Identities.
Building blocks of telco business and organization.

Joint ITU-T SG 17, ISO/IEC JTC 1/SC 27 WG 5 Workshop September 30th, Lucerne
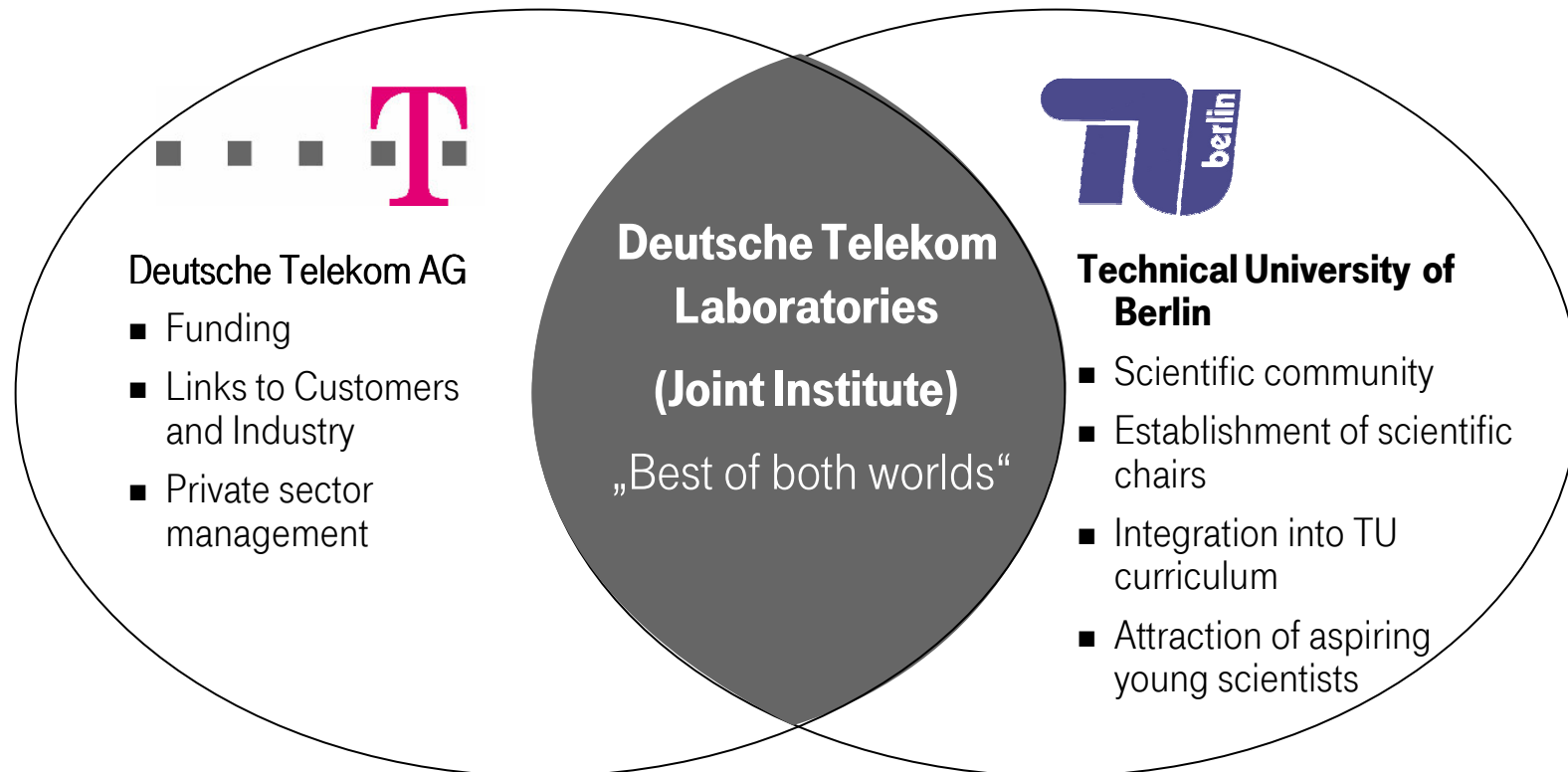Ingo Friese, Jörg Heuer, Deutsche Telekom Laboratories, Berlin, Germany.

Deutsche Telekom
Laboratories

Agenda.

- **Introduction**

- IDs, Identity, Identification, ...

- Telco 2.0 and Identities

- Conclusion

Agenda.

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Problem Definition.
IDs, Identity, Identification...

Even though the term 'Identity' is not yet defined for the telecommunications industry, the industry has come up with a rich set of other terms that are expected to be related to it!

... in terms of concepts:

> ... Authentication, Addresses, Pseudonyms, Anonymity, User-Centric Identity, Identity 2.0, Identity Federation, Single-Sign On, Single-Sign In, Credentials, Profiles, ...

... in terms of protocols and solutions:

> ... SAML, WS*, Shibboleth, Diameter, EAP, MSISDN, CardSpace, Liberty Alliance, HSS, XDMS, UICC, SIM, PKI, ENUM, XRI, OpenID, Higgins, Password, OTP, ...

