



International Telecommunication Union

Identity Management (IdM) in ITU-T

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Outline

- **IdM in Telecommunications**
- **Focus Group on IdM (FG IdM)**
 - **Charter**
 - **Accomplishments**
 - **Disposition of Output**
- **FG IdM Transition Plan**
- **Collaboration with SC 27**

ITU Overview

ITU

Helping the World Communicate

191 Member States
+700 Sector Members

ITU-T

**Telecommunication
standardization of
network and service
aspects**



ITU-D

Assisting implementation
and operation of
telecommunications in
developing countries

ITU-R

Radiocommunication
standardization and
global radio spectrum
management



ITU-T

Connecting users with services and with others (federation)

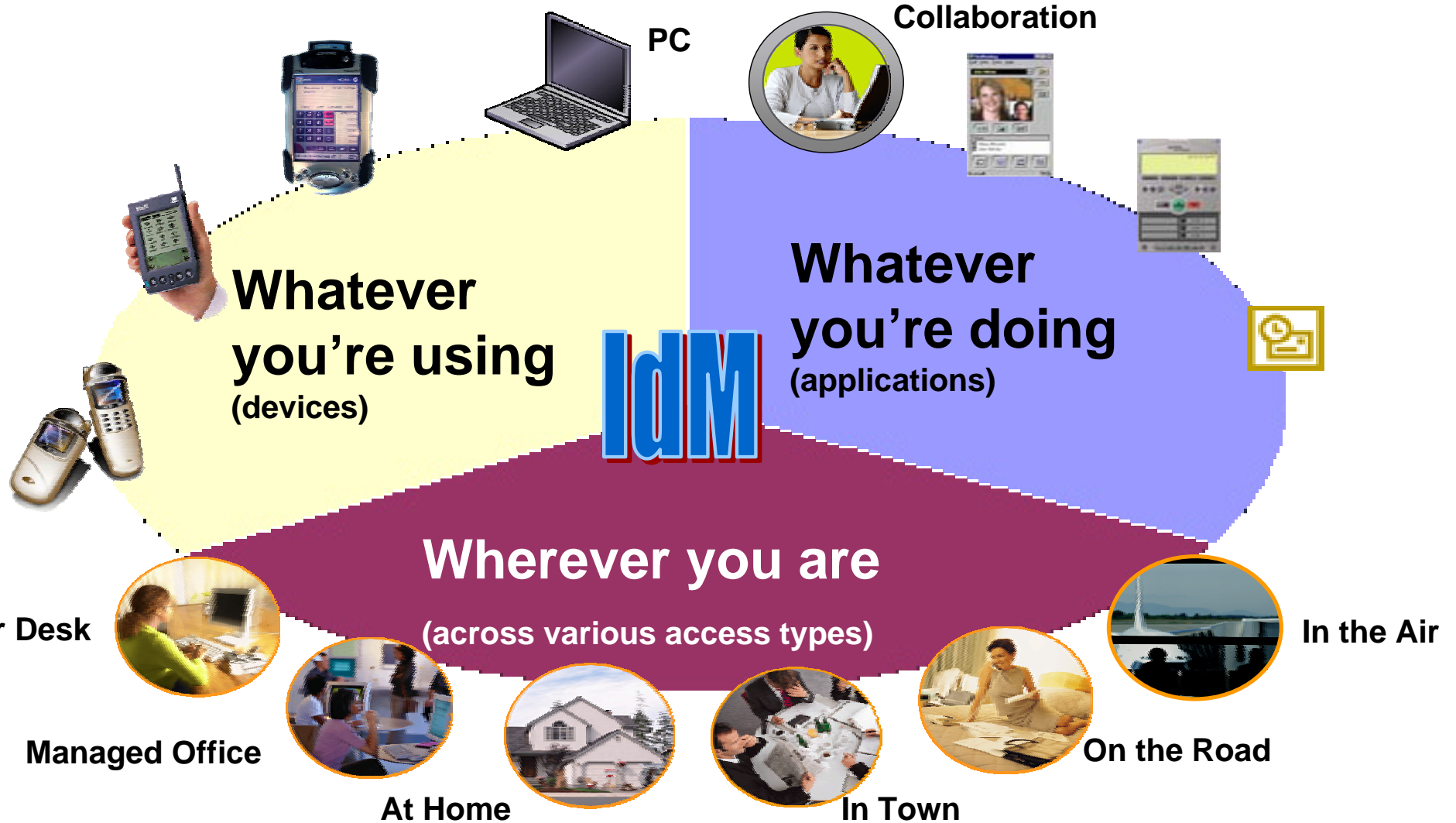
People have multiple identities, each within a specific context or domain

