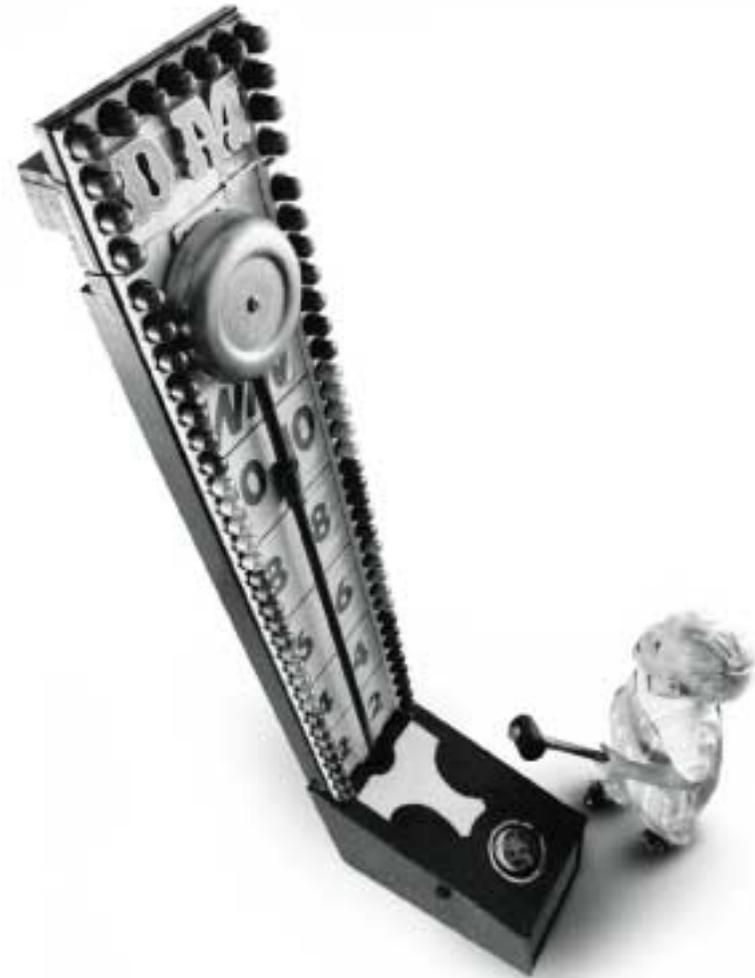# hello

The 3GPP Generic User Profile (GUP)

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Vision and Strategy
Orange

Objectives

1. Understand the 3GPP concept of User Profile

2. Generate ideas for services

3. Outline recommending reading

contents

Overview

Relevance

Detailed Views

Use Cases

Future Work / Reading List

Q&A Session

Overview

What is a 3GPP Generic User Profile (GUP)?

Definition: " The collection of data which is stored and managed by different entities such as the UE, the Home Environment, the Serving Network and Value Added Service Provider, which affects the way in which an individual user experiences services."

SA1 GUP Stage 1 (22.240)

Fuller Definition

- User related data that
  - Allows personalisation
  - Handling of variations
  - Controls behaviour
- It is physically distributed across the whole system
- It contains user preferences, settings and capability descriptions
- It does not contain run-time data or historic-statistics data
- It supports the VHE concept (consistent service / interfaces across networks and terminals)

Example Usage

Some User Profile Related Functions
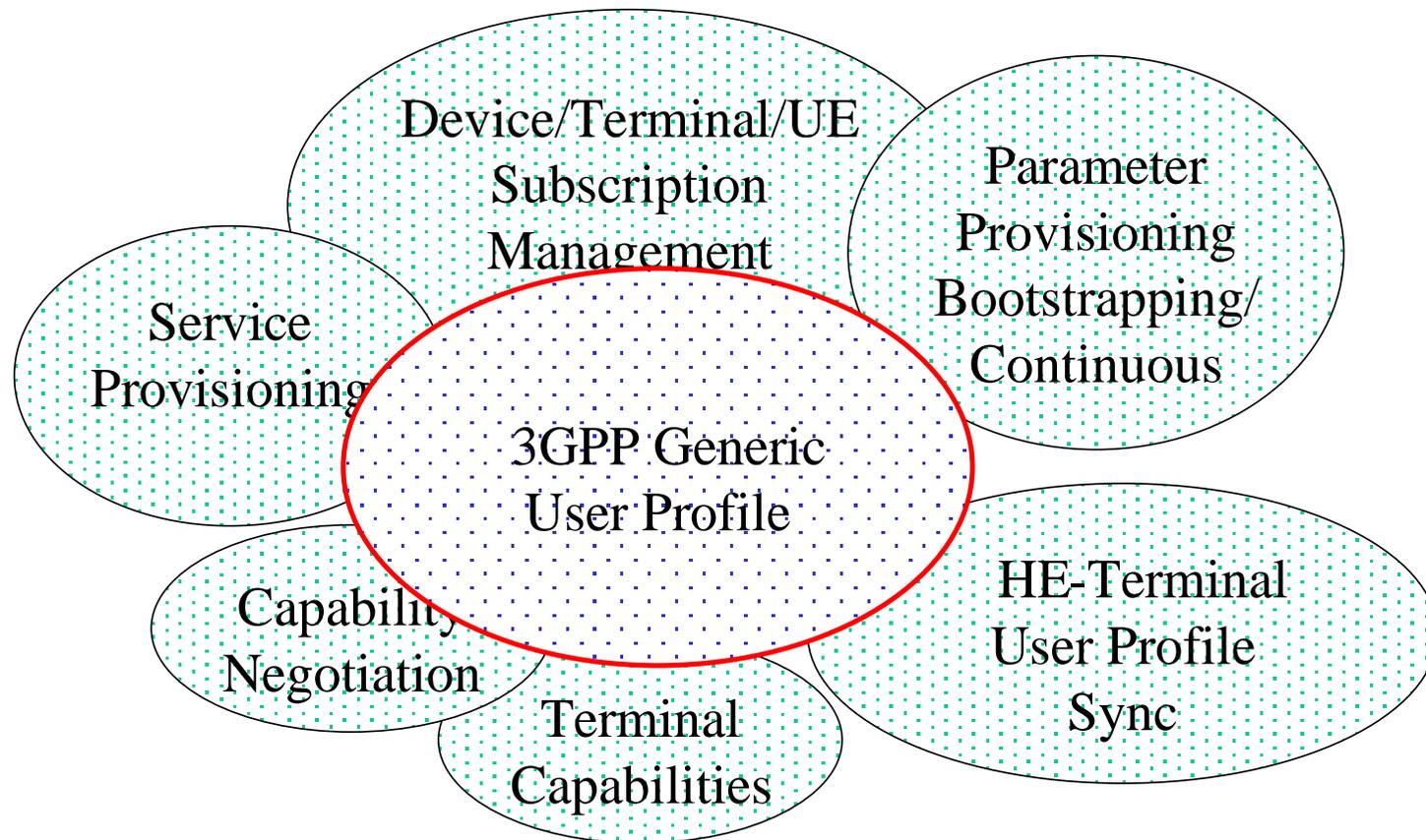
Example User Profile content

