

Response by Kaliya Hamlin, Identity Woman

User-Advocate / Independent Expert

To [Docket No. 110524296-1289-02] Notice of Inquiry

Models for a Governance Structure for the National Strategy for Trusted Identities in Cyberspace

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Dear Patrick Gallagher and Jeremy Grant,

The challenge of fostering the emergence and governance of an Identity Ecosystem is vast. I do think it is possible for a thriving ecosystem to emerge with the application of the best of available organizational, deliberative and governance processes and structures.

The high level vision outlined in the NSTIC has buy-in from a broad group of stakeholders. Making it real will involve government participation with the private commercial sector and civil society groups (neighborhood associations, schools, religious institutions, sports leagues, advocacy groups). The government also can't abdicate responsibility and "just" collaborate with the private sector because its job is to be an advocate for the people and ensure that the guiding principles are not left behind because they are inconvenient or perceived to cost too much. The private sector is not just the largest IT companies, and government must remember to foster some space for new innovations to emerge. Government must in this startup phase develop with the broadest possible range of stakeholders, agree upon metrics (both qualitative and quantitative) for ecosystem health,

balance and success, and have in place systems to monitor and feed back to the system the results from the agreed upon indicators.

The danger of creating an unbalanced ecosystem (in a range of ways) is also present. On the one hand, because it could be easy for virtually any company online to request highly validated identities and require the presentation of identifiers associated with “real legal name” credentials for almost all transactions and comments. This is an inhibitor of civil freedoms and creates a participatory panopticon¹ situation. On the other hand, a diverse range of accountability networks may not get adoption because they are not well understood and transactions online decline or people retreat into private commercially-controlled silos.

My overall goal in this response is to outline several processes and structures that:

- cultivate shared language and understanding,
- collaboratively develop maps of common understanding of issues, ecosystem roles and value flows.
- facilitate efficient information sharing,
- provide efficient systems synthesis,
- provide unique analytical tools,
- allow the system to find pulse points to measure success and warn of imbalances,
- have the potential to foster broad legitimacy with disinterested citizens (who after all are the ones with the identities, identifiers and claims) and
- most importantly foster collaboration and shared action by a the wide pool of interested stakeholders working on making an Identity Ecosystem real.

I will describe how they can be applied to the development of, leadership of and ongoing accountability to all stakeholders of a “steering group”.

In the last 6 years I have worked with many talented systems thinkers, process innovators, facilitators and I invited four of them to contribute in this response with me. Section co-authors:

- Insight and Governance, Tom Atlee
- Value Network Mapping and Analysis, Verna Allee
- Polarity Mapping, Barry Johnston and Jake Jacobs

Because of the length and depth of my response I have added a Table of Contents beginning on the next page.

Please let me know if you have any questions about this document. I would be happy to answer them. I look forward to continued participation in this process.

Enjoy!

-Kaliya, Identity Woman

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Response Context for Kaliya, Identity Woman

My response to the NSTIC governance NOI is informed by my diverse professional expertise and experiences working in various communities over the last 10 years. I am responding to this as an individual I thought it might be helpful to give some background relative to this topic and my many organizational affiliations.

- I have been an end-user advocate since 2003. The tagline on my Identity Woman blog is “saving the world with user-centric identity”. Since 2004 I have been writing about user-centric digital identity relative to related identity perspectives like enterprise, higher education, mobile, government and security.
- I design and facilitate interactive conferences for professional / technical communities. My practice which is grounded in a network of professionals doing emergent organizational and systems design including the National Coalition for Dialogue and Deliberation and the Co-Intelligence Institute
- I am a leader in the user-centric identity movement via Identity Commons, organizing and hosting our main community event, the Internet Identity Workshop twice a year since 2005.
- The ten year history and experience of the Planetnetwork community began to consider how to foster trust could be fostered on the internet broadly which in 2000.
- My employment with the Identity Commons organization working on the development of distributed network systems like VISA international.
- Last year I founded the Personal Data Ecosystem Consortium to catalyze a personal data ecosystem where individuals have can collect, manage and get value from their personal data.

I began a personal-professional blog in 2005 choosing the domain name identitywoman.net. By that time I had already been an advocate for user-centric digital identity for over 2 years. I worked for the first Identity Commons from 2004-2005 and before that was network director at Planetnetwork, creating plans for a distributed social network for people and organizations that relied on persistent digital identity for people. (I think I am going to publish this finally and link to it) I study, write about and present about technology developments around identity technologies, and today I am widely recognized as one of the world's leading experts on user-centric digital identity.

I have for the past six years had a parallel second career designing and facilitating collaborative interdisciplinary workshops for working professional communities focused on solving challenging problems. I co-founded the Internet Identity Workshop with Doc Searls and Phil Windley in 2005, [just had this earlier on page] which has been a leading forum for innovation and the development of user-centric protocols and technologies such as OpenID, XRD, OAuth, Activity Streams, and the Salmon Protocol. I work with other clients helping them design conferences for their communities, including the Massachusetts Technology Leadership Council, The One Club for Art and Copy, the Engineering Biology and Medicine Society of the IEEE and the summits for the technology blog Read Write Web. I collaborated with Lucas Coffi and Wayne Moses Burk to design and facilitate Open Space workshops on Open Government2 that were

hosted in January of 2010 by the Department of Transportation. My professional development in this area of work is rooted in emerging practices from organizational development and system health discernment and governance. I am a founding member of the Group Pattern Language Project that over the past 2 years has developed over 80 patterns present in effective, high quality face to face group processes.