Work – me@company.com

Family – me@smith.family

Hobby – me@icedevils.team

Volunteer – me@association.org



Essential for trust & security and the operations of converged & virtual networks

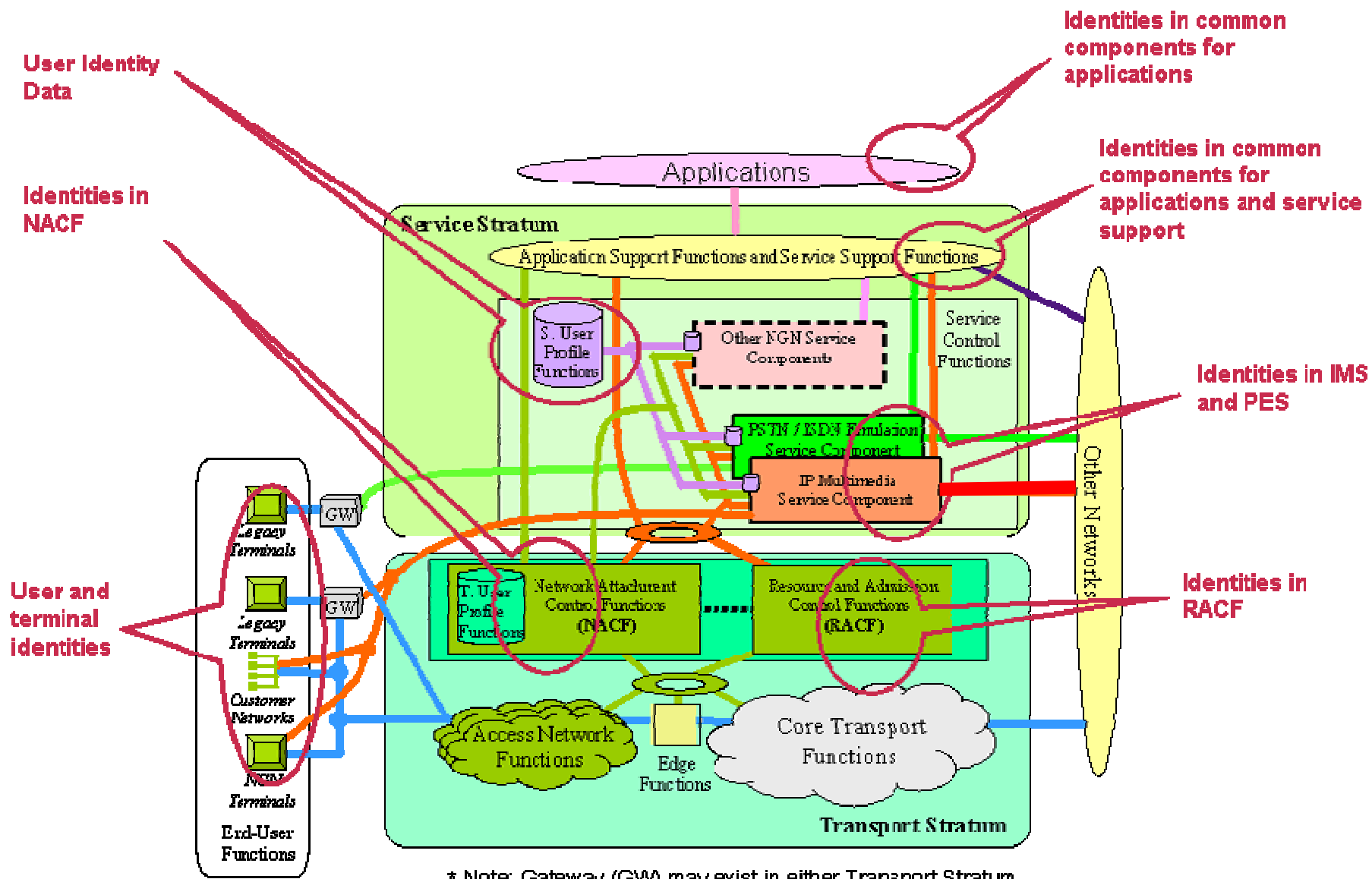


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What is Identity Management?

