

Read Me

- Intent of the work
- The Periodic Table
 - Rows - Clusters - Colors
 - Cautions on dynamic nature of table
- About trust marks and trust frameworks
- Use of the table to illustrate marks and frameworks
- Next steps

Intent of the work

- Trust frameworks and trust marks are ambiguous and misconstrued terms.
- What we have some understanding of is many of the trust elements that can be used, in concert, to build frameworks and marks.
- The elements fit well into a periodic table showing the issues (e.g. legal, privacy, operational) that they address and indicating the layers that deal with them
- The long term intent is a specific context for comparing marks and frameworks and a constructionist approach to building and evolving trust

Aspects of the Periodic Table

- Most current version of the periodic table is at <https://spaces.internet2.edu/display/scalepriv/>
- Rows represent scale, from the relatively few federated operators at the top to the thousands of organizations and millions of users at the bottom
- Colors represents business functional areas, including technical, operational, policy, legal, etc.
- Clusters of elements represent related sets of issues, such as the technical requirements needed to trust attribute authorities within a federation

Dynamic nature of the table

- Changing the row of an element is a policy architectural decision, reflecting the nature of specific COI circumstances; hub and spoke federations address many elemental issues at the operator row rather than as member of the COI decisions.
- Changing the color of an element is arbitrary and only affects in which tabs of various documents those elements will be addressed
- The density of elements at the top is only a reflection of the authors' experience and awareness; over time many elements will be discerned at the lower layers
- It is also likely that as elements are explored, they will in turn be distinguished into separate and important elements
- There are new elements still to be discovered

The specific rows of the table

- Federated operators elements
 - Policy and financial
 - Technical
- Operator to members elements
- Member to member elements (the community of interests, aka COI)
- Attribute authority elements
- End-user elements

The colors of the table

- Policy and governance
- Technical
- Operational
- Legal
- Privacy

Notes

- The perspective, as reflected in this layers of table, is one of a multilateral full-mesh community of interest federation; hub and spoke architectures, or bi-lateral relationships may have different layering or placement of elements in layers.
- While the long-term path may be dynamic trust instead of federations, getting there requires the normalization of base-line behaviors that federations create.

A Possible Taxonomy

- Trust elements – specific issues, as identified in the periodic table, that could affect the overall trustworthiness of an interaction
- Trust marks – a focused set of sets of elements/values and perhaps other marks intended to certify behaviors of actors on a specific set of ecosystem concerns, e.g. accessibility, privacy, COPPA compliance, etc.
- Trust frameworks – a broad trust infrastructure, using an evolving collection of marks and elements/values, supporting general ecosystem transactions.

Trust Marks

- Trust marks – a selection of elements, and values/ processes/procedures assigned to the elements, that focus on a specific thematic issue
 - Different ecosystem actors may use varying parts of the mark
- Trust marks may include elements from many layers of the periodic table, but with a specific certification in mind
- Trust marks may reference other trust marks as well as assigning required values to elements
- Marks have certain metadata: issuing authority, revocation, a logo, etc.
- Marks do not evolve much over time; their value lies in the stability.

Trust Mark Examples

- In the R&E space, several exist or are under active discussion:
 - Research and Scholarship, Service by Affiliation, Library certified service
- Work under way on an accessibility mark, a minor's mark.
- E.g. “fair trade organic coffee”, UL, certified ISO compliance, certified MS field engineer, energystar, etc.
- Created and managed by TDO's – trustmark development organizations, either public or private

Trust frameworks

- Trust frameworks – a comprehensive set of elements, and associated values, and marks, intended to provide a general, multi-purpose basis for trust for a COI
 - Typically more comprehensive than marks
 - Trust frameworks will use some trust marks operationally and transport many more marks as payloads in metadata, etc
- Trust frameworks are evolutionary, currently silent on some elements, awaiting community need for operational standards
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Trust frameworks

- Two primary parts
 - A set of elements and trustmarks applying largely to the federated operator
 - A set of elements and trustmarks applying to the actors within the COI
 - May take a MUST/SHOULD/MAY format
 - As the needs of the COI evolve, so will this part
 - Marks/elements may transition from SHOULD to MUST
 - New marks and elements may be embraced in order to do new business
- E.g. Kantara, Safe-BioPharma, InCommon, SurfConext, etc

Research and Scholarship mark (R&S)

- Overarching requirements:
 - None (other than supporting InCommon base level eduperson)
- For the IdP
 - Release a specific set of attributes (unique palatable name, display name, affiliation)
- For the SP
 - Use the attributes in a minimal way and dispose afterwards
- For the mark issuer (InCommon right now, soon an auditor)
 - Determine that the “purpose” of the application is R&S
 - Determine that the application needs all the attributes in R&S (and not some lesser bundle, e.g. Library)
 - Reaffirm mark each year

Accessibility Mark

- Overarching requirements:
 - Support of mark specific schema (e.g. ISO/IEC JTC1 24751)
 - Proper use of the mark
- For the IdP
 - Provide users with mechanisms to store schema values
 - Provide users with tool to selectively and with informed consent release schema values
 - Provide attribute authorities (e.g. medical practitioners) with mechanisms to load values into an individual's schema store
- For the SP
 - Be able to effectively use received attributes and make content display modifications accordingly
- For an attribute authority
 - Offer patients the option of providing ISO schema settings.

Mark metadata

- Who issued and availability of audit
- Duration
- Revocation mechanism
- Icon/Logo
- Several other characteristics
 - Xml

Trust frameworks

- A collection of marks and elements/values that evolves over time as the COI business needs grow.
- Can follow the IETF RFC keywords with MUST/SHOULD/MAY,
- Dynamic –
 - some of those keywords changing over time (e.g. from SHOULD to MUST)
 - New marks being added to the framework
 - Operational changes to support scale and interoperability

InCommon Trust Framework today (refactored)

- InCommon operations runs according to the international R&E fed ops guidelines
- InCommon governance (description of elements)
- Members **MUST** op at basic and **SHOULD** run bronze; they **MAY** run silver)
- Members **SHOULD** support R&S mark
- Lots of other stuff

InCommon Trust Framework

tomorrow

- InCommon operations runs according to the IDESG fed ops guidelines (taken from another standards org)
- InCommon governance (description of elements)
- Members **MUST** op at basic and **MUST** run bronze; they **SHOULD** run silver)
- Members **MUST** support R&S mark and **SHOULD** support the accessibility mark and **SHOULD** support the end-user privacy management mark, etc.
- Lots of other stuff

Contributors

- And other elemental folks . . .
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