I first learned about persistent digital identity via the Planetnetwork community and was inspired by the potential it had to empower people in the world. This community network considered the emergence of what would be called today an Identity Ecosystem , as part of a series of thinktank (see Appendix 1) discussions between 2000 and 2002. It envisioned a global public commons platform for citizens, people and organizations to connect, self organize, and do business in a distributed network. It came to the conclusion that with persistent user-centric digital identity capabilities in a network, trust could become an emergent property of the network. They published a white paper in 2003, *The Augmented Social Network: Building Identity and Trust into the Next Generation Internet* on their site and the journal *First Monday*. A 10-page summary by Bill Densmore of the ASN White Paper is attached in Appendix 2.

Identity Commons is an initiative that arose out of that group. I was hired in 2004 by this emerging organization to evangelize two things:

- user-centric identity technologies which if adopted could give people their own name space on the web (like domain names but just for people) and the freedom to choose a registrar/host for their name/identifier.
- Its unique perspective on how that should be governed: by and for the people in a distributed system based on the same kind of organizing model that Dee Hock 3 had built VISA International upon.

Last year I founded the Personal Data Ecosystem Consortium to focus on catalyzing an ecosystem (many companies providing many different services that play competing and complementary system roles) where people can collect, manage, gain insight and get value from their own personal data. These tools for people to manage their own data, personally identifiable information and other sensitive, valuable information are market innovations that can actually solve some of the privacy dilemmas raised by the goals of NSTIC and current industry practices in the collection and aggregation of data about people without their awareness or consent. Our organization is supporting coordination and collaboration amongst the entrepreneurs working on new products and services. It is also coordinating with World Economic Forum Rethinking Personal Data Project which recently published *Personal Data: The Emergence of a New Asset Class* ⁴

Terms, Frames and Context

What is an Ecosystem?

The National Strategy for Trusted Identities in Cyberspace paints a broad vision for an Identity Ecosystem. The authors of the strategy's choice to name the big picture vision an "ecosystem"⁵ is an opportunity not to be lost and will inform the choice of processes and structures appropriate to govern it.

*An **ecosystem** is a biological environment consisting of all the organisms living in a particular area, as well as all the nonliving, physical components of the environment with which the organisms interact, such as air, soil, water and sunlight.*⁶

This definition reminds us that the context of an Identity Ecosystem is broad and goes beyond just the identities of people and devices but extends to the contexts in which they operate and interact. The network and indeed the wider world. When we discuss digital identities of people it should not be forgotten that we are each fundamentally biological beings living in complex social systems composed of groups, organizations and businesses, all socially constructed⁷ and embedded in a larger context, the biosphere surrounding the planet earth.

An overall Identity Ecosystem is needed because small islands of identity management online are working, but they have not been successfully woven together in a system that manages the tensions inherent in doing so and ensures the long term thrivability⁸ of the overall system.

Ecosystems have individual organisms within them, interacting in various ways and together, one could say collaborating; with their overall environment there are emergent properties and services needed to make the whole system work. In human systems, we also communicate in many ways including via language.

Ecosystems Collaborate using Shared Language

Collaboration is a huge theme in NSTIC this is the first mention of it and it is used.

*The National Strategy for Trusted Identities in Cyberspace charts a course for the public and private sectors to **collaborate** to raise the level of trust associated with the identities of individuals, organizations, networks, services, and devices involved in online transactions.*

Collaboration, as defined by Eugene Kim a collaboration expert and the first Chief Steward of Identity Commons, occurs when groups of two or more people interact and exchange knowledge in pursuit of a shared, collective, bounded goal⁹.

To achieve the challenging goals set out in NSTIC such as raising trust levels around identities, high performance collaboration is required. Both shared language¹⁰ and shared understanding¹¹ are prerequisites for high-performance collaboration.

This is a powerful excerpt from Eugene Kim's blog about two experiences from technical community participants that paints a clear picture of the importance of time for and the proactive cultivation of shared language:

Drummond Reed recently wrote about the Identity Rights Agreements session at last month's Internet Identity Workshop. While the outcome was fruitful, Drummond wrote, "The biggest frustration was that after an hour and fifteen minutes we were just really getting started – we needed a good half-day on the subject."

Jamie Dinkelaker told me a similar story last year in describing a OA gathering of gurus. The goal was to share knowledge and to advance the state of the art, but the participants spent most of their time arguing over the definition of "services."

The problem in the first case was with expectations. The participants should have expected some ramp-up time would be necessary to get started, because they needed to establish some shared language. The problem in the second case was with process. The participants did not have an effective strategy for developing shared language and thus, the latter ended up monopolizing the whole workshop.

Shared language is a prerequisite to collaboration. Without shared language we can't collaborate. It's as simple as that. When a group tries to collaborate without having shared language, the group will try to create it, whether it's aware of it or not. This creation process is often frustrating and painful, and as a result, people sometimes try to skip this step or belittle the process. This is a problem. **You can't skip this step.**

When designing collaborative spaces — both online and face-to-face — you have to build in time and space for developing shared language.