- Identity management (IdM) is the management of the identity life cycle of entities (subjects or objects) during which:
 - the identity is established
 - the identity is described and defined
 - the identity is destroyed.
- This involves
 - both technology and process
 - managing unique IDs, attributes, credentials, entitlements
 - the ability to enable enterprises to create manageable lifecycles
 - the ability to scale from internal systems to external applications and processes

Identities in Next Generation Network



* Note: Gateway (GW) may exist in either Transport Stratum or End-User Functions.



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IdM NGN Use Case

- **Requesting/asserting entity in one network wants to use services from another network.**
- **The requesting/asserting entity needs to transfer identity and attributes.**
- **However, different networks may use different IdM methods to manage the information concerning the requesting/asserting entity.**
- **Lack of an end to end standard solution to bridge/link the user identity-IdM, device-IdM and fixed access IdM.**

Why Identity Management ?

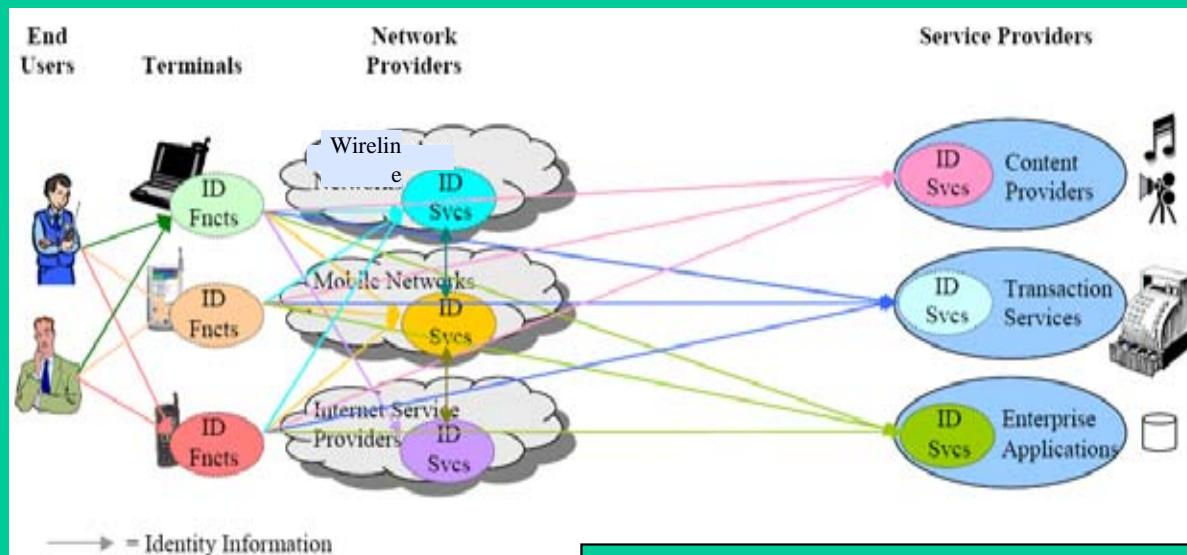
- **Reduced risk of improper use of systems, devices, etc**
- **Reduce risk of privacy or other regulatory violations**
- **Substantial administration cost savings by reducing redundant security administration**