1. General Information   <u>GENERIC</u>

- General User Information (Name, address, age, sex, ID)
- General Subscriber Information (Name, billing info, users)

2. Capability description   <u>DEVICE</u>

Describe capacity. Normally not settable.

- Terminal capability
    - User interface capabilities
    - Communication capabilities
    - Synchronisation capabilities
    - MExE capabilities
    - WAP Browser capabilities

Example User Profile content

3. User's Preferences <u>USER</u>

User's "wishes". Sent to servers. Used for "content selection".

- User interface preferences (language, look n' feel, notifications)
- QoS Preferences (time of day for download)
- User security policy (application trust levels)
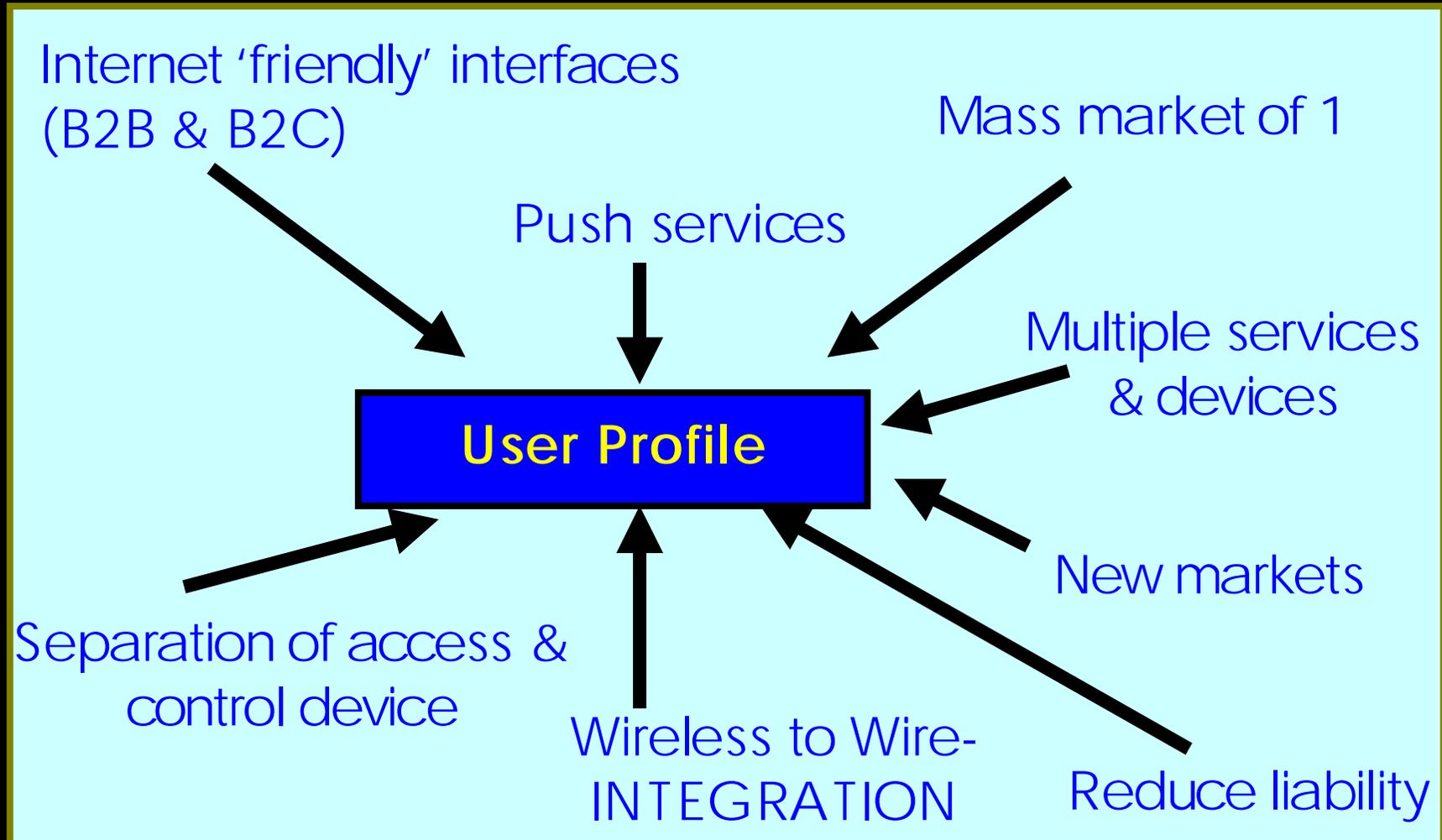- Preferred memory usage