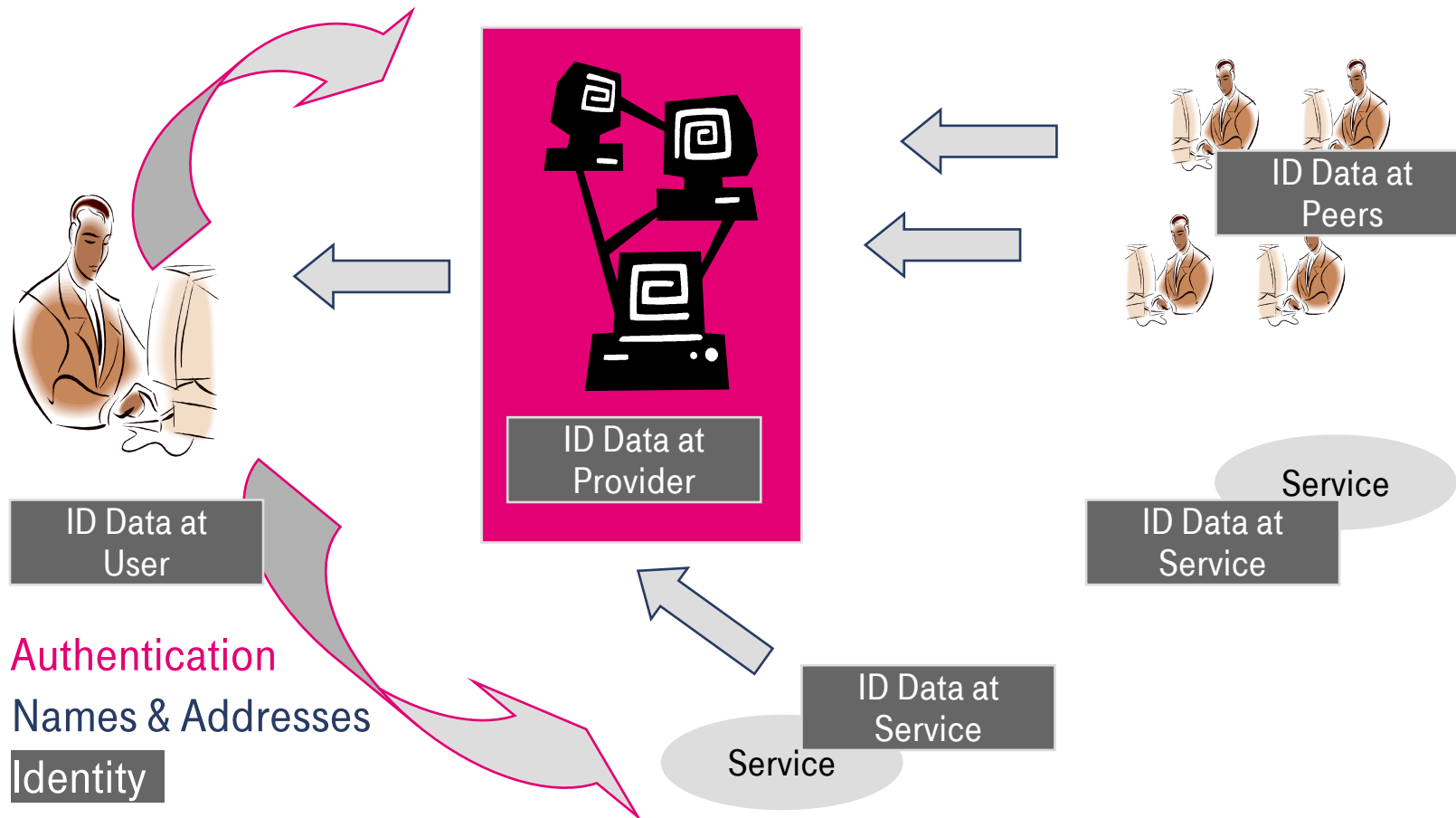... in terms of good uses to put it up to:

> ... Trust, Privacy, Personalization, Communities, Convenience, Reputation, SPAM/ SPIT protection, ...