Today's Identity Management Systems

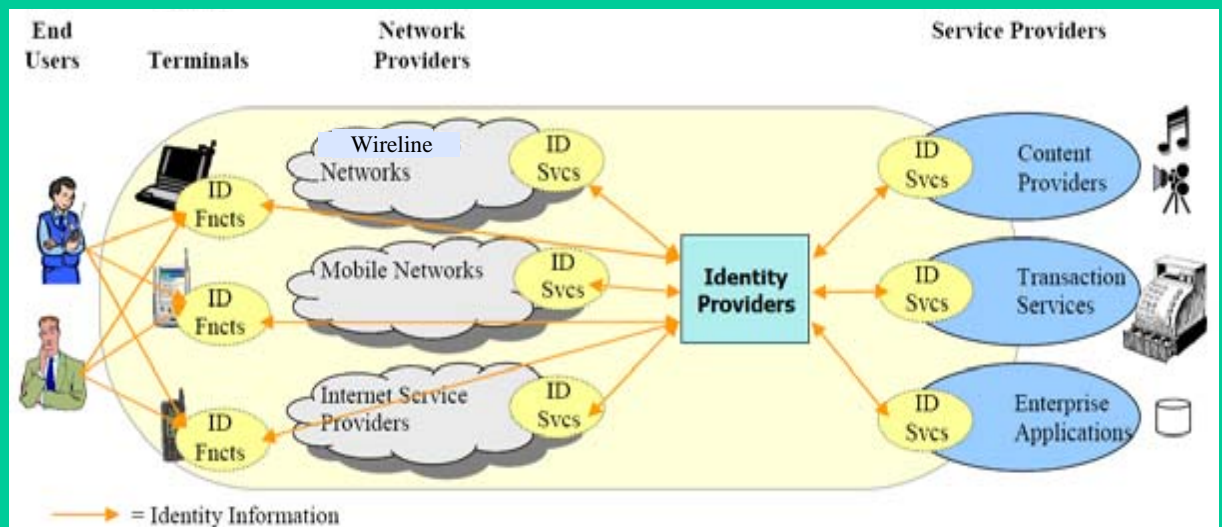
- **Built one application or system at a time**
- **Lack a scalability, holistic means of managing identity, credentials, policy across boundaries**
- **Fragmented identity infrastructure: Overlapping repositories, inconsistent policy frameworks, process discontinuities**
- **Error prone, creates security loopholes, expensive to manage**
- **Minimum interoperability between IdM systems**

Shift to Identity Providers

Legacy Identity Management



Next Generation Identity Management





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Why IdM Standardization in ITU-T?

- **One of the most important telecommunications technologies in industry today.**
- **Essential for trustworthy and secure network operations and e-services**
- **Underlies and enables most security mechanisms**
 - **Authentication**
 - **Access Control**
 - **Auditing/Accounting**
 - **Compliance**
- **Critical to life cycle of attributes by which entities, service providers, users, devices, and software applications are known.**



Why an ITU-T Focus Group ?

ITU-T

- **Established by SG 17 in Dec 06 and ended in Sept 07**
 - <http://www.itu.int/ITU-T/studygroups/com17/fgidm/index.html>
- **Enjoys a flexibility unique in ITU**
 - **Outreach and bringing all perspectives and communities together**
 - **Access to IdM community**
 - **Flexibility in scheduling**
 - **Unofficial collaboration tools i.e. wiki**
 - **Non decision-making**
- **Chartered to:**
 - **Identify & make use of work in other SDO's, Fora, & Consortium**
 - **Develop a global interoperable IdM framework(s) that is based on requirements derived from use case gap analysis.**
 - **Deliver output to SG 17 for follow-up actions**
- **139 People, from 88 different Organization in 22 Countries participated in one or more FG IdM meetings/telecomm**