4. Parameters <u>SERVICES</u>

Parameters used by application/services

- WAP (Bookmarks; Gateway: Internet account, Gateway IP address, User ID, Password, Datamode, Security, Show images, Response timer)
- Network selection in terminal, Messaging, Calendar, Synchronisation, ...
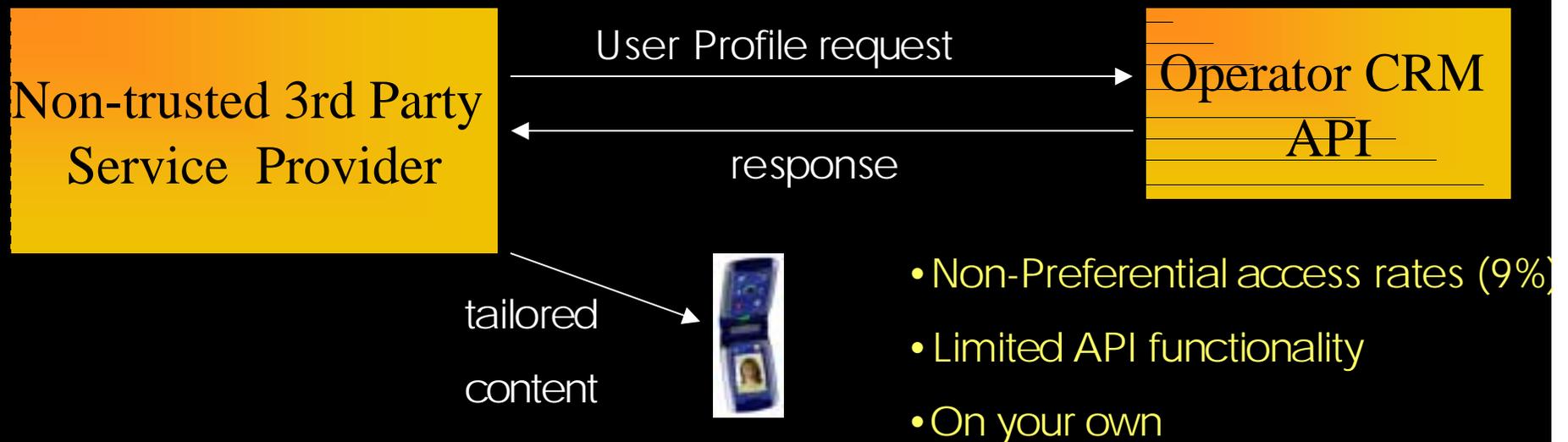
Relevance

- Key Trends

- Revenue Generation

Key Trends

Potential Revenue Generation

Trusted 3rd Party Service Provider → *User Profile request* → **Operator CRM API**

response ←

tailored content →

- Preferential API access rates (5%)
- Potential Micro-billing
- Call Centre Service support

Non-trusted 3rd Party Service Provider → *User Profile request* → **Operator CRM API**

response ←

tailored content →

- Non-Preferential access rates (9%)
- Limited API functionality
- On your own

Detailed Views

- **3 Views**

- **Standards Work**

    - 3GPP

    - Other groups

- **XML example attribute**

1. Logical v Physical View

Logical View of **GUP**

User Profile Component 1

User Profile Component 2

User Profile Component 3

User Profile Component 1 is implemented by two Physical User Profile Components, stored in node A and B and synchronized.
User Profile Component 2 is implemented in a physical component in storage node A
User Profile Component 3 is implemented in a physical component in storage node B