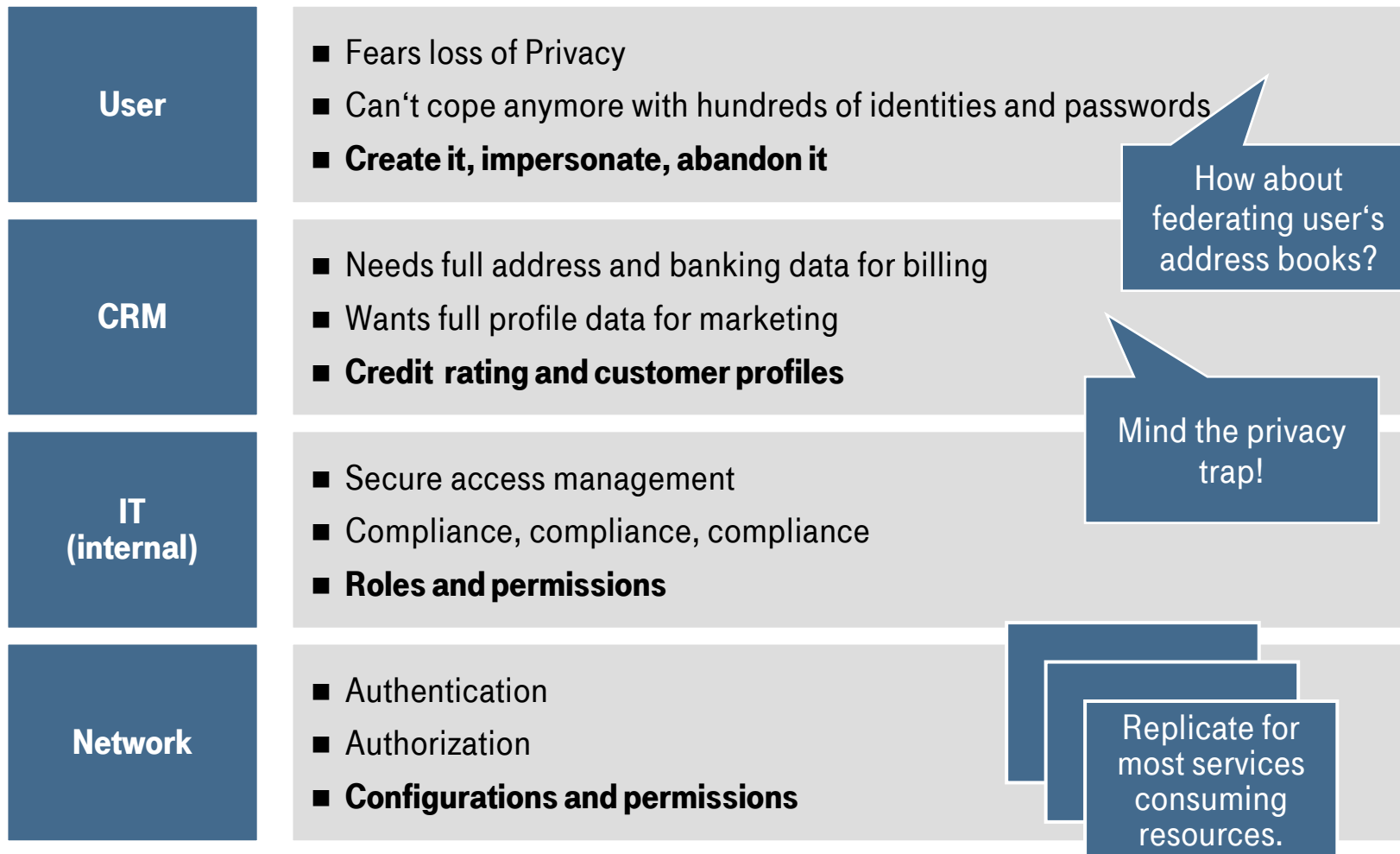# Scope Definition.
IDs, Identity, Identification...

Identity - is not authentication - is not a telephone number!

Authentication

Names & Addresses

Identity

Redefining Identity.
An Attempt ...

User	■ Fears loss of Privacy ■ Can't cope anymore with hundreds of identities and passwords ■ **Create it, impersonate, abandon it**
CRM	■ Needs full address and banking data for billing ■ Wants full profile data for marketing ■ **Credit rating and customer profiles**
IT (internal)	■ Secure access management ■ Compliance, compliance, compliance ■ **Roles and permissions**
Network	■ Authentication ■ Authorization ■ **Configurations and permissions**

How about federating user's address books?

Mind the privacy trap!

Replicate for most services consuming resources.

Redefining Authentication.
An Attempt ...

