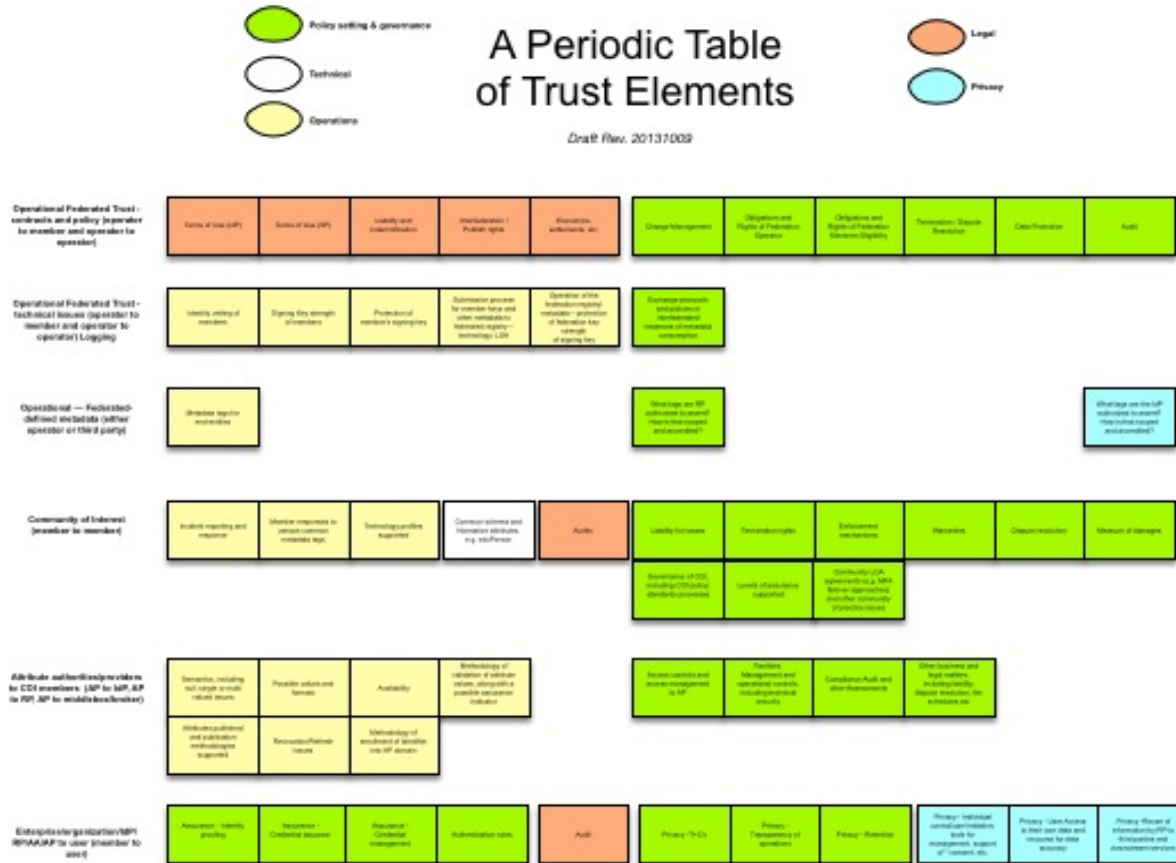


Of trust frameworks, marks and elements

- 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
- There are new elements still be discovered, and the organization of the table is malleable
 - E.g. Hub and spoke versus multi-lateral federations

A Periodic Table of Trust Elements



NOTE: The table is based on a multi-lateral full-mesh federation model. A hub-and-spoke federation model would move certain elements into other rows of relationships. A dynamic federation model, not yet well understood, could move elements around as well or recast elements.

The rows of the table

- Reflect layers of scale in the ecosystem
 - Relatively few federation operators at the top
 - Millions of organizations and billions of users at the lower layers
- The placement of policy decisions at certain layers is highly dependent on specific and COI circumstances
- 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

The rows of the table

- Federated operators elements
 - Policy and financial
 - Technical
- Operator to members elements
- Member to member elements (Col)
- Attribute authority elements
- End-user elements



A Periodic Table of Trust Elements

Draft Rev. 20131009



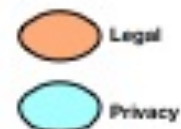
Community of Interest (member to member)

Incident reporting and response	Member responses to various common metadata tags	Technology profiles supported	Common schema and Normative attributes, e.g. eduPerson	Audits
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A Periodic Table of Trust Elements

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Community of Interest (member to member)

Liability for losses	Termination rights	Enforcement mechanisms	Warranties	Dispute resolution
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Governance of COI, including COI policy/ standards processes	Levels of assurance supported	Community LOA agreements (e.g. MFA fallover approaches) and other community of practice issues	Measure of damages
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Notes

- Most current version of the periodic table is at:
 - <https://spaces.internet2.edu/display/scalepriv/Useful+reference+documents>
- 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.

Possible Next Steps - 1

- Discover new elements, especially in the lesser explored wetware areas
- Expand the explanation per element
- Reclassify some of the elements (e.g. recolor them from operational to technical, or legal to privacy)

Next Step 2

- Begin to look for a set of complementary trustmarks that, taken together, provide a fairly comprehensive trust framework
 - E.g. a federated operators technical mark that could be coupled with privacy marks, accessibility marks, schema standards, etc.
- Identify points of consistency needed for interfederation and places where dynamic mappings can be done

A Possible Taxonomy

- Trust elements – specific issues, hopefully identified in the periodic table, that could affect the overall trustworthiness of an interaction
- Trust marks – a selection of elements, and values/processes/procedures assigned to the elements, that focus on a particular thematic issue, such as transactional privacy, accessibility, COPPA compliant, etc.
 - Trust marks may include elements from many layers of the periodic table, but with a specific certification in mind
 - Trust marks are not end-end
- Trust frameworks – a comprehensive set of elements, and associated values, intended to provide a general, end-to-end basis for trust
 - End-end includes every step in the trust chain, making it hard
 - User, IdP, RP, Federated Operator, Attribute authority, Portals, etc
 - Trust frameworks may be silent on many elements, awaiting community need, keeping an almost impossible task bounded