

# Mapping The Identity Ecosystem: A multi-national perspective

*The journey has only just begun ...*



# Outline

- Some national approaches (OECD survey of national digital IdM strategies)
- Perspectives from the OECD
- Moving towards recognition of the existence of an Identity Ecosystem?
- The Internet Ecosystem as an example
- Mapping the Identity Ecosystem workshop
- Attributes

# A survey of national IdM strategies and policies in OECD countries (2010)

## Europe:

**Austria**  
**Denmark**  
**Germany**  
**Italy**  
**Luxembourg**  
**Netherlands**  
**Portugal**  
**Slovenia**  
**Spain**  
**Sweden**  
**Turkey**

## North America:

**Canada**  
**United States**

## Latin America:

**Chile**

## Asia-Pacific:

**Australia**  
**Japan**  
**Korea**  
**New Zealand**

# A survey of national IdM strategies and policies in OECD countries (2010)

- **Main objectives**

- Realize e-government
- Foster innovation in public and private e-services
- Strengthen cybersecurity [\[1\]](#)

- **Primary focus**

- Public administration with spillovers to the private sector [\[1\]](#)

# A survey of national IdM strategies and policies in OECD countries (2010)

## Some observations:

- “... **no strategy expresses the need for a single or global interoperable identity system**. Each country develops its own strategy and implementation policies, applying international standards”
- “Some countries participate in regional initiatives such as the **EU STORK project** for cross border technical interoperability”.
- **E-government dimension** of the strategy is considered a priority
- Nearly all aim to limit the number of **digital credentials** and **gateways**
- Most have a legal framework for **digital signatures** [1]

# A survey of national IdM strategies and policies in OECD countries (2010)

## Approaches:

- **Migratory** rather than re-engineering approach
- “... respect the **national culture, style of government** and **offline identity management tradition**”
- **Centralized** and **decentralized** approaches to registration
- Adoption of citizen credentials is **voluntary** or **mandatory**
- “Recognise the **role of standards** for technical interoperability and market competition and ... encourage the use of widely recognised ones”
- Many promote the use of **PKI**
- **Privacy** protections provided by existing legal frameworks and in some cases further protection at the technical level
- **Pseudonyms not included** in most strategies
- Recognition of the **user empowerment** challenge [\[1\]](#)

# A policy perspective from the OECD (2011)

**“Digital identity management  
is at the core of the Internet economy”**

**“What is at stake from a public policy point of view is the development of effective and efficient digital identity management strategies to fully realise the economic and social potential of the Internet by migrating economic and social interactions online and unleashing innovation to create trust-based digital services.” [2]**

# A policy perspective from the OECD (2011) ...

- **Proportionality**

(embedded in the concept of levels of assurance)

- **Privacy and Security**

- **Some perceived areas with “room for improvement”**

- Credential overload
- Need for more robust solutions for high value transactions
- Lack of international recognition of digital credentials proofed to a high level of assurance

- **Enable cross-border digital identity management [\[2\]](#)**

# Interest from other areas?

- **UNCITRAL**

- 45<sup>th</sup> session of the WG IV on Electronic Commerce [\[3\]](#)
- In the context of electronic transferable records