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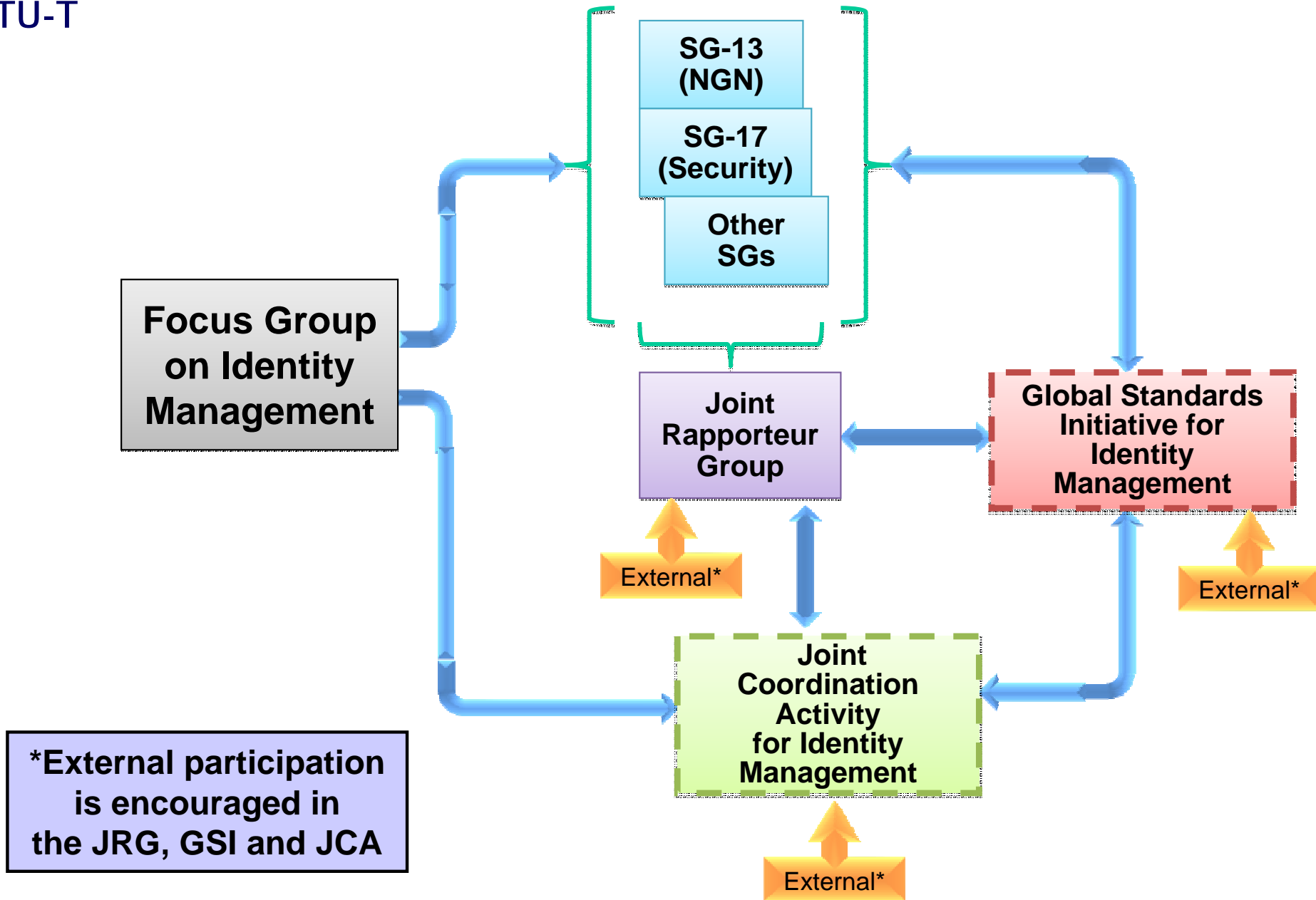
Summary of FG IdM Reports

Report Title	Report Contents
Identity Management Ecosystem and Lexicon	<ul style="list-style-type: none">• Living List of organizations working on IdM related subjects.• IdM related terms and definitions in use.
Identity Management Use Cases and Gap Analysis	<ul style="list-style-type: none">• Identifies, describes and analyzes IdM gaps,• Documents example use cases illustrating the gaps.• Used to derive the requirements for a generic IdM framework.
Requirements for Global Interoperable IdM	<ul style="list-style-type: none">• Provides a global analysis on IdM requirements and capabilities,• Includes requirements for the protection of personally identifiable information (PII).
Global Interoperable IdM Framework	<ul style="list-style-type: none">• Describes an extensible, platform-independent, identity protocol-independent, IdM Framework to support existing and new IdM solutions.