Physical View of **GUP**

Storage node A

User Profile Component 1 **Master**

Sync

User Profile Component 2 **Master**

Storage node B

Sync

User Profile Component 1 **Copy**

User Profile Component 3 **Master**

2. Terminal View (examples...)

3. Network View

Services and personalisation data in network nodes e.g HSS

Home Environment

Services and personalisation Data in ME

Services and personalisation Data in USIM

User Profile

HE-VASPs

Other services and personalisation data e.g VASPs
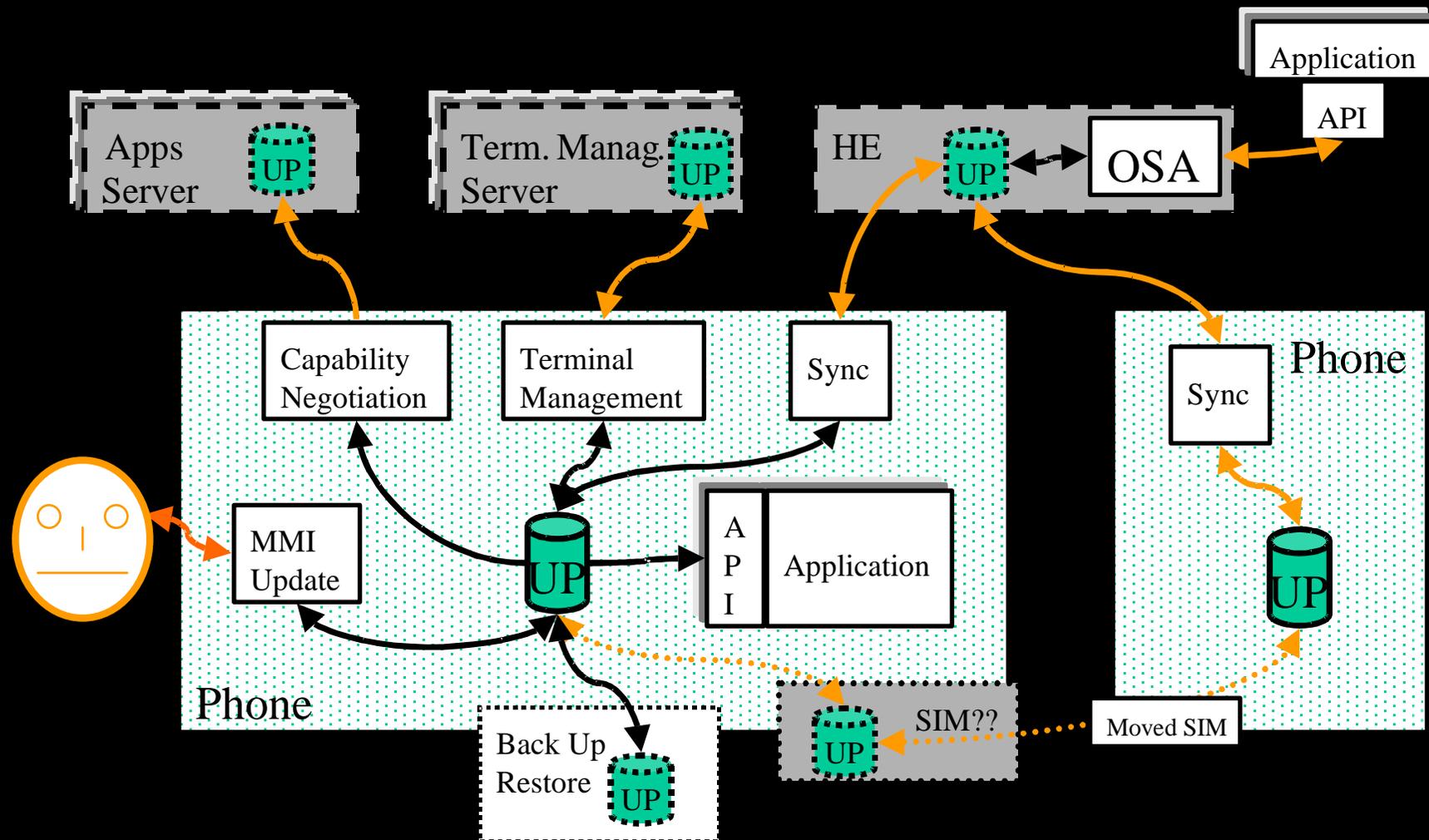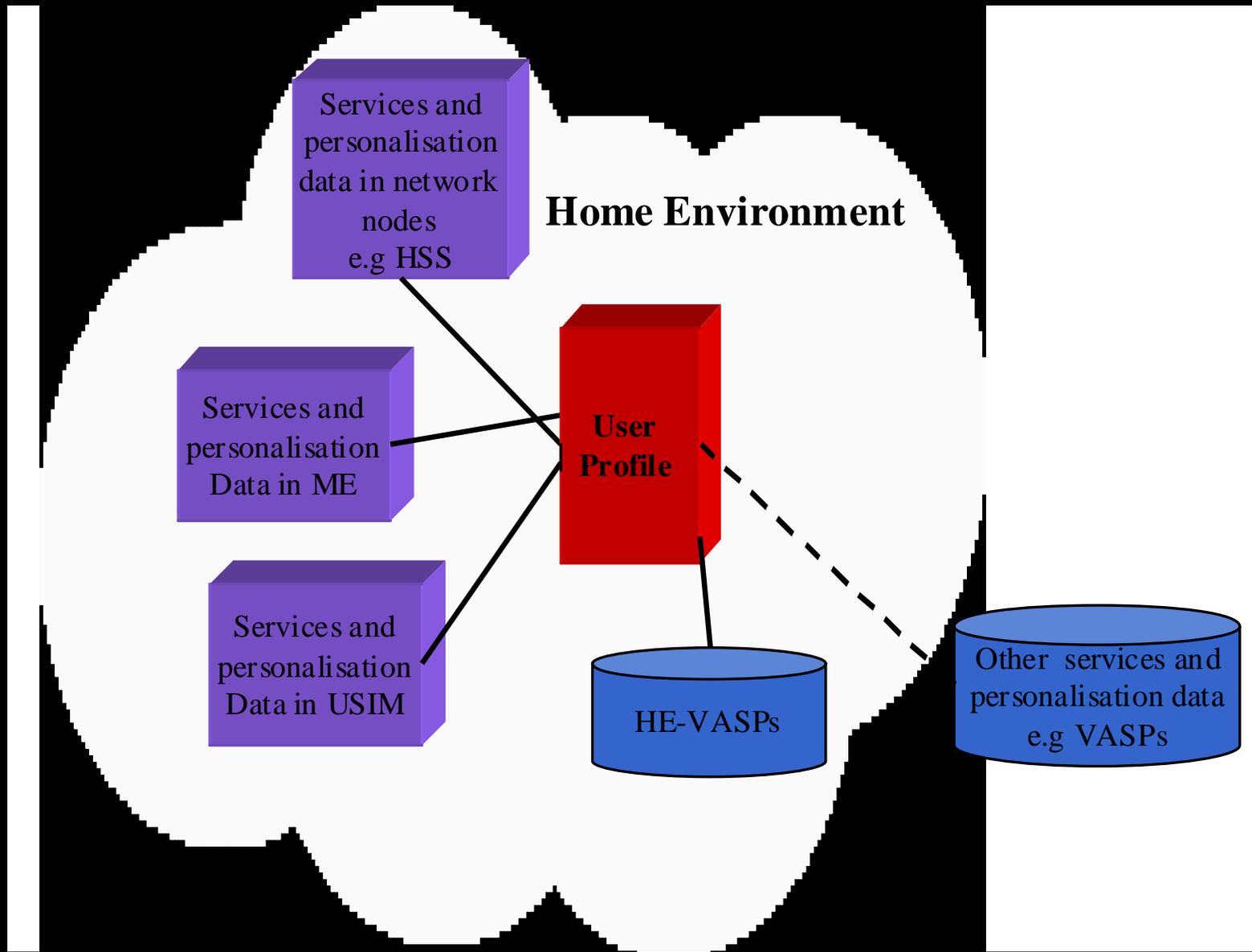
3GPP Related Standards

- **SA1 User Profile Stage 1**

    Service requirements

- **SA2 User Profile Stage 2**

    Architecture & Data Description Framework

- **T2 User Profile - related to MExE Capability**   Architecture

- **Push Framework Stage 1, Presence Stage 1**

    Interoperability and Use Cases

- OSA (CN5)
- Subscription Management 32.140 (SA5)
- Virtual Home Environment

Other Related Standards

- **W3C (http://w3c.org)**

  Resource Description Framework: RDF

  - Framework for describing web resources

  Composite Capabilities Preference Profile (CC/PP)

  - Uses RDF to describe system profiles

- **WAP Forum**

  WAP UAProf:

  - Implementation of CC/PP. Basis of MExE Capability Negotiation, http://www.wapforum.org

