



Trusted Integration of Mobile Platforms into Service-oriented Networks

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Outline

- 1. Major Trends in Mobile Service Provisioning**
- 2. Trusted Integration of Mobile Platforms into Service-oriented Networks**
- 3. List of Use Cases Mobile Applications benefiting of Trusted Computing**
- 4. Example: mobile phone for buying/charging retail items**
- 5. Conclusion**

Three Major Trends in Mobile Service Provisioning

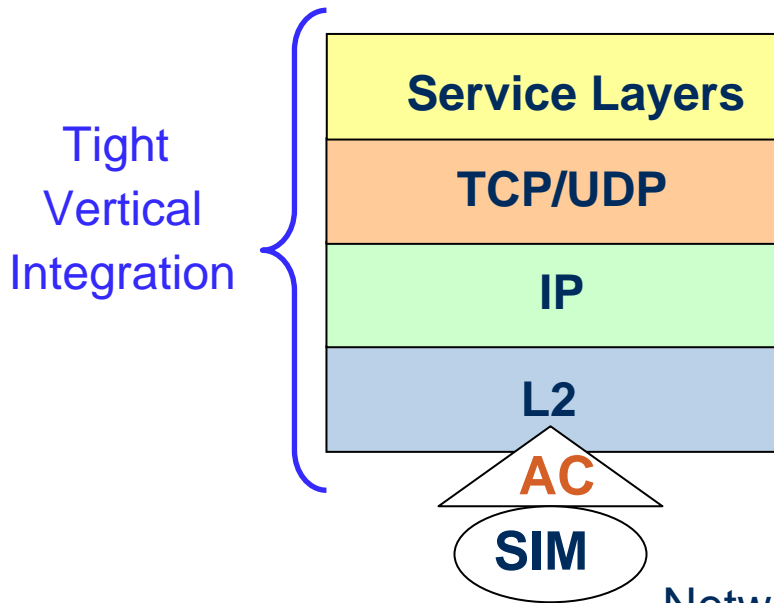
- **Mobile access to applications & content is becoming network-agnostic**
 - Customers attracted by attractive applications & content
 - Diversity of technologies (2G, 3G, WLAN, WiMAX, MobileIP)
 - Customers interested in optimizing price/performance ratio
- **Mobile devices are becoming very smart, multi-purpose devices**
 - A lot more than just voice communications
 - Both consuming and providing applications, data and media
 - Supporting the trend towards Peer-to-Peer networks
- **Trusted computing becoming the enabler for service provisioning**
 - Provides a new level of trust and security for networked devices
 - Enables network- and device-agnostic trust relations on application-level
 - Uniform trusted platform for service provisioning

Findings:

- network access is a commodity, customers expect additional features
- Next step for MNOs (business models): providing customized/customizable services

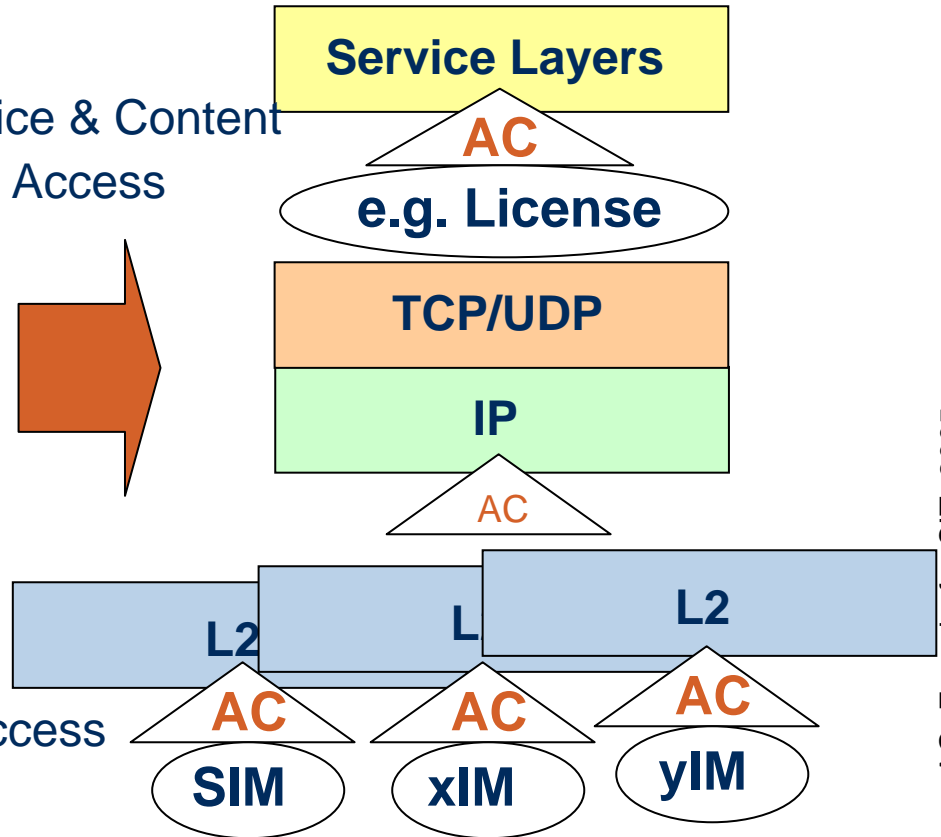
Trend Towards Network-Agnostic Access to Applications and Content