Disposition of the FG IdM Work

- **IdM Work now part of SG 17 (Security) action plan**
 - **Lexicon maintenance**
 - **X.idmgap: IdM Use Case Gap Analysis**
 - **X.idmr: IdM Telecom Requirements**
 - **X.idmfint: IdM Interoperability Framework**
 - **X.idif: User Control Enhanced Digital Identity Interchange Framework**
- **Proposed separate IdM Question for next Study Period (2008 – 12)**
- **IdM Work included in SG 13 (NGN) Security action plan**
 - **Y.IdMsec re-scoped to reflect FG IdM material**

Reorganization of the ITU-T IdM Work Structure





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The Need for a Joint Coordination Activity for IdM (Cuts across the entire ITU-T Study Program)

SG	Name	Questions
SG2	Operational aspects of service provision, networks and performance	1, 2, 5
SG3	Tariff and accounting principles	2
SG4	Telecommunication management	2, 3, 6, 7, 8, 9, 10, 11, 12
SG6	Outside Plant and related indoor installations	4
SG9	Integrated broadband cable networks, television, & sound transmission	1, 3, 4, 5, 6, 8, 9, 10, 11
SG11	Signalling requirements and protocols	1, 2, 3, 4, 5, 7
SG12	Performance and quality of service	10, 11, 13, 16
SG13	Lead study group for NGN and satellite matters	All
SG15	Optical and other transport network infrastructures	11, 12, 13, 14
SG16	Multimedia terminals, systems and applications	1-6, 11, 14, 15, 17-29
SG17	Security, languages and telecommunication software	All except 14
SG19	Mobile telecommunication networks	1, 2, 5

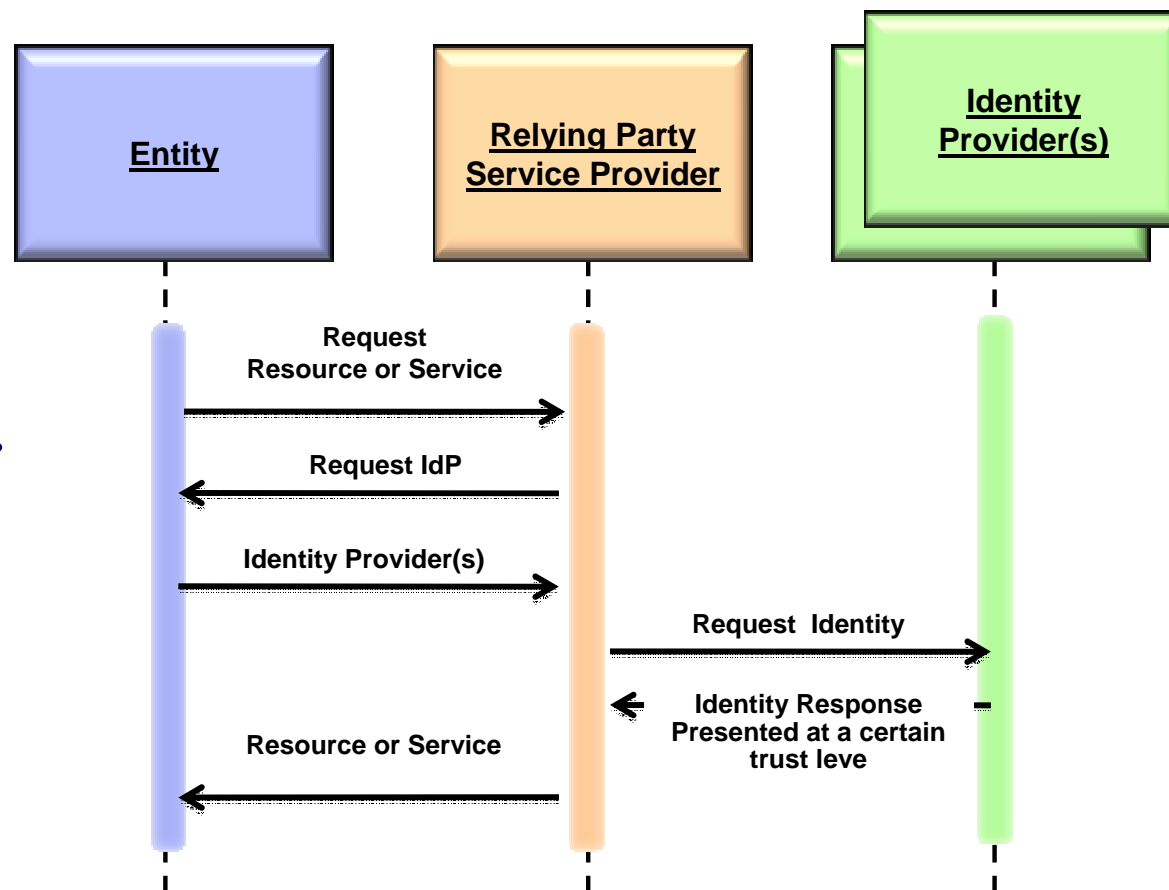
- **Past and Future FG IdM work may be useful to SC 27**
- **Past and Future SC 27 IdM work may be useful to ITU-T.**
- **Potential Joint IdM Recommendations|Standards should increase efficiency of both organizations**