- **Parlay:**

  -User Management / Profile API subset

- **PAM Forum**

  - Presence and Availability requirements

Mobile Execution Environment

3GPP T2 Working Group

- 3GPP T Standard for 3G Terminals

- Domain specific security

- User control - aligned with VHE

- 4 (maybe 5) MexE Classmarks:

  1. WAP

  2. Personal Java

  3. Midp / cldc

  4. Microsoft CLI

- KEY CONCEPT IN MEXE IS CAPABILITY NEGOTIATION

XML Example Attribute

```
<prf:component>

  <rdf:Description rdf:about="Handset_Model">

    <rdf:type

  resource="http://www.wapforum.org/UAPROF/ccppschema-

  20010330/#BrowserUA" />

    <prf:Defaults

  rdf:resource="http://www.ericsson.com/profiles/t100"/>

  </rdf:Description>

</prf:component>
```

Use cases
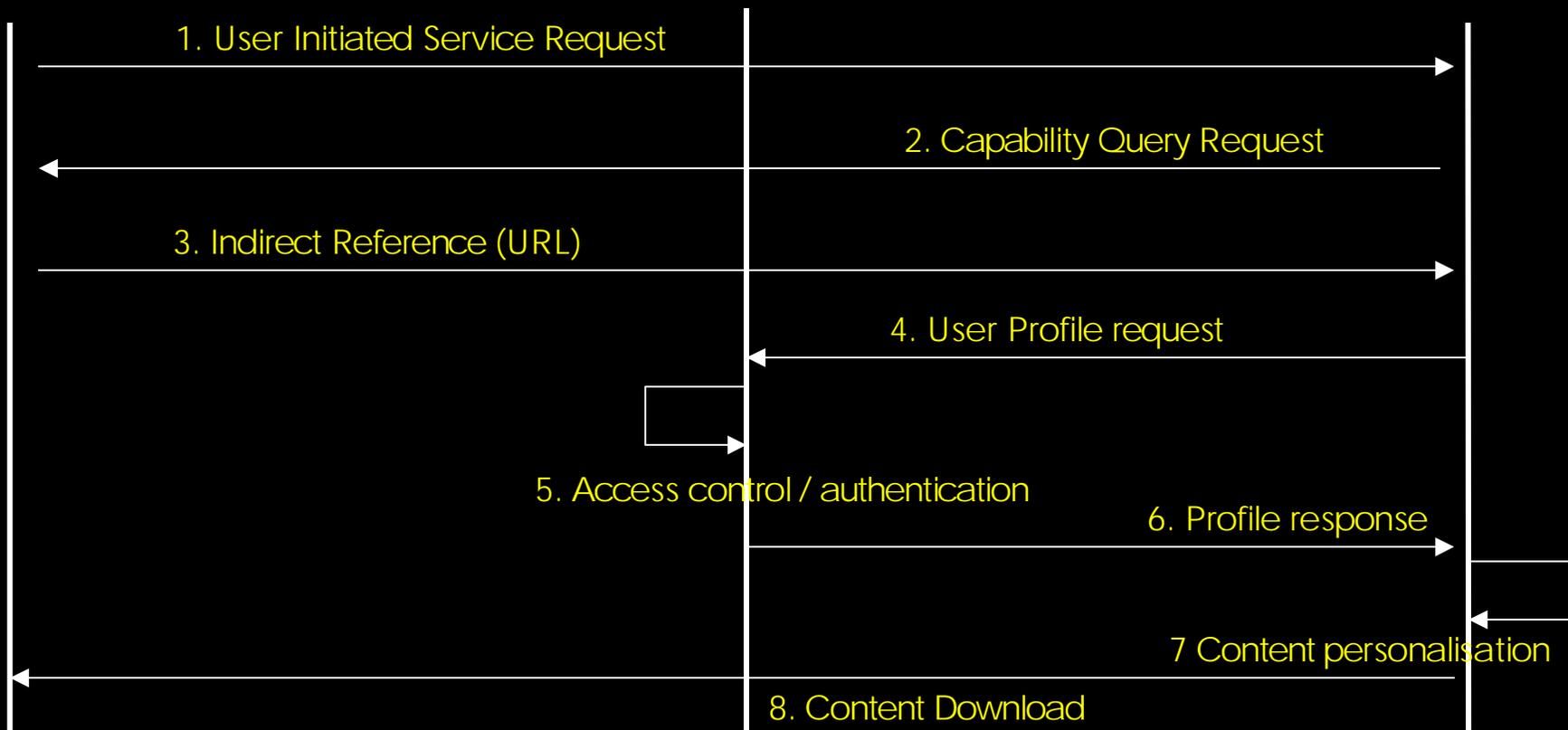
- 1. Capability Negotiation
    - Pull
    - Push

- 2. Terminal Management - Helpdesk

- 3. Personal Area Network (thin client)

Capability Negotiation (Pull)