- **Natural overlap with policy developments in privacy**

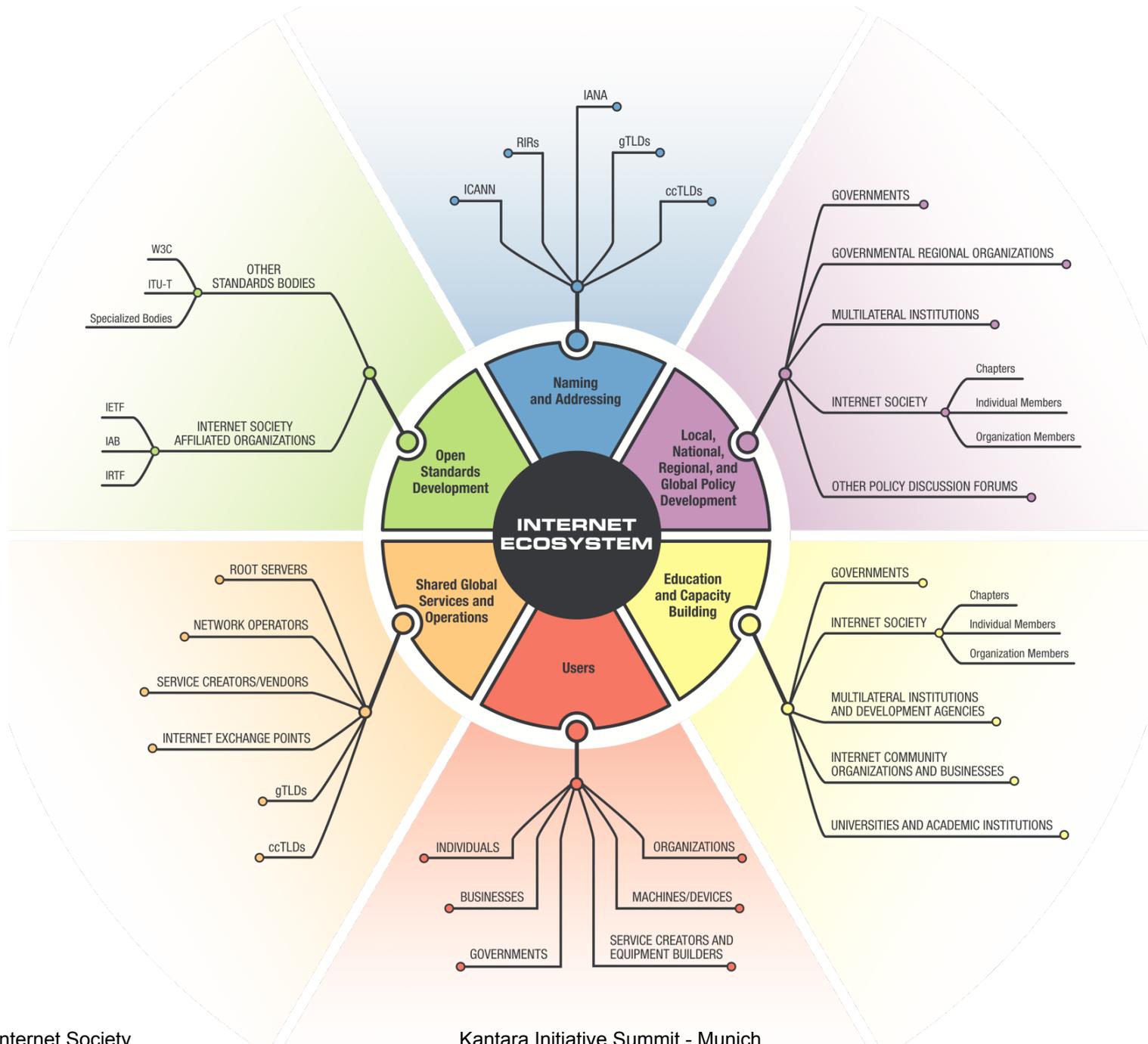
- Review of the OECD Privacy Guidelines
- APEC Cross-Border Privacy Rules (CBPR) System
- Modernization of the Council of Europe Convention 108 and review of the European Data Protection framework
- Proposed new US privacy framework
- Proposals for a binding international standard (International Conferences of Data Protection and Privacy Commissioners)
- Etc...

**... and technical ...**

# Indicators that we are moving towards recognition of the existence of an Identity Ecosystem?

**Hints from various corners – for example ....**

- **NSTIC (US)**
- **STORK (Europe)**
- **discussions in “non-traditional” forums**
- **and ...**



# Mapping the Identity Ecosystem Workshop

Amsterdam: 14 - 15 December 2011



# Mapping the Identity Ecosystem Workshop

- **Objective: To facilitate an international multi-perspective conversation on the Global Identity Ecosystem**
  - Bring together a cross-section of the Identity Ecosystem participants providing technology, policy, and economic perspectives.
  