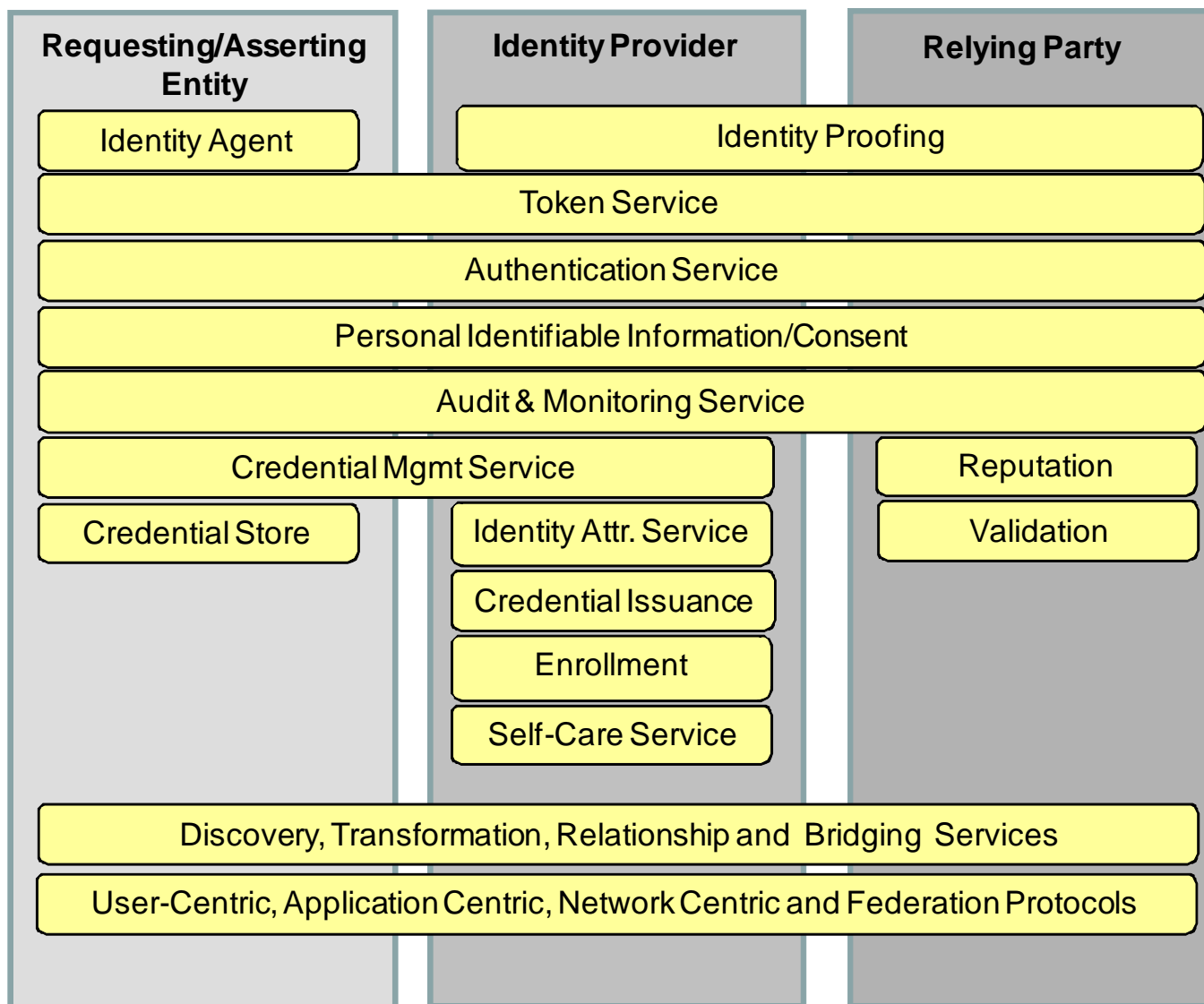
IdM Query-Response Architectural Model

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- o **Entity** - a User/Requestor who identifies itself to the Relying Party or Service Provider and request a resource or service from the Relying Party,
- o **Relying Party (RP)** - Needs to authenticate the identity before providing the resource or service. Queries Entity for the name of the Identity Provider(s) for the claimed Identity. Queries Identity Provider(s) for validation of the claimed Identity (and for the attributes of that Identity).
- o **Identity Provider (IdP)** - Authenticates the claimed Identity, and may return attributes of the Identity to the RP. Uses trust mechanisms and security policy to process Identity requests from the RP.



Components & Services Required to Achieve IdM Interoperability



ITU-T SG17 Liaison Statement to ISO/IEC/JTC 1/SC27

- **Requests comment on FG IdM**
 - **Lexicon – Additions?**
 - **Use Cases and Gap Analysis – Additions?**
 - **Three Party Query-Response IdM Architectural Model**
 - **IdM Framework Components/Services**