If you examine every good collaborative, face-to-face process for large groups, you will find that all of them generally recommend a minimum of three days. I haven't found a rigorous explanation for why three days work so well, but the pattern is consistent, and we can certainly speculate. Much of it has to do with building in enough time to develop shared language....

The first day is always about developing shared language. MGTaylor calls it the "Scan" day. Phil Windley [I co-produce of the Internet Identity workshop with him] calls it the "butt-sniffing" day. Regardless of what you call it, you need to design for it. It's going to happen whether you like it or not. The question is whether or not it will happen effectively while leaving time for action.

There are two myths regarding how you create shared language. The first is that "shared" is equivalent to "same." They're not. **Shared language means that you understand how others around you are using terminology.** Some level of sameness is obviously useful, but when you're dealing with something relatively complex, sameness is both impossible and undesirable.

- Developing Shared Language¹², June 9, 2006 by Eugene Kim

Developing shared language is a messy problem, because communication is a messy process. A good collaborative process recognizes this messiness and factors it in¹³.

- Explanation from Eugene's Blue Oxen Wiki

Is there currently shared language amongst the identified NSTIC stakeholders?

No. I participated in both the NSTIC governance and privacy workshops in June and did not find there was shared understanding or language amongst stakeholders gathered. I did experience shared language and understanding with the people who I knew from the user-centric identity community (and its neighbors) but there are many new stakeholder groups that I was unfamiliar with and found in many conversations that people were talking past each other constantly. This experience of not having shared language was one of the reasons the breakout group conversations were not productive and many experienced frustration.

Eugene Kim notes that that shared language is not developed by intentionally agreeing to agree on language. The shared language emerges from conversations and the meaning exchanges within those. Thus the glossary in the back of the NSTIC does not beget shared language (it does define terms as used in the strategy document).

Co-Evolution of Shared Language and Identity Collaboration

We (the Internet Identity Workshop / user-centric identity community) have been successful over the last 6 years in part because the format of many organic opportunities shared language to emerge leading to greater and greater collaboration. The community began when some of us found each other at Digital Identity World conferences. There were only a few very user-centric focused people and we stood out amongst the enterprise oriented attendees. We liked each other so started a mailing list, then Doc Searls a bunch of us to be on Steve Gillmore's Gilmore Gang December 31, 2004 and thus "the Identity Gang" was born. *Everyone* in the community listened to that particular podcast as it was sent out via e-mail to the community list. So talking on mailing lists was a traditional way of talking about shared topics of interest.

We were very lucky a new medium was just really breaking through and provided space for us to express our points of view and connect dots between different perspectives and meanings. Doc Seals encouraged many of us to begin blogs and in 2005 the way you came to have an identity (you felt you belong and other people identified you as belonging) within the community. At the time we approached there were over 50 who's blogs touched on user-centric identity ideas and concepts. Today the Planet Identity blog maintained by Pat Patterson (SuperPat) has 172 blog rss feeds aggregated. If you blog about identity you just ping him and ask to be added. The ability to pull a blog feed in from one place and see all of the posts from the community members was yet another way we fostered shared language.

Debates raged in these mediums about the meaning words and seeking to understand profound questions.

- Is it a claims or an attribute?
- What is Identity anyways?
- How is a digital identity different then an identity?
- Are identities really just identifiers?
- Why is direct identity important?
- Why is selective disclosure important for privacy?
- Is the domain name space enough or should there be a namespace for people?

Thought leaders like Kim Cameron published his Laws of Identity in 2005 on his blog, one a week. The suspense that was great as everyone anticipated the next one's arrival and then people commented on Kim's blog, wrote posts on their own blogs and discussed on mailing lists. We enjoyed talking with one another about the ideas and exploring how they could be articulated in software and digital systems and made real. People piped on the list about events they were going to like PC Forum (Esther Dyson's conference that used to be in Arizona) or Burton Group Catalyst in San Diego. More people pipped up and said they would come too and hey can we have a meetup. We would ask the organizers for space to meet and they were glad to make space available for the 10-20 of us that showed up. So these face to face conversations were layered onto an active community conversations in written form online. Then we would feel just like Drummond did in the story Eugene told above that the conversation was just getting going when we ended.

After a few of these meetups several of us began to consider the possibility that we needed to host our own mutli-day conference. It was then that Doc had heard both Phil Windley and myself talking about putting on events for the community - he connected us and we agreed to work together on the first IIW which happened in October 2005 (link to original wiki in foot notes 14). Phil was a professor at BYU and so presentations of papers was the normative format of presentations that he brought to the first day of the event. We invited all the technologies that were user-centric in orientation to present and heard 8 presentations that day. This was the first time these technologies had all been in one place and everyone shared what their tech did and how it worked. Everyone hearing everyone's presentations at that event added to yet more shared language development.

At IIW #1 Paul Trevithick shared an early draft of the community (we had been informally calling ourselves the "identity gang" as a sort of inside joke since the Gilmore Gang Podcast) lexicon that he led collaboration on for months and asked for more input from the 80+ people gathered. Before the community began work on what could have been a contentious exercise to do it for its own sake they collaborated on defining a goals and methods. It was scoped narrowly and met real needs and the goal

Identity Gang Lexicon

Goal

To create a minimal set of terms that enable discussion of the technical operations, technical architecture, and user experience of user-centric identity systems.