Current Operators



Future Operators

Service & Content Access



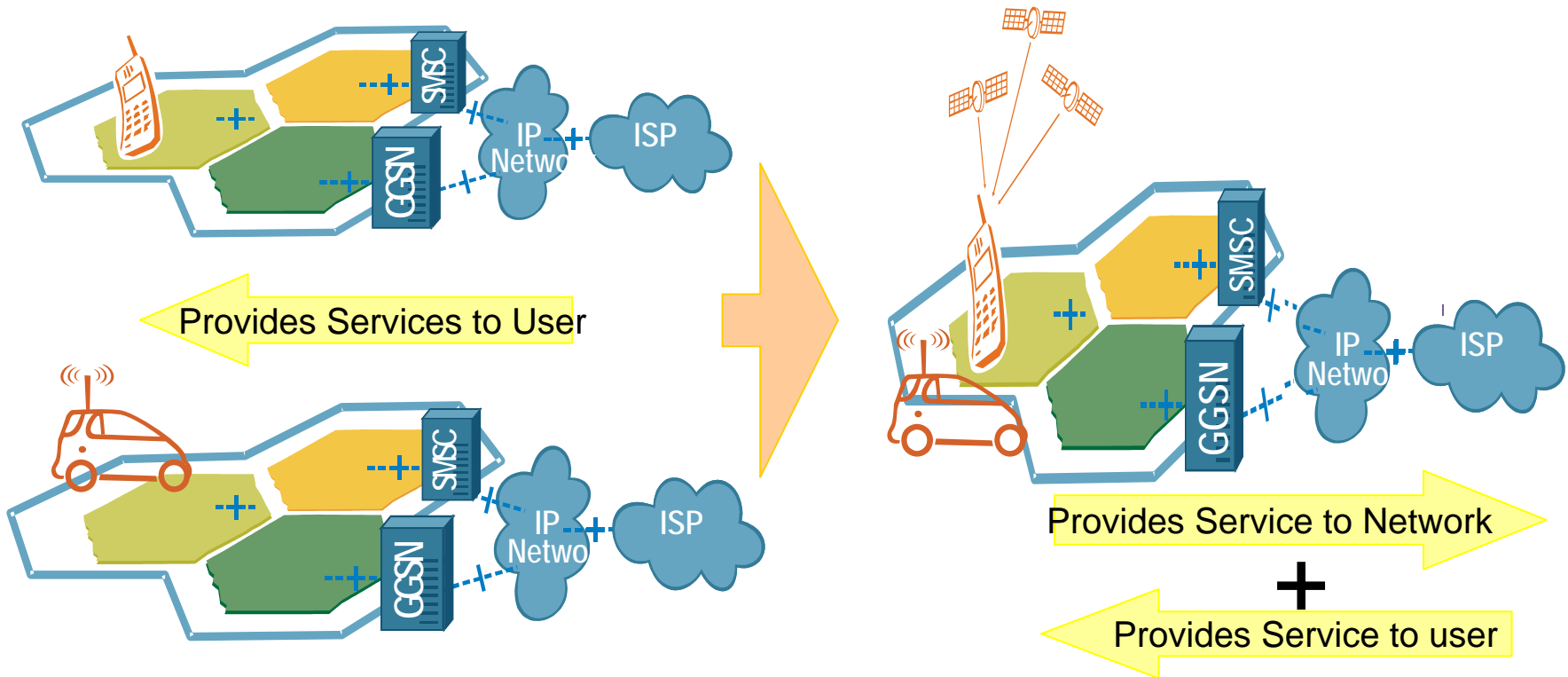
AC: Access Control

AC for services & content independent of AC for network, enforced E2E

Paradigm Shift: Devices also Providing Services

Classical client/server

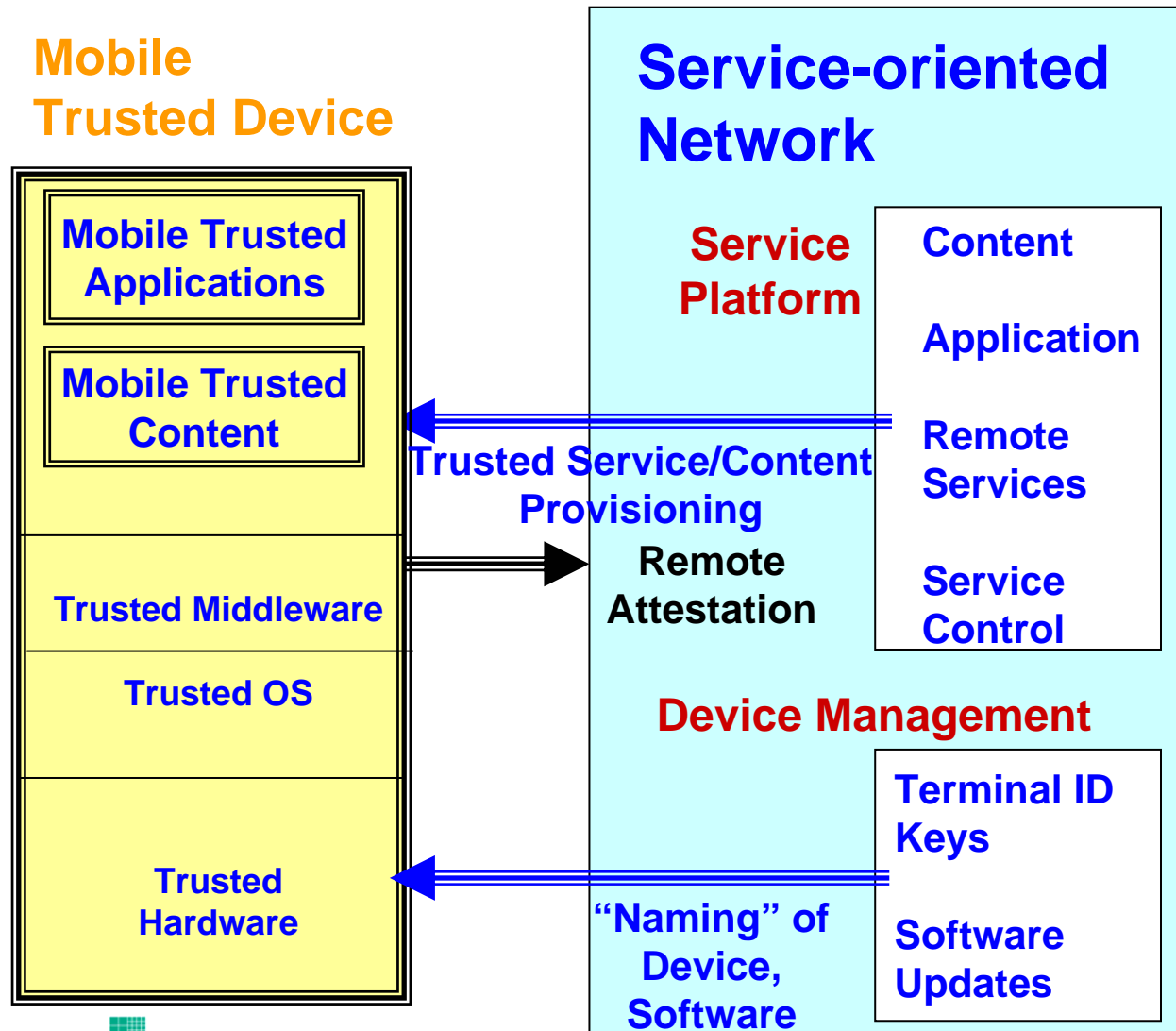
Future



Remark: Peer-to-Peer might be a **disruptive** technology for MNOs

MNOs should try to convert it into an **enabling one**

Trusted Integration of Mobile Platforms into Service-Oriented Networks



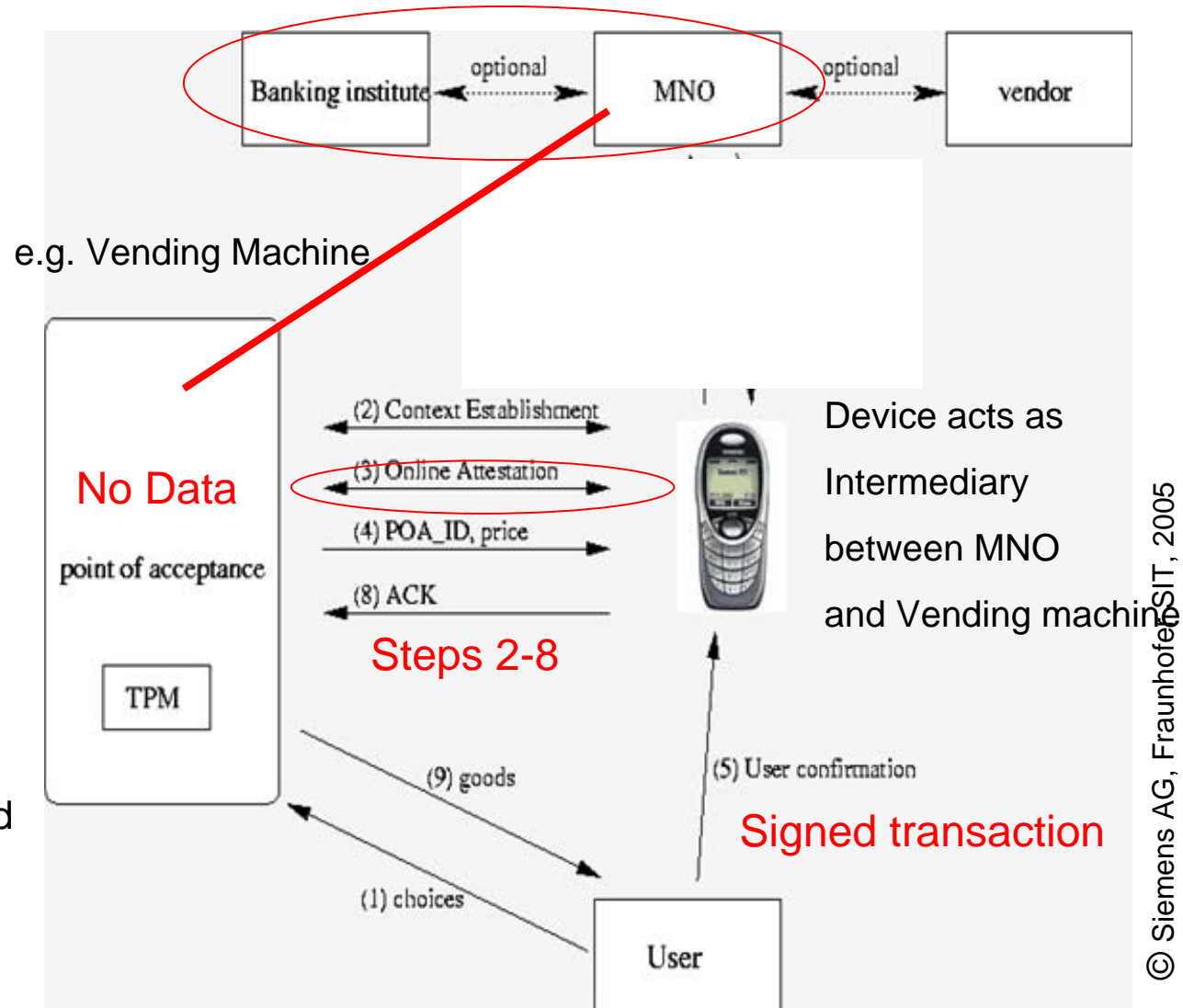
Benefits of Trusted Computing

Networked, sensitive applications and services scale by the 'level of trust':

- Network and Service Access
- Mobile Payment, Ticketing
- Field Personnel, Machine Maintenance
- Distributed Accounting and Charging
- Provisioning of Federated IDs
- Content Delivery
- Establishing Ad-Hoc Contracts & SLAs
- ...

Payment – Simplified by a Trusted Mobile Device

- Session initiation does not require network communication (1-8)
- No transaction data needs to be stored in the POA
- POA does not need networking capabilities
- **Trust: relationships**
 - POA and device via TPM
 - Device and MNO via USIM
- MNO provides payment services to the vendor
- A **transitive trust relationship** is established (mediated) by the device



Conclusions

- Major trends in mobile technology:
 - **Horizontal** integration of network access technologies
 - Smart devices *consume and provide* data and services
- Integration of **trusted computing** into mobile platforms enables
 - alternate method of device authentication – to MNO *and third parties*
 - the *extension of trust relationships* beyond the mobile device
- This enables **new MNO-centric business models** to provide goods and services to users and third parties, for instance
 - MNO as part of a payment chain
 - MNO supports remote machine maintenance (see handouts)
- **Shift:**
 - from **tight** coupling: **access & service**
 - Towards **separation**: service access on an **end2end** basis with trusted devices

Thank you for your attention!

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