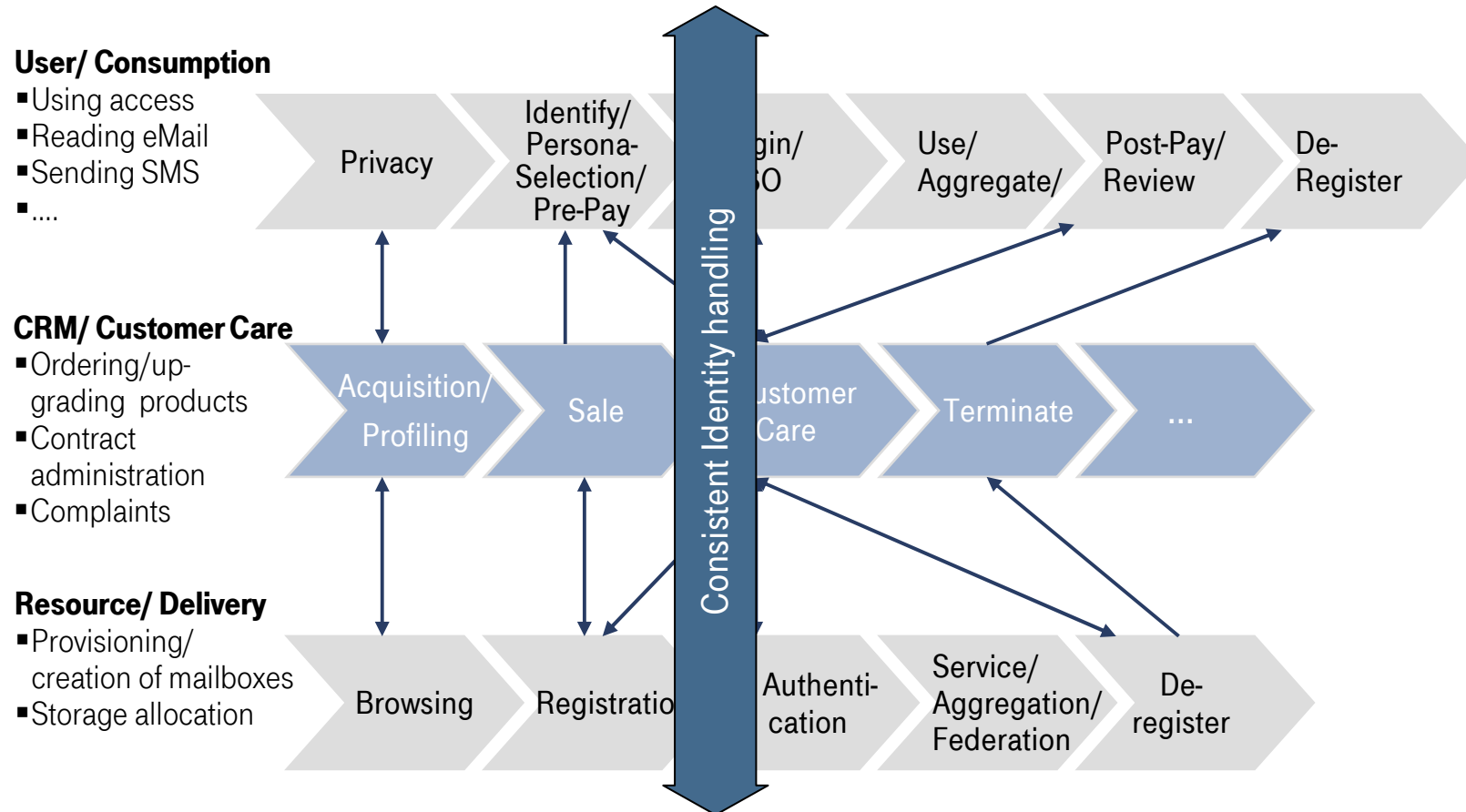|	
Who are you?	■ Few uses really require to authenticate a **person** ■ Business-relevant transactions will require financial guarantees in most cases – does this require a person's identity being confirmed? ■ Is Biometry still an issue for Telcos?
Are you you?	■ Making sure user 'A' is the one registered as user 'A' (Services now have to make sure no one else gets unauthorized access to user 'A's assets) ■ Effectively a matter of authorization ■ Make the right contracts (don't give card to others)
Is it you?	■ A device may act on behalf of you (e.g. SIM) ■ Is it really acting? (Even if so, agents do the same...) ■ Devices may be handed over – well known method of delegation ■ Do devices' actions have any legal meaning – if not for its owner

Identities in a Telco Organization.
Views on Identity Management in Three Domains.

User/ Consumption
- Using access
- Reading eMail
- Sending SMS
- ....

CRM/ Customer Care
- Ordering/up-grading products
- Contract administration
- Complaints

Resource/ Delivery
- Provisioning/ creation of mailboxes
- Storage allocation

Privacy

Identify/ Persona-Selection/ Pre-Pay

gin/ SO

Use/ Aggregate/

Post-Pay/ Review

De-Register

Acquisition/ Profiling

Sale

ustomer Care

Terminate

...