- **Agenda**
  - Ecosystem Map
  - Values
  - Gap Analysis
    - Technology Gaps
    - Policy Gaps
    - Economic Gaps
  - Near Term Actions

# Who makes up the Identity Ecosystem?

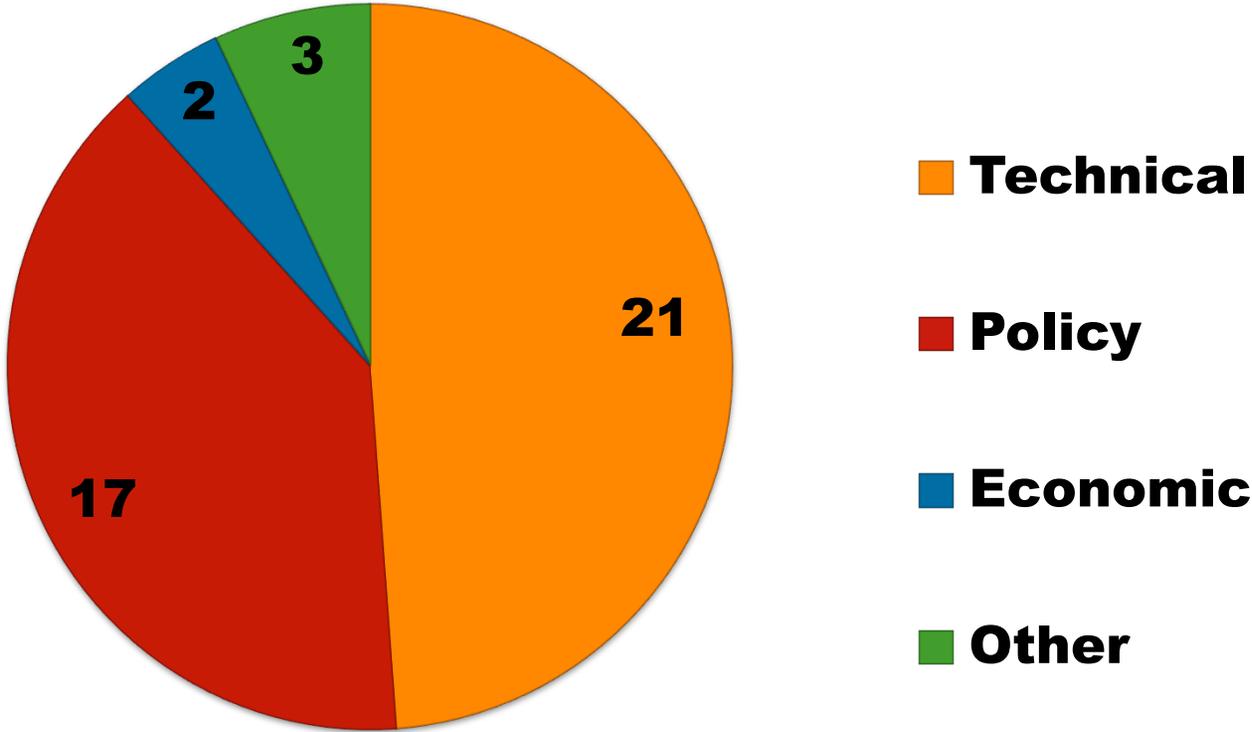
## Roles

- **Identity Provider**
- **Relying Party**
- **Federation Operator**
- **User/Consumer**
- **Inter-federation Facilitator**
- **Sources of Authoritative Attribute Information**
- **Attribute Provider**
- **Auditor**
- **Gateway/Portal Provider**
- **Advocate**
- **Legislators and Regulators**
- **Governance for Trust Frameworks**
- **Dispute Resolution**