Method

- 1. The terms should be as few in number as possible and build on one another.**
2. To be as accessible as possible we may have to avoid using single words whose meanings are either too broad or are overloaded in common usage, and instead use multi-word combinations. For example, we will define "digital identity" to have a single specific meaning and avoid using the single word term "identity."
- 3. If we're successful one should be able to easily visualize what the digital manifestation of a given term might be.**
4. There are several other existing sources of definitions. Where these can be referenced, they should be.
- 5. We will use as a starting point the three terms put forward by Kim Cameron in his Laws of Identity: Digital Identity, Digital Subject, and Claim.**
6. Each term will have a concise and carefully edited description. Comments on these terms should not conflict with the definition, but should provide insights on the definition from multiple perspectives. In the interest of color and nuance these comments will not be held

was achieved. The community who had been intensely debating the nuances of these words and related concepts intensely finally had a shared place to point at where they had collaboratively agreed on the meanings for certain key words and agreed to stick to those meaning when writing in the future. It solved problems everyone was having being understood and understanding and its completion was as cause for celebration. It this small success grew trust in the community and a willingness to take more effort in the future to collaborate in ways that went beyond the explicit creation of shared language.

I knew of this great method called Open Space Technology which let people self-organize a schedule for a conference in real time. Instead of just talking at each other for one day, why not gather again in the morning and try this format out. Phil had never seen it done before, but what was the harm, maybe we would get something done. It turns out that day was when OpenID was founded - through the conversations that lead to the shared understanding between 2 (OpenID and LID/ Lightweight Identity) then 3 (XRI) then 4 (sxiip) different technology protocols. They all agreed to meet up again after IIW and continue working on a shared way to do endpoint discovery for URL-based identifiers that could do authentication for login. Through conversation at the conference, they learned about the XRDS format (eXtensible Resource Descriptor Service) within another already existing standard XRI and this new thing for a short time was called Yadis (jokingly for Yet another digital identity service). Shortly after it was agreed that OpenID was the best name amongst the bunch and so it became OpenIDv2.

Aldo Casteneda's Podcast the Story of Digital Identity had 60 episodes recorded over 2 years. He was a working on a thesis his law degree and decided that as part of doing research for that he would reach out and connect to people who were blogging about user centric digital identity and related subjects and interview them. These interviews helped people connect to each other across time and space learning more about them, their world view in a way that was different then reading about it on a blog or in e-mail.

The collaboration that was present at the first IIW did not "just happen" the community worked together using in shared spaces (mailing lists podcasts, conference rooms, our own conference), with shared displays (wiki's, white boards). We are very lucky to have Eugene Kim a collaboration expert give us good advice about practices (both online and offline) to use that mapped to proven patterns of collaboration¹⁵. His advice also steered us away from making organizational choices as a community that were likely to disrupt it.

Since the first IIW I have designed and facilitated over 150 events that are participant driven. The most amount of time I will allow for one person at the front of the room talking at people is 1/4 of the total conference time. The rest is spent in a variety of methods depending on the goals of and

The Lexicon was developed by the Identity Gang it is a resource for the whole community to have a shared language. The following terms and definitions have been compiled since August 2005. See also Lexicon Goal and Lexicon Style Guide.

Agent

Claim

Claimant

Digital Identity

Digital Identity Provider

Digital Subject

Entity

Identity Attribute

Identity Context

Party

Persona

intention for the event they are designed, and varying degrees of convergence and divergence. Just as Eugene knows collaboration, I know face-to-face group process, both intuitively and because I study. Two years ago I was part of founding the Pattern Language of Group Process project (www.grouppatternlanguage.org) that names and articulates core patterns for good gatherings.

With these two things, the very best advice regarding good patterns for ongoing community collaboration online, and my talent for creating and holding space for the community to gather and self organize to get the work it wanted to get done, every 6 months at IIW and other satellite events.

In 2005-6 the Identity Gang /user-centric identity community was 1/10 the size of the current NSTIC stakeholder community. It took us a year of active grassroots effort to develop enough common language and shared understanding to collaborate. NSTIC doesn't have 5-10 years to coalesce a community that can collaborate to build the Identity Ecosystem Framework. To succeed the National Program Office must use processes that bring value and insight while they also develop shared language and understanding amongst stakeholders participating. Fostering the conditions for high-performance collaboration amongst the community to emerge must be a top priority for the NPO. One way to do this is to use Value Network Mapping and Polarity Mapping intensively convening with stakeholders locally around the country and at industry events throughout the fall. If this is done it is my sense that the community of NSTIC stakeholders will know how it wants to organize to create a thriving ecosystem enough shared language, understanding by January.

Alignment is congruence of intention, whereas *agreement* is congruence of opinion.

Alignment as congruence of intention is congruence of resolution for the attainment of a particular aim. An aim being in and of the future, unknown or unpredicted variables inevitably enter the generative equations for its achievement. Inherent in alignment, therefore, is the spirit of quest.