Consistent Identity handling

Browsing

Registratio

Authenti-cation
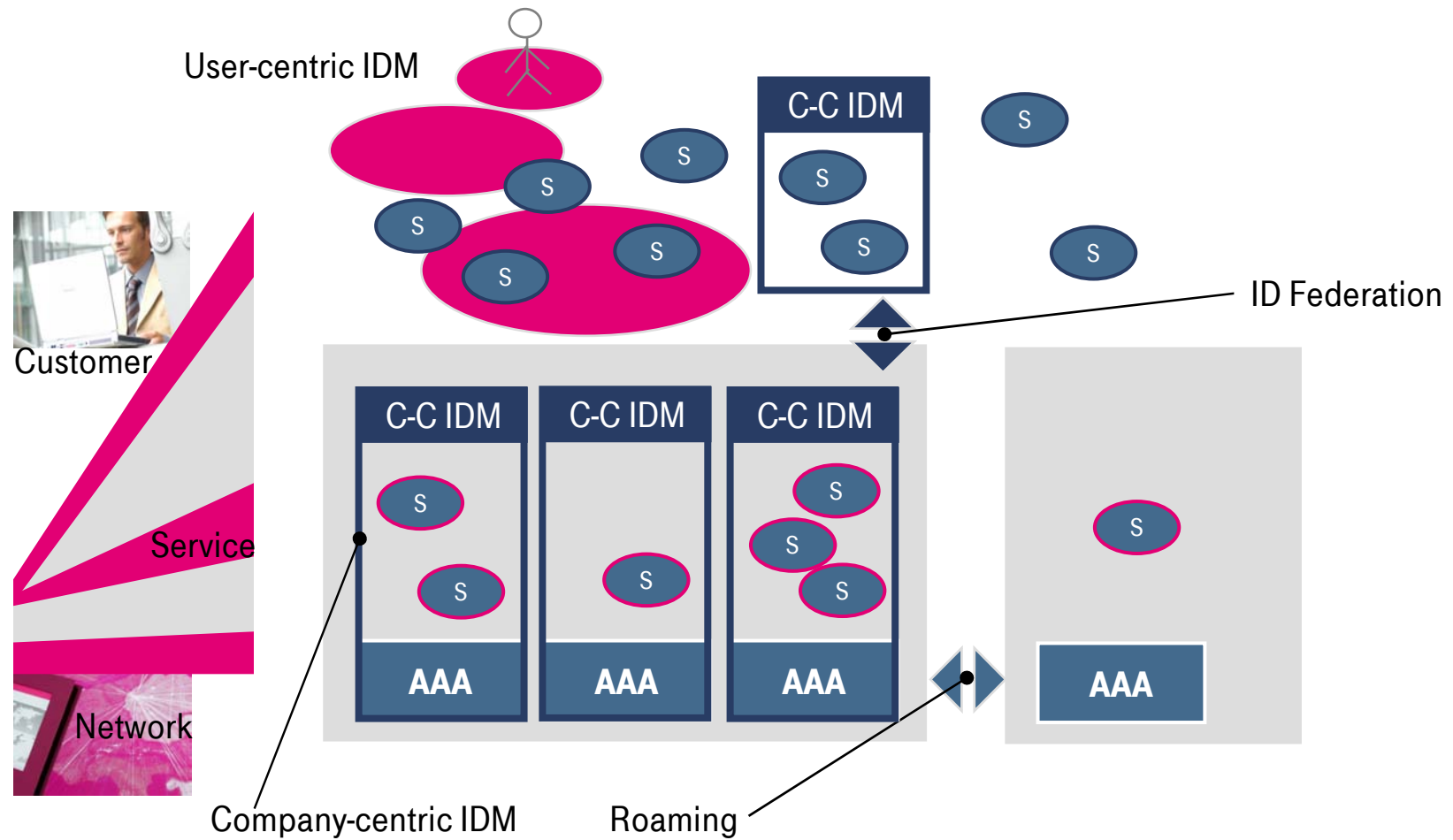
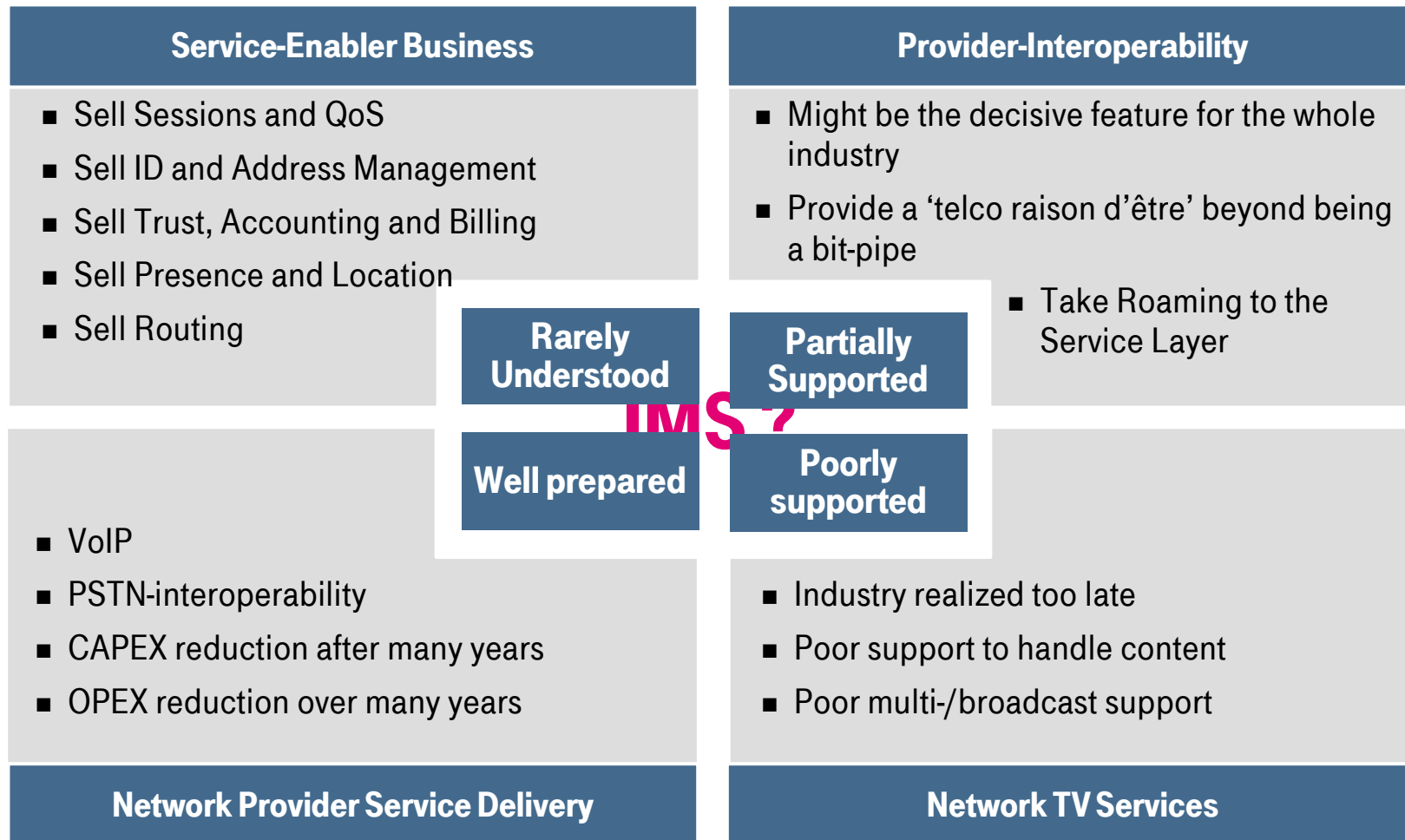Service/ Aggregation/ Federation