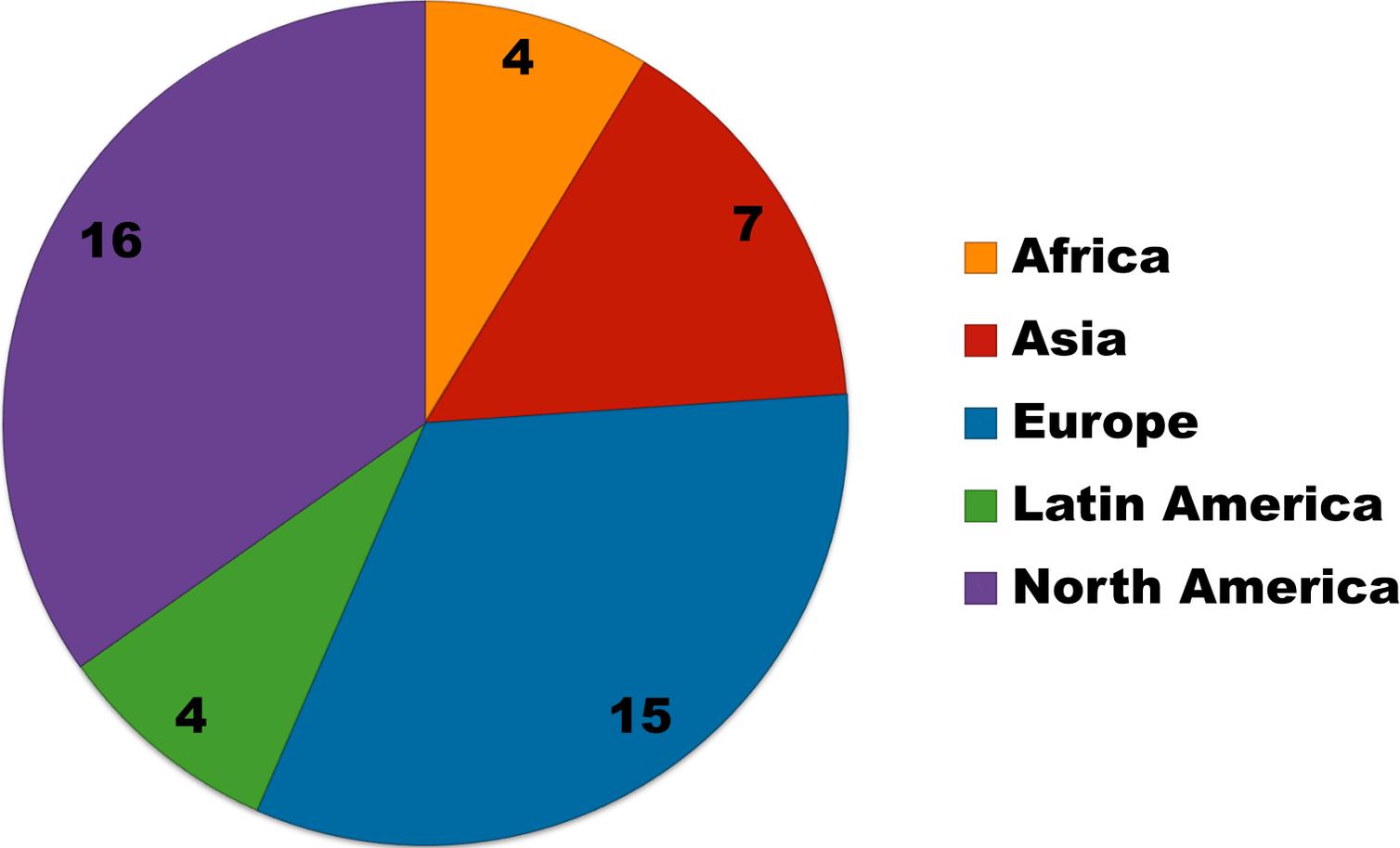
## Communities

- **Ecosystem Development Communities**
  - Standards or Collaboration entities
  - Civil Society
  - Government
  - Product Developers
- **Identity Consumer Communities**
  - Research & Education
  - Healthcare
  - Finance
  - Security Industry
  - Telecommunications
  - Advertisers
  - Sales and Marketing
  - National security, first responder, law enforcement
  - Real End Users