The spirit of quest generates open and evolving dialogue-in-action. Participants of a quest bring in diverse points of view while remaining united in the same quest. When they jointly choose a course of action, they know that the choice is a tentative mutual agreement, to be modified, altered, or even discarded along the way. The question is not "who is right" but "what is best" for the fulfillment of the intention.

In an alignment-based organization or movement, disagreement among participants does not diminish but rather enhances the power of the alignment and its synergetic impact. Plurality and diversity of ideas and views, united in a shared intention, mutually enrich one another toward the achievement of an end. In an agreement-based organization or movement, on the other hand, disagreement among participants often leads to internal strife, divisive politics, splitting into cliques, or eventual demise.

An agreement-based organization can transform itself to an alignment-based organization by shifting its value focus from agreement to alignment, from opinion to intention. **Alignment is not a static state; it is a dynamic process of constant aligning and realigning in the continual movement of time through the timeless commitment to an intention.**

People who differ in their opinions can align in their intentions. No more do we need the usual politics of opinion-domination...What we need instead is a new politics of intention-alignment... beyond agreement or disagreement.

A set of critical challenges that face humanity today includes the challenge of whether or not we can shift our value focus from opinion to intention, whether or not we can affirm common intentions, whether or not we can transcend differences of opinion and unite in common intentions, whether or not we can forge a planetary alignment for the achievement of our common intentions, and whether or not we can reconcile seemingly conflicting or misaligned intentions.

From: Alignment Beyond Agreement
By Yasuhiko Genku Kimura

Alignment

Shared understanding arises from shared language. When groups are collaborating effectively together a recognizable pattern emerges shared understanding. This means there is unity of goal/mission/vision so that the question "what are we trying to do" doesn't really come up any more. Within this pattern collaborators aren't in group think but agree about their disagreements and understand what they are trying to do together.

Eugene Kim, the first chief steward of the current Identity Commons, is an expert in collaboration, he, along with colleagues created The Squirm Test to measure the level of shared understanding in a group

The Squirm Test is performed on a group of people collaborating on something together. You get all of the people in a room, seated in a circle, and sitting on their hands.

The first person then stands up and spends a few minutes describing what the group is working on and why. No one is allowed to respond except to ask a clarifying question.

When the first person is done, the second person stands up and does the same thing, articulating the group's goals and motivations in his or her own words.

Everyone in the circle speaks in turns.

You can measure the amount of Shared Understanding in the group by observing the amount of squirming that happens during the process.

The squirm test is qualitative it is a repeatable and measurable and visible to the whole group that does it.

Is there currently shared understanding and alignment amongst the identified NSTIC stakeholders?

No. I often find myself squirming while listening to fellow NSTIC stakeholders articulate their ideas about what we are doing with NSTIC. I imagine with all the comments I have made from a user-advocacy perspective that others have squirmed when I have spoken. Because I feel myself squirming often and I see others squirming too, I know there is limited shared understanding amongst NSTIC stakeholders.

Growing shared language and understanding is going to be key to NSTIC's success. In the Ecosystem Maps section of this response I outline two processes that will grow shared understanding across stakeholder groups and likely support progress towards the emergence of shared language which is a prerequisite for high-performance collaboration.

The Many Goals for the Identity Ecosystem & NSTIC Governance

The NSTIC governance NOI articulates many key activities, qualities and goals for a governance system for NSTIC. It must:

- convene a wide variety of stakeholders to facilitate consensus
- administer the process for policy and standards
- development for the Identity Ecosystem Framework in accordance with the Strategy's Guiding Principles
- maintain the rules of participating in the Identity Ecosystem
- be private sector-led
- be persistent and sustainable
- foster the evolution of the Identity Ecosystem to match the evolution of cyberspace itself.

Achieving these goals will require high-performance collaboration amongst the steering group and all self-identified stakeholder groups. It will also require earning the legitimacy from the public at large and using methods that surface their experience of the Identity Ecosystem Framework as it evolves.

What processes and structures are needed to meet the goals of NSTIC?

Governance structures, process and methodologies developed in the last 25 years that use whole-systems sensing, listening, insight and direction finding, will be needed to meet these requirements and make the NSTIC vision real. Some of them are outlined in the Insight to Governance section below.

Its a Wicked Problem

The problem of planning, catalyzing the emergence of and then governing an Identity Ecosystem is a "wicked problem"¹⁷, characterized by the following:

- The solution depends on how the problem is framed and vice-versa (i.e. the problem definition depends on the solution)
- Stakeholders have radically different world views and different frames for understanding the problem.
- The constraints that the problem is subject to and the resources needed to solve it change over time.
- Every implemented solution is consequential, it will leave a trace and can not be undone.

It follows that ecosystem problems are so complex they never can be solved definitively. This is true for identity is it fully defined by the individual? or defined by the social context the individuals finds themselves? Well its both.

The Trouble with Trust

There are many definitions of trust, and all people have their own internal perspective on what THEY trust.

As I outline in this next section, there is a lot of meaning packed into the word “trust” and it varies on context and scale. Given that the word trust is found 97 times in the NSTIC document and that the governing body is going to be in charge of administering trust marks to trust frameworks, I thought it was important to cover.

I can get behind this statement: There is an emergent property called trust, and if NSTIC is successful trust on the web would go up, worldwide.