De-register

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- **Telco 2.0 and Identities**

- Conclusion

AAA, Identity, and Web 2.0.
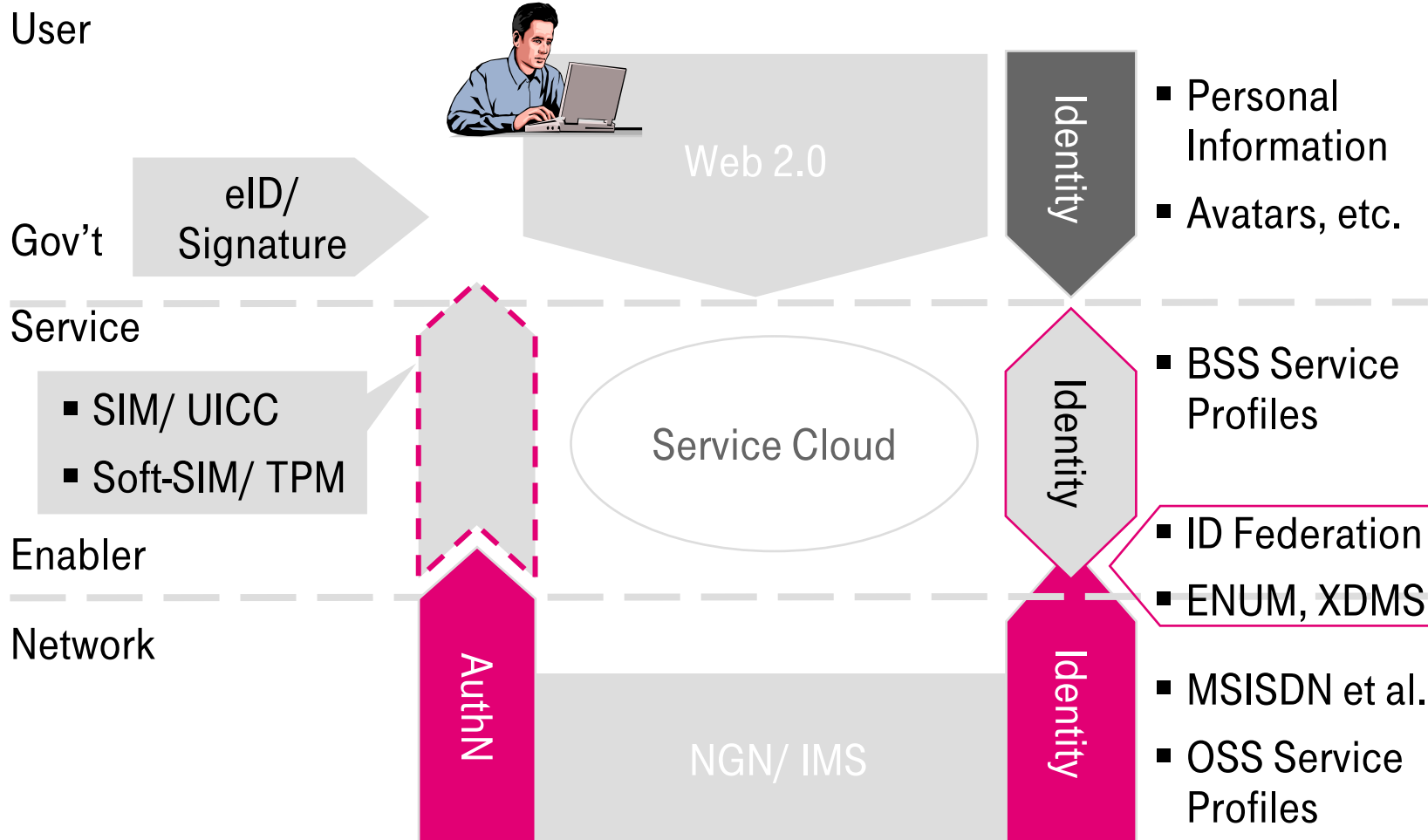## The Identity Challenge over Time.

Telco 2.0 Challenges.
The Well-solved, the Well-understood & the Neglected.