Operator CRM API

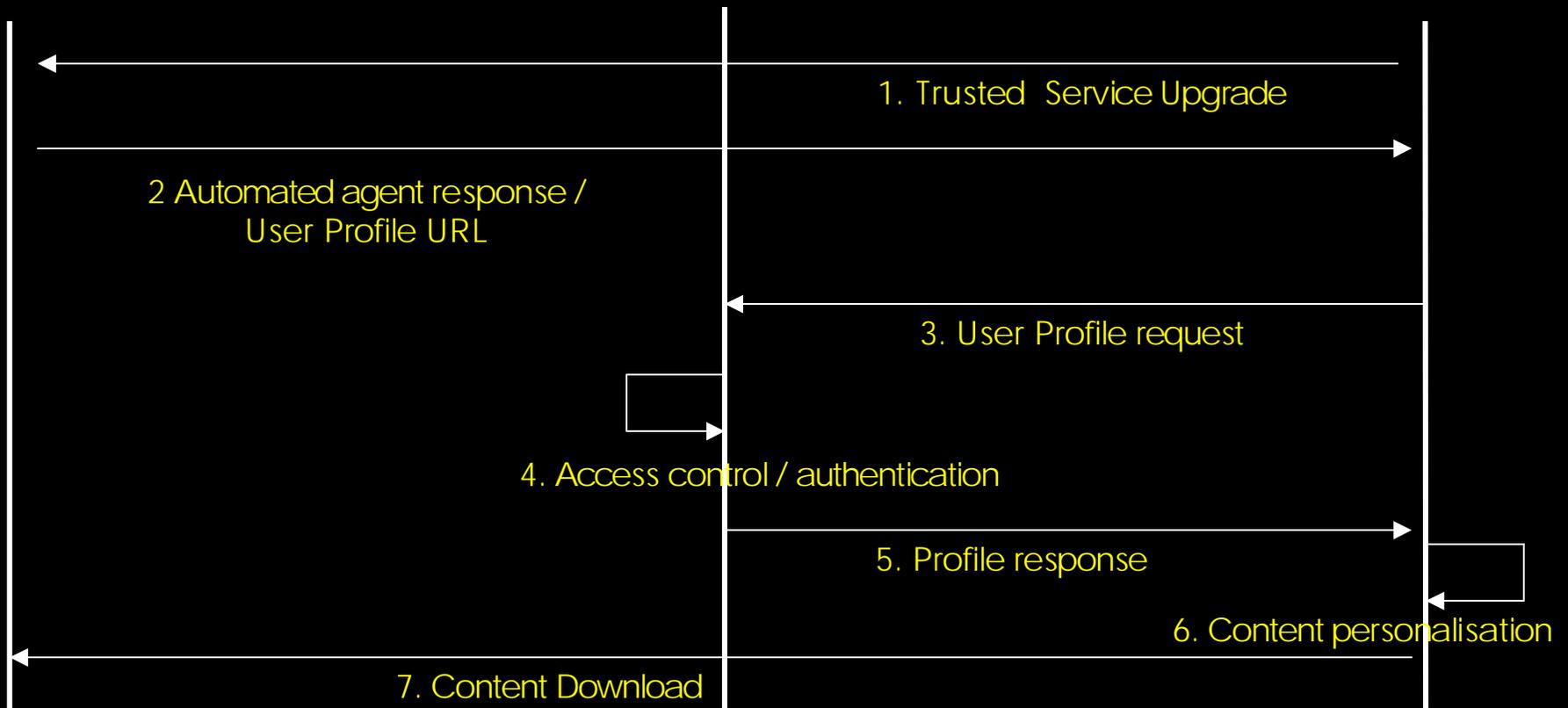**3rd Party Service Provider**

1. User Initiated Service Request

2. Capability Query Request

3. Indirect Reference (URL)

4. User Profile request

5. Access control / authentication

6. Profile response

7 Content personalisation

8. Content Download

Capability Negotiation (Push)

Operator CRM API

Trusted Service Provider

1. Trusted Service Upgrade

2 Automated agent response / User Profile URL

3. User Profile request

4. Access control / authentication

5. Profile response

6. Content personalisation

7. Content Download

Terminal Management: How it is…

- Customer Service Representative's (CSR) need to understand the software, both applications and OS when a customer calls in.

HOWEVER

- Increased terminal complexities / interoperability

- Increased number of mobile devices

- Increasing difficulty to determine 'responsibility'

- Legal responsibilities don't necessarily become obvious to the user.

- Operator may be 1st port of call

Terminal Management: Worst Case

Sony, the Japanese electronics company, will spend $161 million recalling faulty mobile handsets, and will book the loss as an operating or special loss. Sony have had to recall 980,000 phones recently, 560,000 from KDD to fix a battery flaw and a further 420,000 it supplied to NTT with software problems.