However, the way the word “trust” is used within the NSTIC document it often includes far to broad a swath of meaning.

When spoken of in every day conversation trust is most often social trust.

Trust in a social context¹⁶ *The typical definition* of trust follows the general intuition about trust and contains such elements as:*

- *the willingness of one party (trustor) to rely on the actions of another party (trustee);*
- *reasonable expectation (confidence) of the trustor that the trustee will behave in a way beneficial to the trustor;*
- *risk of harm to the trustor if the trustee will not behave accordingly; and*
- *the absence of trustor's enforcement or control over actions performed by the trustee.*

When discussing digital systems there is another meaning for trust related to cryptography and security and other policy enforcement.

- ***Computational Trust***¹⁷ - *In Information security, computational trust is the generation of trusted authorities or user trust through cryptography.*
- ***Trusted Systems***¹⁸ - *In the security engineering subspecialty of computer science, a trusted system is a system that is relied upon to a specified extent to enforce a specified security policy. As such, a trusted system is one whose failure may break a specified security.*

The choice of one individual to trust another depends on who they are, depending on the context, relationship and other factors. This can change and perhaps be tracked.

Trust Metrics¹⁹ -*In psychology and sociology, a trust metric is a measurement of the degree to which one social actor (an individual or a group) trusts another social actor.*

Trust also operates on different scales

In *The Speed of TRUST: The One Thing That Changes Everything*, Stephen M.R. Covey articulates 5 different ones. I think this model is helpful because it highlights how much trust means and how it operates differently at different scales.

He starts with people trusting themselves: **SELF TRUST**

Are we credible to ourselves?

- Do we have integrity are we congruent inside and out and walking our talk, living in accordance with one's own values and beliefs?
- What is our intent when interacting with straightforward motives based on mutual benefit?
- What are our capabilities? Do we have the ability to establish, grow, extend and restore trust? What abilities do you have that inspired confidence, talents attitudes, skill, knowledge, style.
- What are our results? Do we get the right things done, are they done well and what is our consistency of results or tack record?

People in the Quantified Self movement are actually using digital devices and sensors to track themselves. They are using data analysis tools to see how fast they ran or what their caloric intake was. One of the reasons people track themselves to work on improving themselves, set goals and measure achievement over time. As they achieve results towards a goal they increase their credibility - their self trust.

He moves to people trusting each other: **RELATIONSHIP TRUST**

One cultivates this kind of trust with others when one behaves consistently in ways that build trust. People are biologically wired to track behavior of others and form opinions about trustworthiness in real time, all the time balancing a wide array of variables. One way to simplify this is to imagine that with every person you interact with you have a "trust account". The way you make deposits "In" to someone's bank account is to have consistent behavior. Deposits are withdrawn from the "account" when you aren't consistent in following agreements.

Behaviors he believes generate trust:

- | | | | |
|--------------------------|-------------------|-----------------------|----------------|
| *Create Transparency | *Deliver Results | *Clarify Expectations | *Extend Trust |
| *Demonstrate Respect | *Get Better | *Listen First | *Talk Straight |
| *Practice Accountability | *Confront Reality | *Keep Commitments | *Show Loyalty |

People are really different: different kinds of behaviors matter more or less and therefore they affect the current balance on any person's given trust account account differently.

The Identity Ecosystem is an online environment where individuals and organizations will be able to trust each other because they follow agreed upon standards to obtain and authenticate their digital identities and the digital identities of devices. The Identity Ecosystem Framework is the overarching set of interoperability standards, risk models, privacy and liability policies, requirements, and accountability mechanisms that govern the Identity Ecosystem.

This quote from NSTIC makes a big assertion that trust is going to flow between people because they followed agreed-upon standards to obtain and authenticate their digital identities.

The implicit use case is that an individual, lets say her name is Jenna, goes to an attribute verifier service provider like her retail branch bank with attributes like drivers license, latest utility bill and that she has also had a bank account with them for 5 years. They check Jenna's physical world credentials and then issue a digital token she can use to do 2-factor authentication online. The digital token, when she goes online, presents Jenna's name as written on her driver's license.

I see three behaviors that are happening by doing this are:

Confronting Reality - there is a reality for most people in western liberal democracies that the government of the county or province you were born issued you a paper saying so, and this ironically named breeder document begets you more forms of identification. There is also a reality if you have not been using your real name you now will be. The reality is that the location where you happened to emerge out of your mothers womb can have a huge material effect on your life depending on where it was.

Creating Transparency - Jenna is also linking her real name to an account which that when she uses it will be transparent about who she is and let everyone know. This means people who look her up online can find her street address in real life. Well, it turns out this creates a vulnerability anyone because they can find where her house is, stalk her or make threats against her.

Practicing Accountability - Jenna is practicing accountability, that is the ability to be accountable. If she took an action that is criminal online, others would be able to trace her by the real name she was using; even if she was mildly socially rude they would know to withdraw from her "trust account".

There are nine other behaviors really matter in human to human trust relationships but which are not covered in any way by the standards for obtaining and authenticating digital identities - the so-called trust frameworks.