 - **Protection of Personal Information (PPI)**
- **Proposes **Identity Assurance** Common Text
ITU-T/ISO Recommendation|International
Standard**

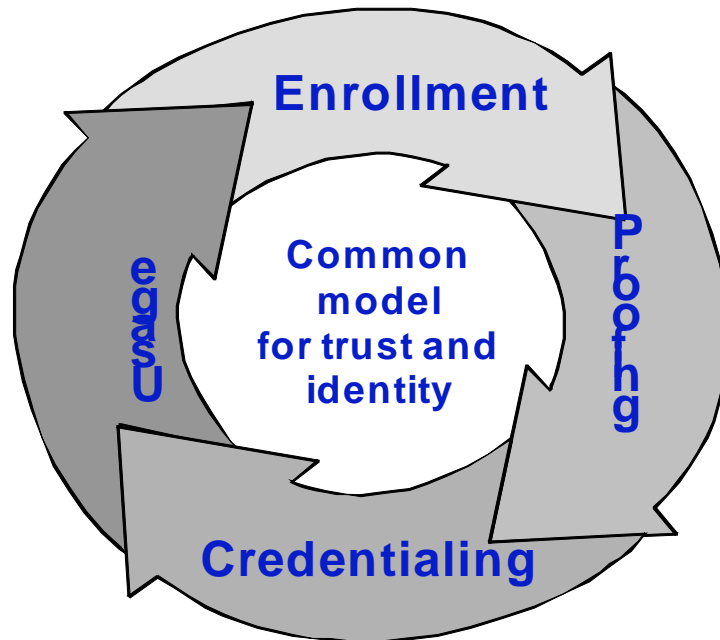
Why Identity Assurance?

- **Minimize potential for errors, omissions and redundancies in identity data across systems**
- **Enhances accuracy and confidence of identity information**
- **Provides better management of identity lifecycle**

Identity Life Cycle

- Biographics, demographics
- Reputation, portability
- Biometrics
- Drivers License Passports, etc

- Authentication
- Trust and reputation
- Logical access control
- Physical access control
- Enterprise identity mgt
- User-centric identity mgt
- Fraud detection
- Identity monitoring



- Background identity and reputation checks
- Document security
- Identity Analytics
- Biometrics

- Logical credentials (e.g., OTP, public key certificates)
- Physical tokens (e.g., id cards w/ chip)
- Smartcards

Final Remarks

**“If you want to go quickly, go alone.
If you want to go far, go together”**

**ITU-T looks forward to continuing
collaboration with SC27 on Identity
Management**

Thank you for your attention