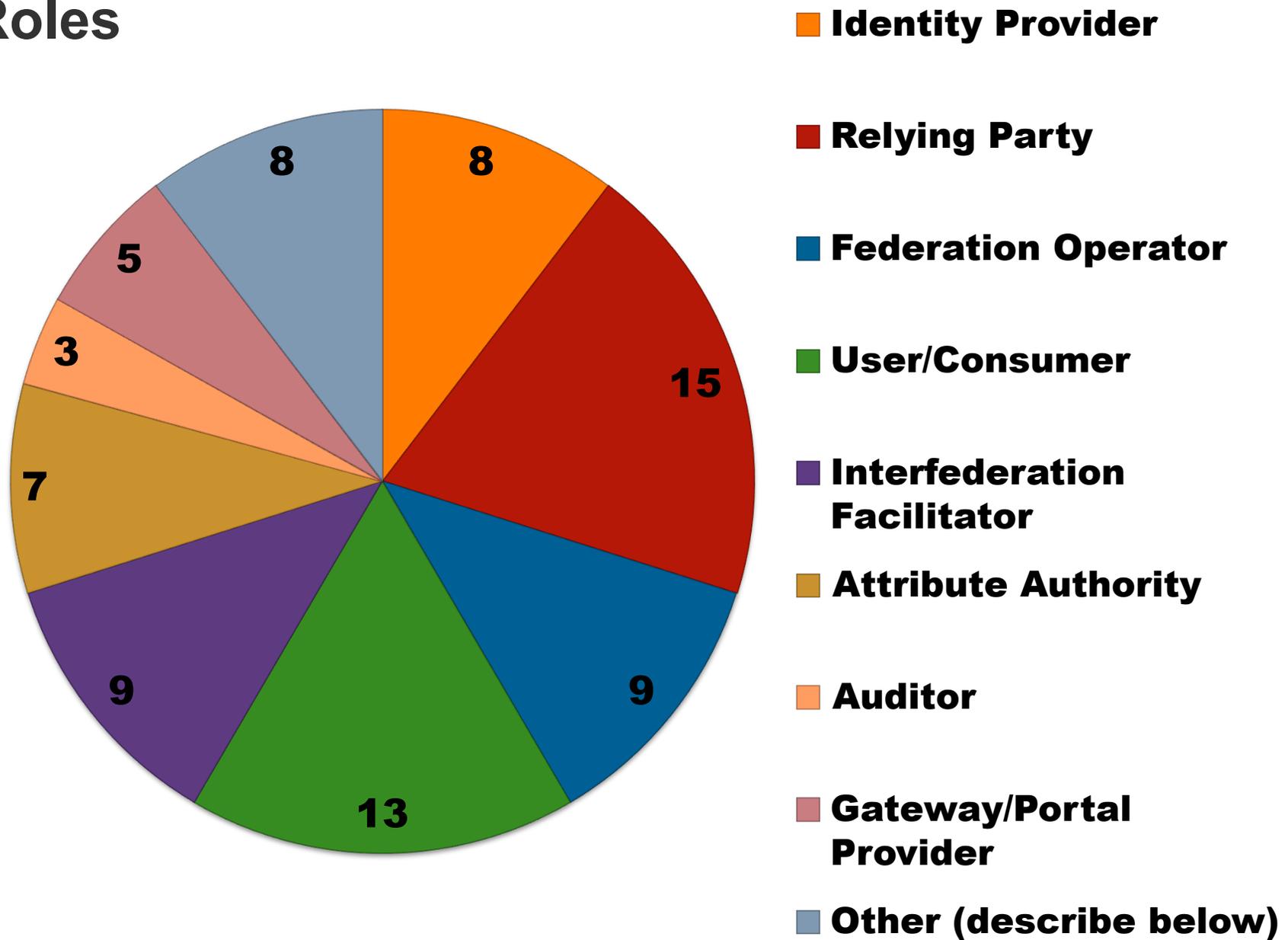
# Workshop Demographics: Areas of Expertise