Service-Enabler Business

- Sell Sessions and QoS
- Sell ID and Address Management
- Sell Trust, Accounting and Billing
- Sell Presence and Location
- Sell Routing

Rarely Understood

Provider-Interoperability

- Might be the decisive feature for the whole industry
- Provide a 'telco raison d'être' beyond being a bit-pipe
  - Take Roaming to the Service Layer

Partially Supported

IMS ?

Well prepared

Poorly supported

- VoIP
- PSTN-interoperability
- CAPEX reduction after many years
- OPEX reduction over many years

Network Provider Service Delivery

- Industry realized too late
- Poor support to handle content
- Poor multi-/broadcast support

Network TV Services

Our Reference Model.
Locating the Telco's Identity Hot Spots.

AAA ID

User

Web 2.0

Identity
- Personal Information
- Avatars, etc.

Gov't

eID/ Signature

Service

Service Cloud

Identity
- BSS Service Profiles

- SIM/ UICC
- Soft-SIM/ TPM

- ID Federation
- ENUM, XDMS

Enabler

Network

AuthN

NGN/ IMS
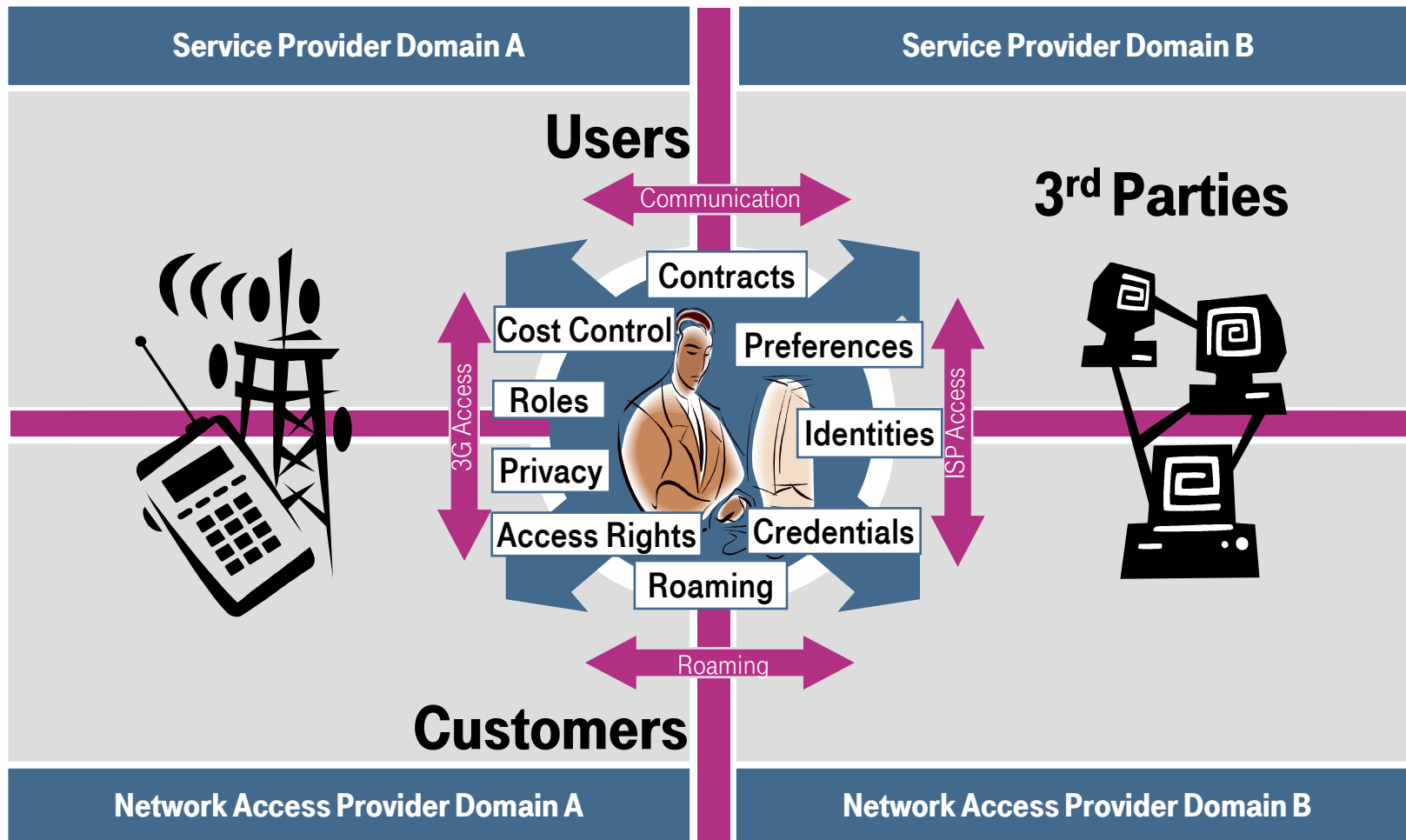
Identity
- MSISDN et al.
- OSS Service Profiles