There are other things that don't add up about this scenario when you map them to how people trust one another in everyday life. I don't trust people because I know their legal name because I checked it on their drivers license. in physical space, I see someone I know and I know it is them because they are in the same body form they were last time I saw them. This verisimilitude to the mental picture I have of them allows me to do authentication visually. When I see them, I can pull up my mental trust account and see how much I have deposited in their account.

In the digital realm, I anchor my mental trust account that I hold for people to an identifier. I need to have confidence that the system they use to authenticate (using a user name and password) is secure, that it isn't someone else logging in and "being them" because they control the identifier.

When people interact with businesses, they use similar mental models for judging trustworthiness based on observed actions and experiences. The use of the phrase “trust framework” by its very name implies that those who have complied with its requirements are trustworthy **because** they had a standard way to obtain a digital identity and authenticate. There is a great diversity of particular behaviors that people use to make trust judgements. If people want to use one trust framework or another because they judge one or another ratings agency assesses it to be more “trustworthy” we have a very messy, convoluted conversation.

Moving up from people to groups of people working together: **ORGANIZATIONAL TRUST**

This mode of trust is about alignment of the structures, systems and symbols of organizational trust. If trust is low in an organization, then to compensate, certain behaviors or systems patterns emerge that are costly: Redundancy, Bureaucracy, Politics, Disengagement, Turnover, Churn and Fraud.

Stepping out beyond the membrane of the organization there is: **MARKET TRUST**

The perception of a business entity in the market place. This is where there are all kinds of services that help consumers navigate what products to buy.

Going beyond the business or nonprofit is: **SOCIETAL TRUST**

This is about giving back and contributing to the society and the commons. It is particularly important to give back to assets that one owns but everyone benefits from. It is vital that it be maintained because the other scales that trust operates at use this level as a support structure. This is where there is backup when other forms of trust fail and you can trust the court system to give you fair treatment when seeking redress.

“If NSTIC is successful trust on the web would go up, worldwide.” The trust in this sentence is at the societal level scale and I believe it is true. However the way to succeed in achieving this level of trust is not to name policy-tech frameworks throughout the system “trust frameworks”. I am very keen on NSTIC succeeding, however I am concerned that naming this critical part of the proposed ecosystem “trust frameworks” will actually generate mistrust of the system. So the term “trust framework” is the way policy-technology frameworks within the ecosystem are named and explained to the public. People ask themselves, why should we trust that? who made up the trust frameworks? They think to themselves I am the one who decides what to trust...don’t tell me to trust you. Given the recent large scale institutional breakdown trust in the banking system, consumers are skeptical of large publicly traded companies saying “trust us” we have a “trust framework” to protect you.

I highlighted the challenge with using the word trust for policy-technology frameworks at the NSTIC governance workshop and Jeremy Grant asked me if I had a better name. I do have a better name for trust frameworks. This is my alternative:

Accountability Frameworks.

Here is some of my reasoning:

- It is 2 words.
- It captures the heart of the intention behind their purpose - Accountability
- Accountability is achieved in these frameworks via both technology standards and policies that are adopted and audit-able.
- Trust remains an emergent property of these accountability frameworks.

- There can be real conversations by various stakeholders who may have different needs and interests about the nature of the accountability in different frameworks. They can look to see whether particular accountability frameworks are trustworthy from a particular point of view.
- It avoids the problem of talking about the "trustability of trust frameworks".

Trust is absolutely essential in the Identity Ecosystem. People must trust that the information they share will be handled with care, respected and that human dignity²⁰ is maintained by the individual actors within the Identity Ecosystem. This is achieved by having real accountability in the system around the user's rights to use their data being respected. When the system is functioning well and accountability frameworks are followed then overall systems behavior of the Identity Ecosystem will be trustworthy.

Questions of Governance

Accurate Assumptions in the NOI

An assumption that the NSTIC governance NOI gets right is that all relevant and affected parties must be involved or at least represented in the emergence and ongoing governance of an Identity Ecosystem.

“Representation of all stakeholders is a difficult but essential task when stakeholders are as numerous and diverse as those in the Identity Ecosystem.”

It accurately names the challenge that comes with the number of parties involved. With this vastness, it can become overwhelming to think of systems and processes that will be effective and inclusive on this scale. I have articulated in Appendix 3 a list of many different types of stakeholder groups representing a diverse array of interests.

Limiting Assumptions in the NOI

Given the need to meet the broad and potentially conflicting criteria to be successful, there are two assumptions embedded within the governance NOI that could limit the ability to find solutions that meet these criteria.

Voting as a Way to Govern Decision Making

3.6 Should all members have the same voting rights on all issues, or should voting rights be adjusted to favor those most impacted by a decision?

Voting is not really the right process to get consensus. Instead we can ask: are there ways to understand and know system health that support self regulating, distributed decision making by a range of stakeholders to achieve the goal of making an ecosystem with the qualities articulated in NSTIC real.

A Steering Group as THE Governance Structure

The establishment of this steering group will be an essential component of achieving a successful implementation of the Strategy [check where from]

Can a “steering group” really govern an Identity Ecosystem with the scope articulated in NSTIC? The challenge with defaulting to conventional systems like selecting representative stakeholder groups (say 150 of them) and then having an election of a “group” (10 of them) to carry out the above, is that this form can hold enough space to be truly govern with consensus at least about its legitimacy. Voting in modern elections is a 300 year old social technology; Roberts Rules of Order are over 100 years old; neither will successfully meet the challenge of creating an responsive Identity Ecosystem steering group. Neither was designed to foster consensus, but rather majority rule. The needs of the many groups who represent less than 1/2 of all stakeholders must be met in this system.