NTT Docomo temporarily stopped sales of Matsushita Communication's mobile phones after agreeing to repair 100,000 faulty handsets supplied by the handset manufacturer. Software problems made it difficult for users to receive incoming calls at certain geographical locations.
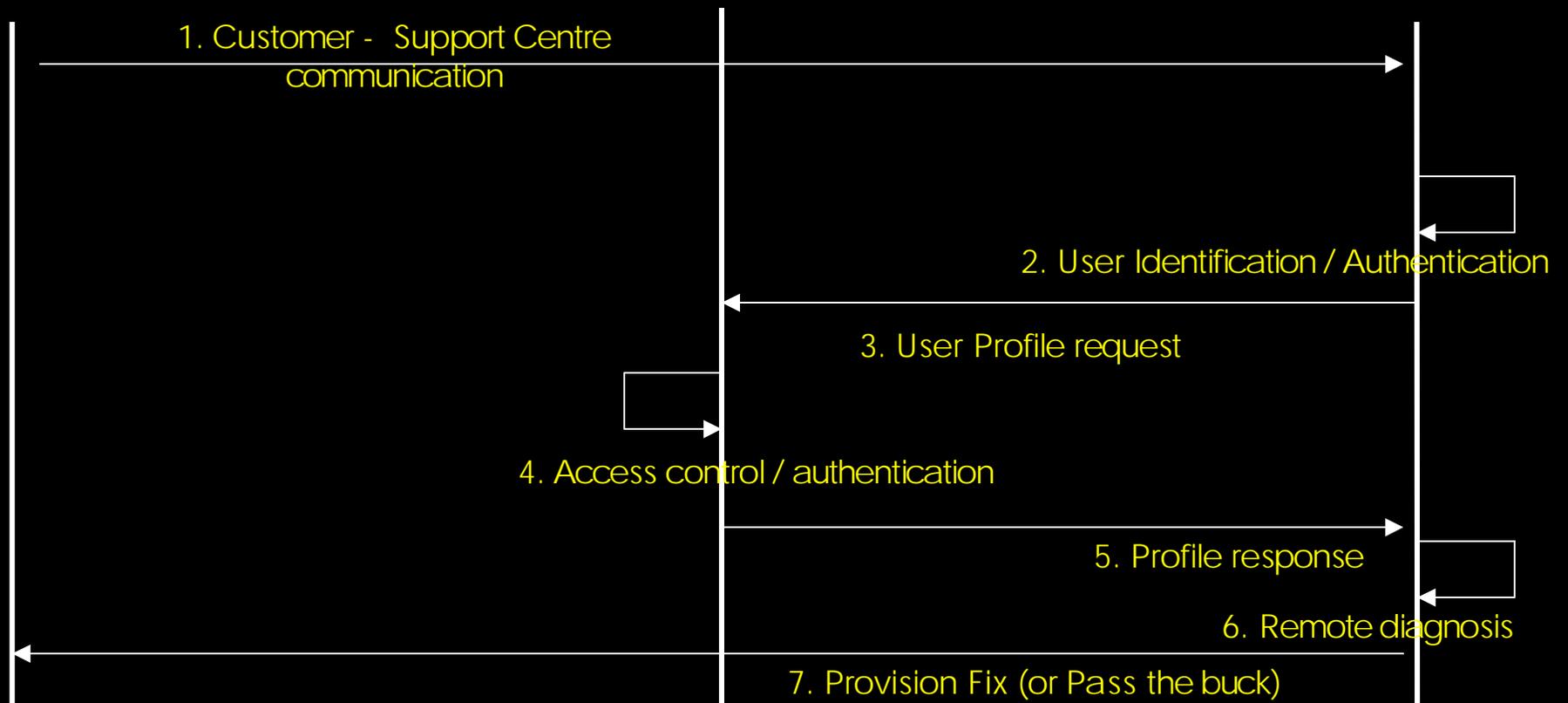
Terminal Management:
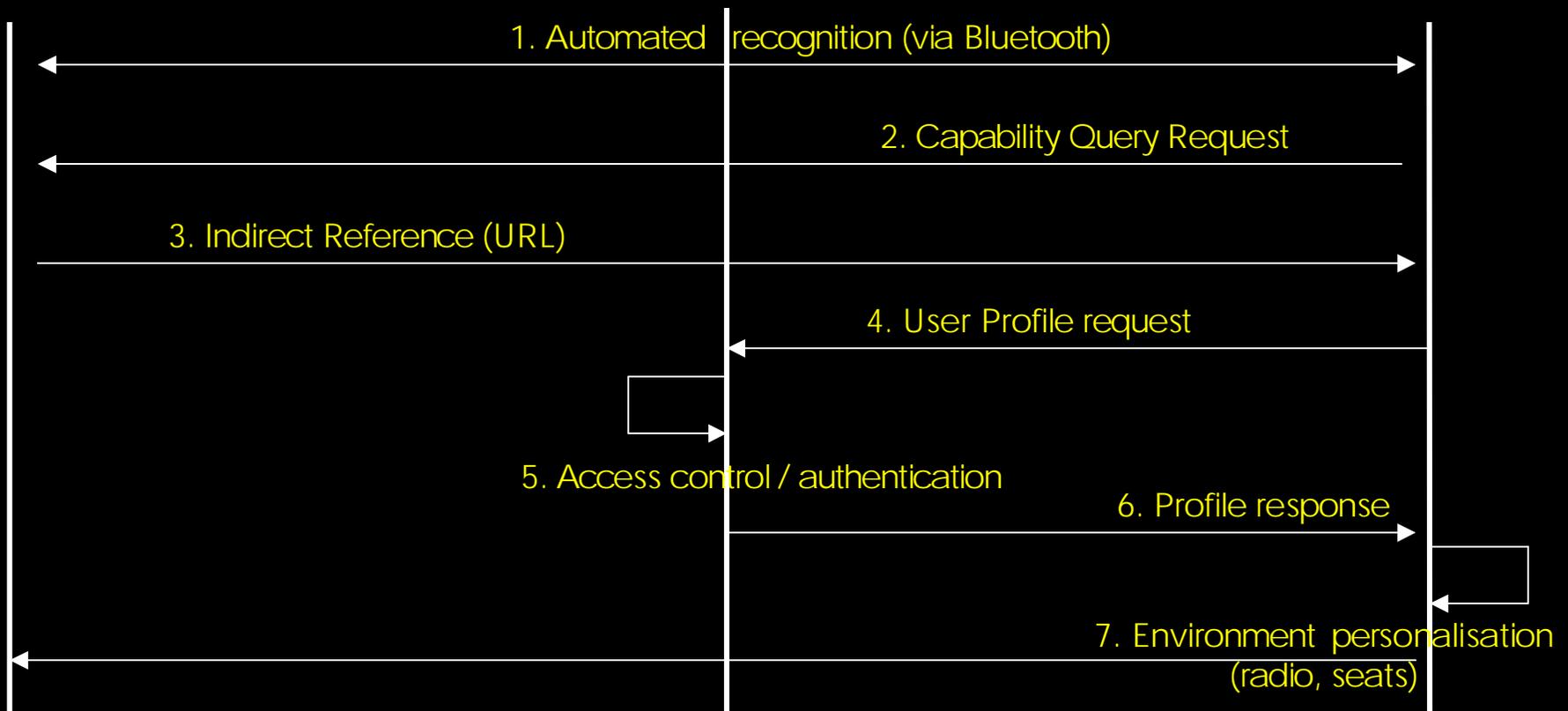
Helpdesk

Operator CRM API

Operator Support Centre

1. Customer - Support Centre communication

2. User Identification / Authentication

3. User Profile request

4. Access control / authentication

5. Profile response

6. Remote diagnosis

7. Provision Fix (or Pass the buck)

Personal Area Network

Operator CRM API

In-car telemetry System

1. Automated recognition (via Bluetooth)

2. Capability Query Request

3. Indirect Reference (URL)

4. User Profile request

5. Access control / authentication

6. Profile response

7. Environment personalisation (radio, seats)

Future work

- Some Key Questions

- Standards/Industry

- Recommended Reading

Some Key Questions

■ **Adding value to Push and Presence:**

    - How can User Profile add value to new Push and Presence (e.g. IM) based services

■ **User Privacy:**

    - How do we enable access control to User Profile?