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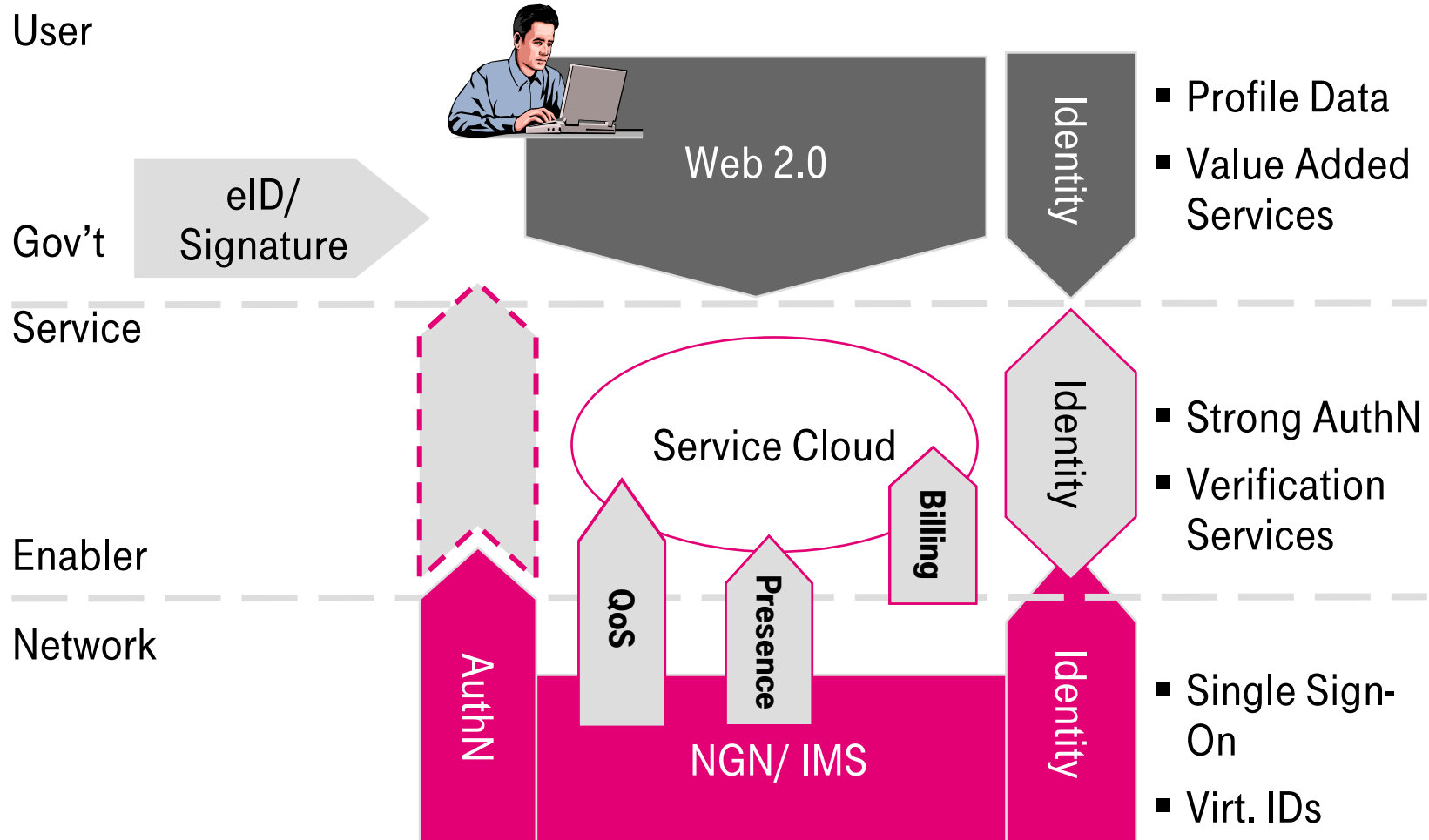
Identities and Telcos.
Put the User in the Middle.

Business Opportunities with Identities.
Providing Authentication, IDM, and Privacy.

User

Gov't

eID/ Signature

Web 2.0

Identity
- Profile Data
- Value Added Services

Service

Service Cloud

Identity
- Strong AuthN
- Verification Services

Enabler

Billing

QoS

Presence

AuthN

Network

NGN/ IMS

Identity
- Single Sign-On
- Virt. IDs

Conclusion.
From Confusion to Contribution.

Confusion	■ Several misconceptions about Identities and Authentication have been hampering development ■ Co-existence seems not only be a compromise, but compulsory ■ Three domains identified: User, CRM, Resource
Telco's Identity Crisis	■ Telcos fear being degraded to 'dumb bit-pipe' ■ Vertical integrations are favored, hampering effective enabling of Web 2.0-like services, mash-ups and 3rd party business ■ Telco's are getting aware of IDM: ETSI, ITU-T, 3GPP, VON, ... ■ People like us are doing research in the AAA/ IDM arena
Contribution	■ Telcos can be expected to contribute to the further development of the Internet and e-business in general ■ Strong authentication (through SIM and emerging IMS-features) on network access ■ Existing customer (billing)-relationships

Thank You for Your Kind Attention.
Author's Contact Information.

Comments and questions are highly welcome.

Dipl.-Inform.

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