Trust Frameworks

Work of the MIT CFP Privacy and Security Working Group

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"You can't trust code that you did not totally create yourself."

--- Ken Thompson, **Reflections on Trusting Trust**, *Turing award lecture*, *1984*

What is "trust" about?



Assurance







- ► Identification of assurance: Trustmark
- Domain of applicability: identification, authorization, privacy, anomymity...Symantec.
- Context: risks, kinds of activities or transactions, players, etc.
- Underpinnings for assurance
 - Technical
 - Business
 - Legal
- Framework for trust
 - Definition of rights and restrictions
 - Boundaries on those definitions
 - Specification
 - Publication/applicability of specification

Identity Management ecosystem



- Multiple authorities: resiliency, domains of applicability, different legal bases
- Multiple providers: Canadian example: TD Bank, Scotia Bank, BMO Financial
- Multiple business opportunities: decomposition of responsibilities, e.g. NSTIC
 - Identity Ecosystem Framework: includes transaction participants (2 or more), identity provider, attribute provider
 - Trust frameworks
 - Accreditation authorities
 - Trustmark schemes: framework and level of compliance

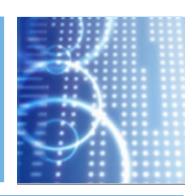




- Representation of stakeholders in trust: e.g. NSTIC community, USGSA ICAM, USPS FCCX, Telcom Data Trust Framework, Pharma Trust Framework
- Definition of domain of trust (topic, levels, etc.)
- Specification of framework: technical, business, legal: one example context is the Kantara Initiative Identity Assurance program
- Accreditation: service providers and trust element providers, e.g. at Kantara this includes Deloitte, Electrosoft, Europoint, Zygma
- Registry: Open Identity Exchange
- Enforcement: technical, business, legal (contract based)

Multi-dimensionality of framework and multiple frameworks

Applicability to Spectrum WG



- ASA/LSA/PA propose multiple legitimate users under varying conditions and agreements
- Based on distributed databases: identifying who can do what under which circumstances

- Challenges
 - How to trust identities to verify adherence to the agreements: authentication/ authorization
 - How to trust with respect to privacy
 - Dynamic definitions of the database capabilities

Looking forward



- Trust ecosystem
 - Participants
 - Stakeholder groups
 - ► Framework assistance
 - ► Accreditation organizations
 - Infrastructure, e.g. infrastructure
 - ► Trust providers
 - Trust framework specifications

- Trust in context
 - External conditions
 - Risk or cost vs. benefits or rewards
 - Can this be formalized?
 - Composition?





- ► Hannes Tschofenig, IETF Privacy, NSN => ARM, Trust background
- Don Thibeau, Open Identity Exchange, Trust Framework registry
- Lori Brennan, Kantara Initiative, Trust Frameworks: specification, accreditation
- Sibal Adali, Rennsalaer, Trust in Context
- Scott David, U. Washington, Legal Frameworks for Trust
- ▶ Jean Camp, U. Indiana, User Trust
- Andre Boysen, SecureKey, Trusted Identity Management
- Rebecca Nielson, Booz Allen, The Business of Trust