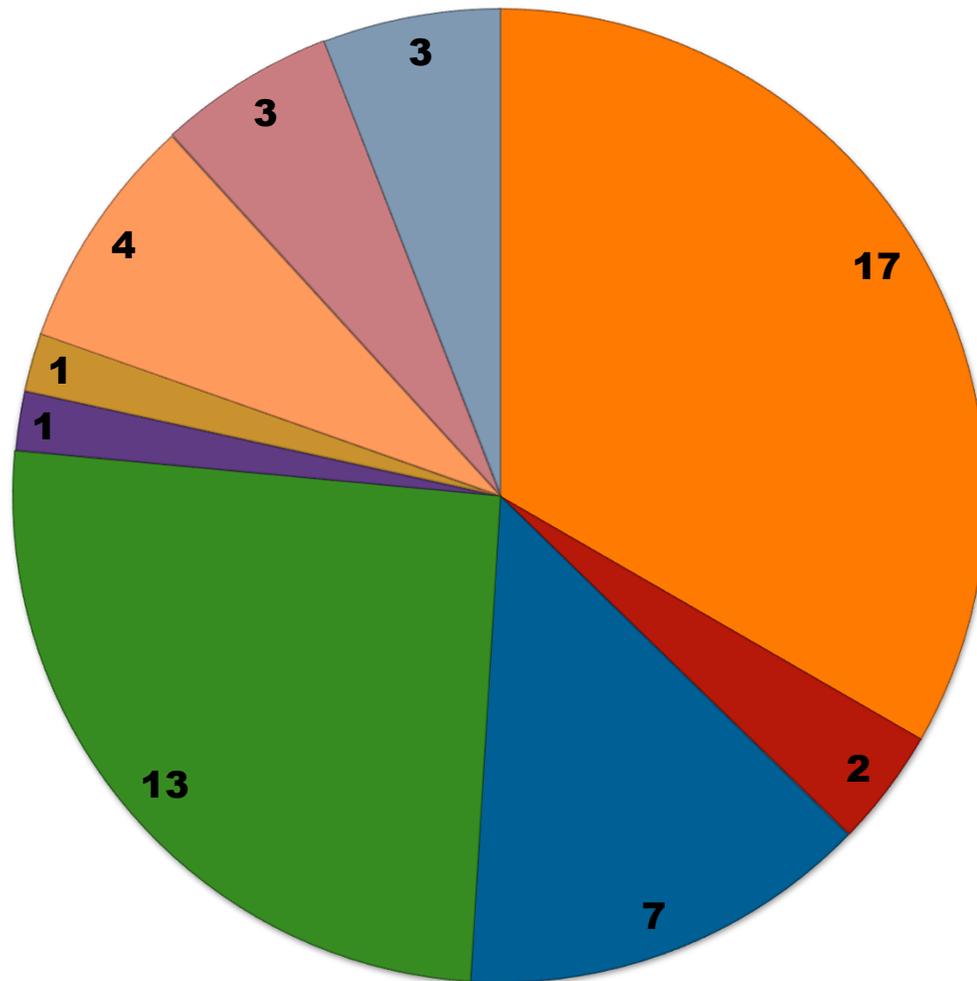
# Workshop Demographics: Regions



# Roles



# Communities



- Standards or Collaboration Org
- Civil Society
- Government
- Research & Education
- Healthcare
- Finance
- Security Industry
- Telcom
- Other (describe below) - Legal, Auditing community

# Values ...

## The Identity Ecosystem...

- **Encourages ease of collaboration (e.g. harmonization of language (glossary and schema); agreement on how to extend that language to meet local needs)**
- **Has low barriers to entry for identity-related services**
- **Promotes usable privacy-respecting solutions**
- **Allows for the separation of individual identities for the consumer space based on desired context (e.g. Citizen identity, Consumer identity, Social identity) – the concept of identity is too fluid for a static model**

# And More Values ...

## The Identity Ecosystem also...

- **Uses unencumbered technology**
  - Allows anyone the ability to implement freely
  - Is interoperable across protocols
  - Is interoperable across legal systems
  - Avoids fragmentation of the Identity Ecosystem and associated marketplace
- **Allows for the portability of identity data**
  - Supports choice in the marketplace
- **Is cost effective, efficient and easy to use**
- **Is secure and resilient**



# Technology Gaps

- **Addressing non-web-based applications that require identity and attribute information**
  - mobile networks, virtualization networks, services below the Web
- **Matching technology to the legal requirements**
  - e.g. Informed choice and the issue of consent
- **Balancing scalability versus deployability**
  - the challenges of inter-federation
- **Coming to terms with the Attribute space**
- **Addressing context**
  - changing context with various parties

# Law and Policy Gaps

- **Different national approaches to identity**
- **Different (sometimes incompatible) laws regarding personal data**
  - Impact on legitimate cross-border use of online identities/attributes
- **Changing notions of identity**
  - a single verified government-issued identity
  - identities provided by one or more private entities (IdPs) with varying levels of assurance
  - user-created identities based on true and/or false information
  - “throwaway” identities
  - use of attributes (e.g. age, location) rather than identities
  - anonymous authenticated identity
- **Balancing commercial and private interests**
- **Ownership/Control of personal data disclosed in various contexts**