■ **What sort of User Profile data is relevant:**
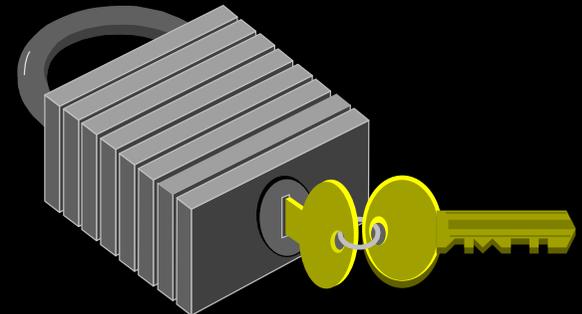
    Now   (within HSS etc)

    Later   (to support wireless / wireline roaming)

Some thoughts on privacy..

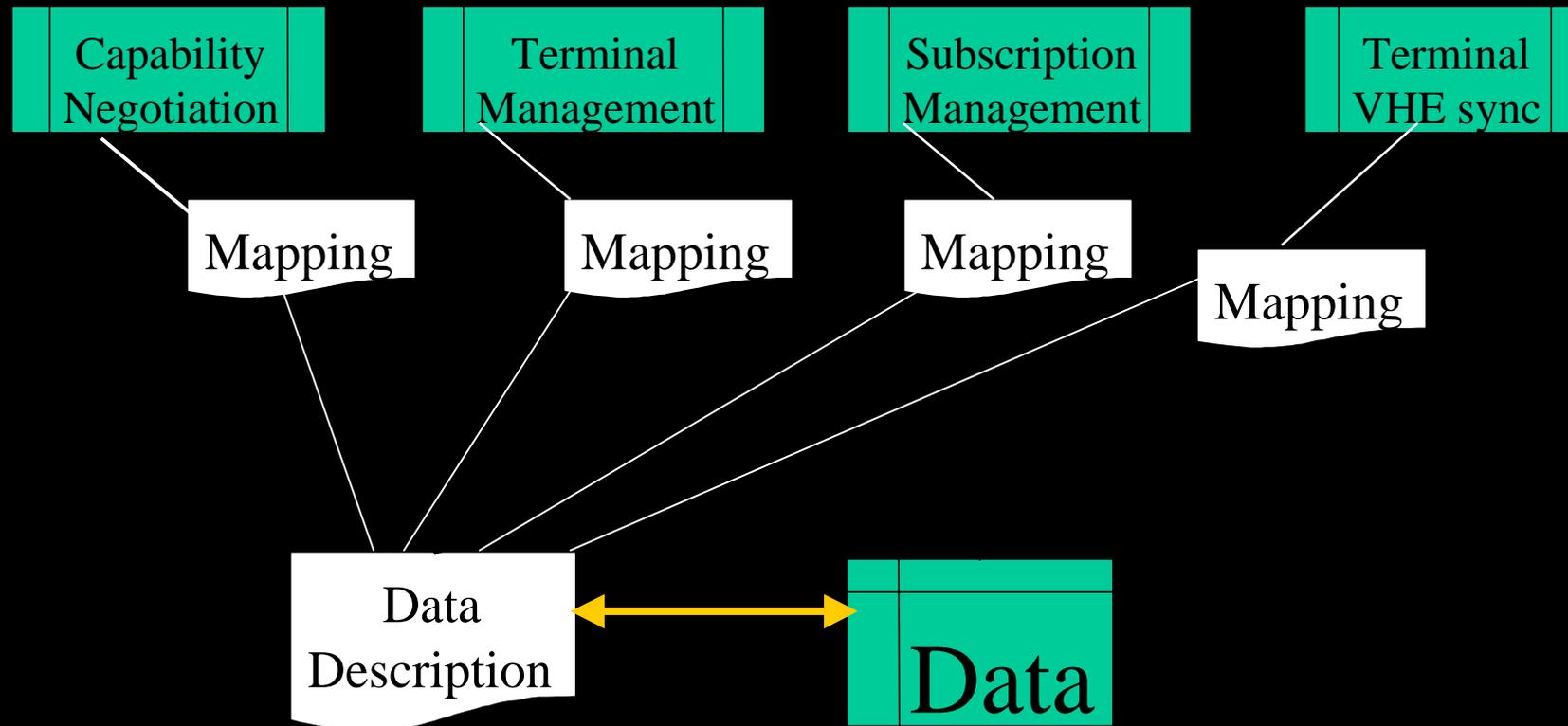Nokia: XML attribute can have security properties

```
<prf:BitsPerPixel>
        <rdf:Description ID="BillingAddress">
                <upl:acl-rw>http://www.operator.com</up:acl-rw>
                <up:acl-r>http://www.manufacturer.com<up:ad-r>,
                <up:content-type>text/plain</up:content-type>
                <up:value>2</up:value>
        </rdf:Description>
</prf:BitsPerPixel>
```

S1 User Profile: Data Description Framework (Describe once, use many)

As the data contained in the 3GPP Generic User Profile is going to be handled by different applications and entities for different purposes, there is a risk that various description methods might lead to duplications and/or inconsistencies. Therefore, a single description method should be used for the 3GPP mobile systems specifications.

Capability Negotiation	Terminal Management	Subscription Management	Terminal VHE sync

Mapping   Mapping   Mapping

Mapping

Data Description ⟷ **Data**

Standards/Industry Issues

- Focus is on **how to define** the User Profile, not mandating **what** must be in it.

- Industry consensus needed for 'core vocabulary'

- Need to influence manufacturers to support User Profile (WAP UA Prof has died a death)

- Need to reuse element names for existing standards (CC/PP, UA Prof)

- User Privacy

Recommended Reading

- **3GPP User Profile meetings:**

  http://www.3gpp.org/ftp/tsg_sa/WG1_Serv/Sub_WG_Adhocs/UserProfile/

- **WAP UA Prof Specification:**

  http://www.wapforum.org

- **CC/PP Working Group:**

  http://www.w3.org/Mobile/CCPP/

- **Common Information Model (CIM):**

  Part of the Distributed Management Task Force, http://www.dmtf.org

thanks

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the future's bright...
the future's **Orange**