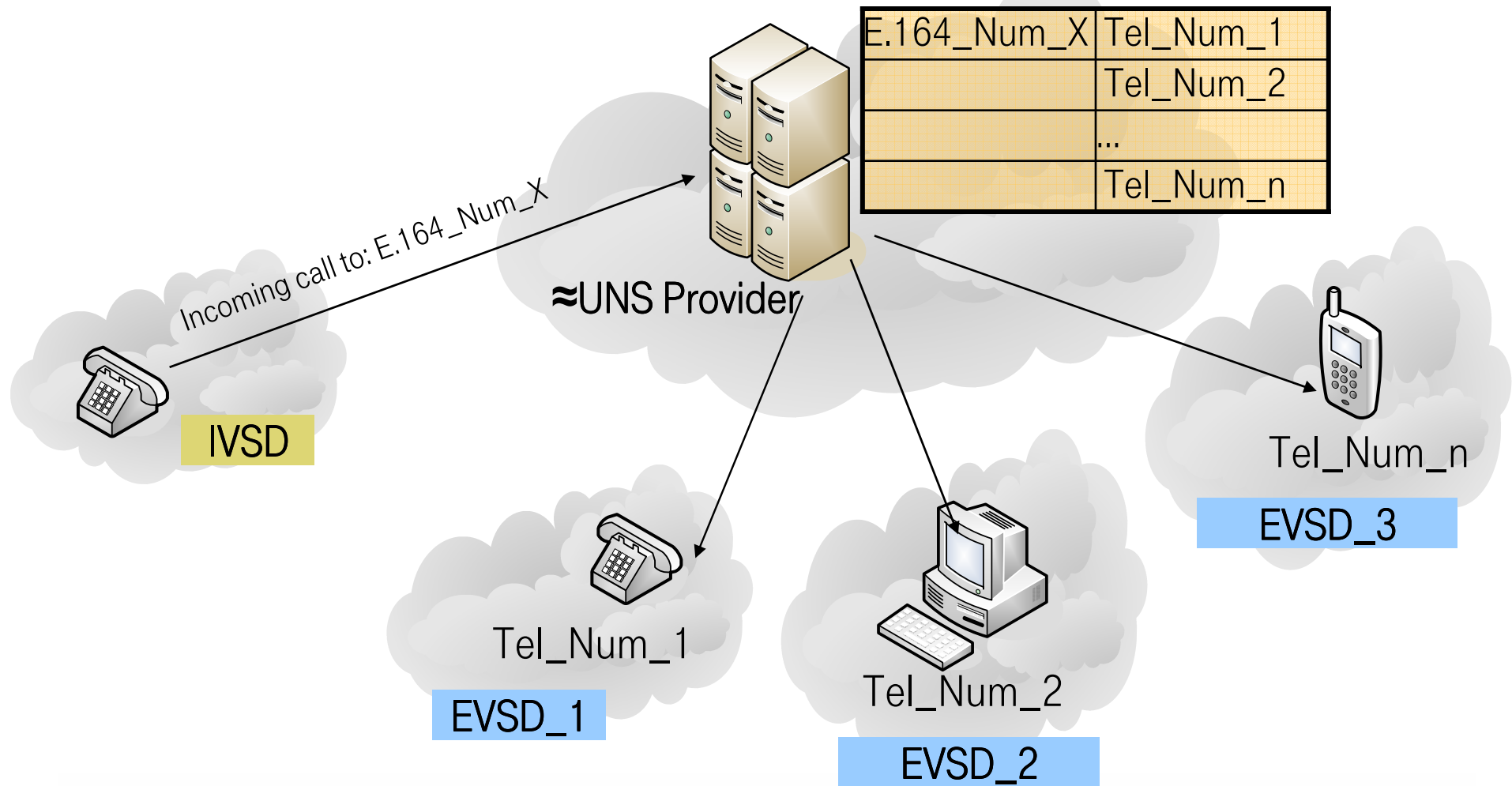
Case Studies based on Existing Services

FMC Service with One Corporate ID



Case Studies based on Existing Services

B2BUA Mode UNS Provider



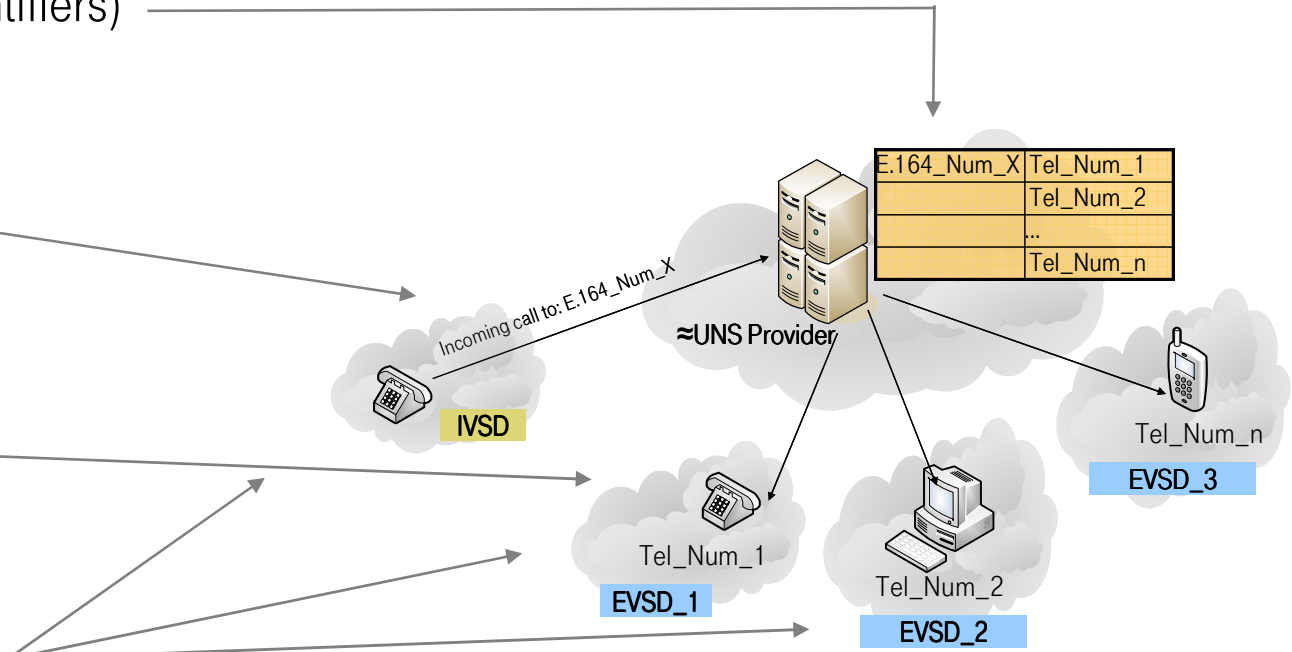
Main elements of the UNS Model

- Names (as subset of identifiers)

- Signaling Protocols

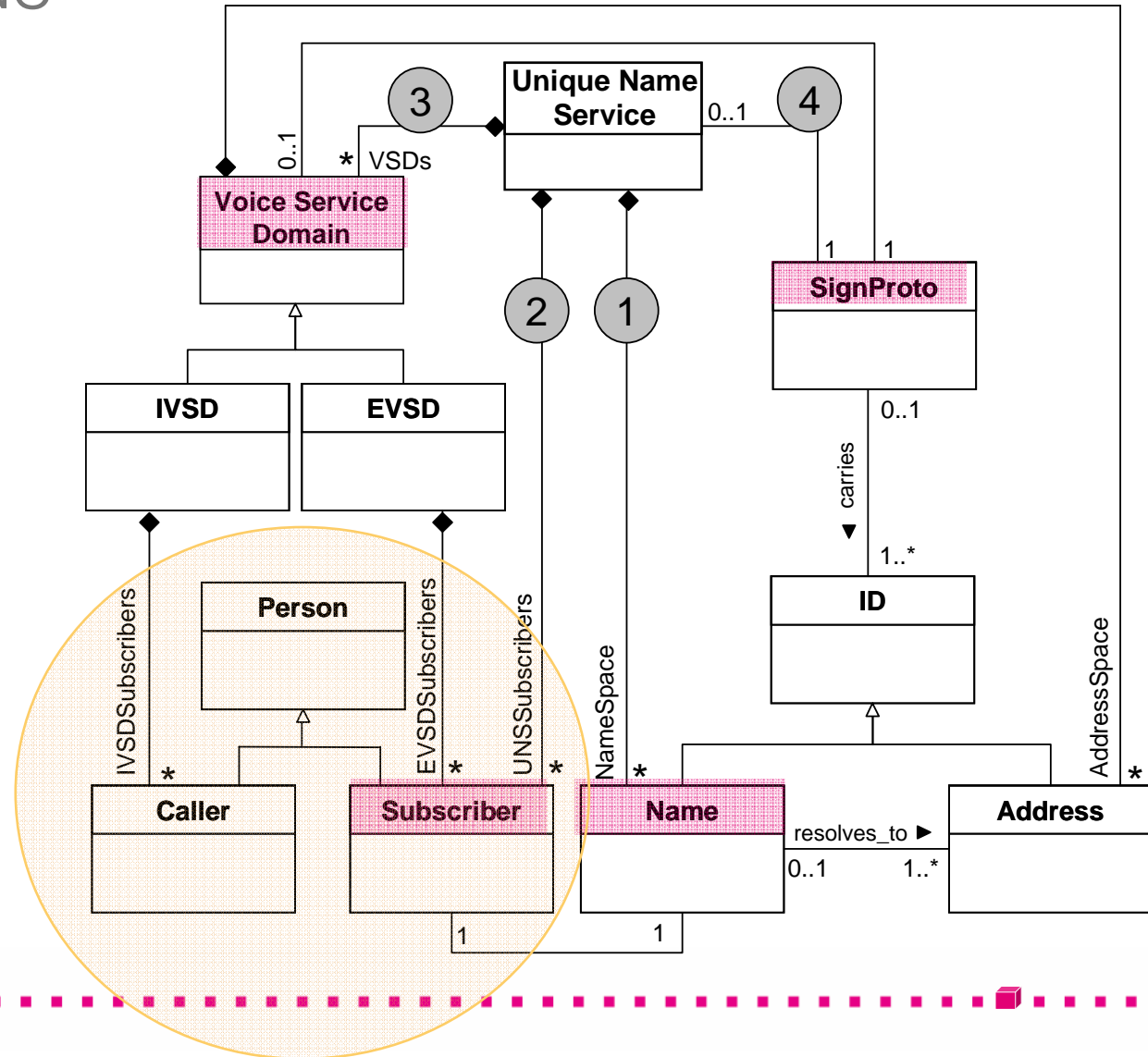
- Subscribers

- Voice Service Domains



A Step towards Abstraction

Model of the UNS



Evaluation

- Strengths
 - Generic
 - The format of the unique ID is not restricted
 - all present and future structures can be potential candidates
 - Future-proof
 - Consolidates the naming and addressing problems (reg. subscriber identification) in a heterogeneous network and service environment
 - Technology independent
- Weaknesses
 - It can make the network architecture more complex in certain scenarios
 - The administration and regulation of such service must be elaborated



Thank you for your attention!

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