# Economic Gaps

- **Insufficient understanding of the commercial incentives and drivers for the use and supply of identities and attributes**
- **Insufficient appreciation of the differences among:**
  - Identity as a service (provided in the context of an established agreement, e.g. government ID, federations in education)
  - Identity as leverage (monetization of individual's identity in exchange for service)
  - Identity as a credential (e.g. client, entitlement, earned benefit)
- **Identity as a commodity masquerading as identity as a service**
  - the cost of free
  - Identity portability
- **The tussle between the monetary and the non-monetary value of personal data**
- **How to assess the value of unverified self-asserted attributes?**

# Some tough questions ...

- **Is the Identity Ecosystem an ocean of islands?**
  - Are Identity Ecosystem actors developing standards, rules and practices in isolation?
  - How do we connect the islands?
- **Is this a land grab?**
  - Is this a race to market dominance?
  - Is there a first-mover advantage?
- **Building walls, digging moats and installing electric fences**
  - Is there a commercial incentive to drive the development of proprietary standards?
- **Treasures and trinkets**
  - Where is monetary value concentrated in the Ecosystem?
  - Who gets the largest share?



# More tough questions...

- **Identity Ecosystem or Attribute Ecosystem?**
  - Are attributes more important than identity?
  - Are attributes more valuable (\$\$\$) than identity?
  - Do attributes open the way for business models based on authorization?
  - How will attributes effect both data minimization and data correlation?
- **Federations and Collaboration**
  - Is there as much or more value in collaborating across verticals than there is within verticals?
  - Are federations and collaboration the new reality?
- **How does the system handle risk and liability?**

# Final Thoughts and Next Steps

- **Many questions – not many answers (as yet)**
- **Enable connections, facilitate coordination, encourage collaboration**
- **Encourage efficiency of effort among bodies addressing the same or similar topics**
- **Next Steps**
  - Convene a workshop to focus on attributes (held on 12 March 2012)
  - Facilitate further collaboration across all communities (ongoing)
  - Produce a workshop report (coming soon)
  - Develop a collaboration and coordination workspace (under development)

# Moving forward with an Internet Attribute Infrastructure

- **Workshop held on 12 March 2012 in Gaithersburg, MD**
- **Productive and energetic discussion (thanks to all who participated)**
- **Rough notes available and short report to follow**
- **Long list of topics for further discussion**
- **Proposed near term action items:**
  - White paper on what makes a good attribute
  - Requirements document for an attribute registry
  - Collaboration on NSTIC governance by-law discussion

# Additional Information

- **For more information:**
  - [www.internetsociety.org/privacy](http://www.internetsociety.org/privacy)
  - [www.internetsociety.org/identity](http://www.internetsociety.org/identity)
- **Collaborative workspace:**
  - Mailing list: [identity-ecosystem@elists.isoc.org](mailto:identity-ecosystem@elists.isoc.org)
  - Wiki: [www.tid.isoc.org/trac/ideco](http://www.tid.isoc.org/trac/ideco)
  - Currently has controlled access: contact us for details
  - Working on making the collaboration space openly accessible
- **Contact us:**
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  - Christine Runnegar – [runnegar@isoc.org](mailto:runnegar@isoc.org)

# Some references

[1] OECD (2011), “National Strategies and Policies for Digital Identity Management in OECD Countries”, OECD Digital Economy Papers, No. 177, OECD Publishing. <http://dx.doi.org/10.1787/5kgdzvn5rfs2-en>

[2] OECD (2011), “Digital Identity Management for Natural Persons: Enabling Innovation and Trust in the Internet Economy - Guidance for Government Policy Makers”, OECD Digital Economy Papers, No. 186, OECD Publishing. <http://dx.doi.org/10.1787/5kg1zqsm3pns-en>

[3] A/CN.9/737 - Report of the Working Group on Electronic Commerce on the work of its forty-fifth session <http://daccess-ods.un.org/access.nsf/Get?OpenAgent&DS=A/CN.9/737&Lang=E>