The Internet itself is governed by a multi-stakeholder approach, with different organizations having different authority, capacity and recognized field of governance. Clearly greater information sharing

and coherence across a diverse range of industry sectors is needed for an ecosystem of interoperable identities to emerge.

Natural systems do not govern themselves with steering committees and voting. The practice of looking at biological systems science for inspiration for technology and systems development is called Biomimicry (See Appendix 4). We can look to this body of work to consider how nature “governs” thriving ecosystems of diverse organisms. How are the services that we think of as “identity management” done in nature? How are networks facilitated so that information flows in trusted ways? I think it would be valuable to convene a diverse ad hoc group of stakeholders in an exploration of these kinds of questions with a biomimicry expert. The outputs and key highlights could be made public and might inform other big systemic cyber issues.

Who are the Stakeholders?

The Scope of People

The vision of NSTIC touches all sectors of US society and extends beyond the US because of the international nature of cyberspace. The protological landscape (the range of options enabled by the protocol stack choice) and policy frameworks must be incredibly broad to meet the needs of US citizens and global netizens. The number of individual stakeholders for systems of identity online stretches to everyone who uses network systems and with their now being 5 billion phones on the planet that is fast approaching every person on the planet. The diversity of the world population in terms of life experience is huge. The vast majority of people do not have are not privileged in one or more aspects of their life and the freedom to participate in cyberspace with anonymous and psyedonomous identifiers that enable them to transcend - or set aside “real world identity” is a key freedom that must be maintained even as more systems level accountability is developed.

Organizational Stakeholders

I have compiled a list of types of stakeholder organizations in Appendix 3 representing various interests and points of view in society that are essential to include early on.

Identity Commons leaders Mary Ruddy and Kaliya Hamlin worked with other participants at the NSTIC Privacy and Usability Workshop at MIT to brainstorm and then cluster over 50 organizations who are directly participating in and paying attention to NSTIC developments because they have some explicit focus or sub group focused on “identity”. They were subsequently made into a Wikipedia Book: NSTIC Stakeholder Organizations²¹. NSTIC is not just about the identity of people and their identifiers in cyberspace, but also the identity and identifiers of organizations. The range of associations and businesses is also vast.

2.3 How can the government be most effective in accelerating the development and ultimate success of the Identity Ecosystem?

The NSTIC NPO should, as soon as possible, host a space online where all known/participating stakeholders who want to be listed can be listed.

The starting point for this could be the list that came out of the MIT workshop and the Wikipedia book could be a starting point for their basic information. There should be a simple standard set of

information on each organization, including how they see themselves as a stakeholder in NSTIC, what they hope to contribute to it, what they are most concerned about and what they want to collaborate with other stakeholders on. There might be a matchmaking role that the NSTIC NPO could play, proactively introducing stakeholders to one another so that potentially synergistic collaboration is enabled.

Supporting the stakeholder groups in learning more about one another is very important. One way to do that would be via a 2-3x weekly podcast, perhaps increasing it to a frequency sufficient to interview all known stakeholders.

All major industry conferences that are related to the industry or focus of the organization should be listed on a calendar that has some sophisticated search with queries on cities, dates and industry. This will help with cross-pollination which is essential right now for the proactive development of shared language and understanding.

There should also be a way for people who are actively working to collaborate to find one another both online and off. NSTIC can use the list of all the conferences in all industries that are significantly touched by NSTIC that are going as a starting point to encourage/enable “meetups” amongst professionals to connect around NSTIC.

- Having a way for people going to a conference to find other interested people on your site and from there self-organize.
- Contact the program organizer and see when it works to have one and get it on the program even in Jeremy isn't going.
- Give people who want to have a BOF at a conference a package of study materials for professionals that the leader can hand out, following with a discussion. Jeremy could also make a video inviting people to participate.
- Encourage cross-pollination between industries. One way might be to pick a conference in a particular city. Organize the professionals from within the conference and the local interested professionals from a broader range of industries to meet up (perhaps for dinner).

If this sort of informal connecting, socialization and learning is happening then there should be a way for interested professionals to report back from the meeting, post notes, record a video, send in a diagram. This could create some interesting cross-stakeholder conversations.

Socialization of NSTIC in IT professional communities is very important right now, because they are going to need to know something about this when it becomes time to socialize it with the public. They also can be a pool of not-directly-involved stakeholders to be tapped to participate in things like the Community Insight Council.

Effective Information Sharing

Knowing what groups are in an ecosystem is a key first step but information sharing and coordination between organizations and communities who are participants in an ecosystem is key to getting it to become real.

I have heard it said more than once by those seeking to develop tools and systems for this emerging identity ecosystem, that they wish there was just “one place” where it all could be found, where all the technology would be developed. Given the vast number of organizations this is never going to be the case but what we can facilitate is much more robust information sharing systems across technical standards development organizations and communities focused on solving key challenges for a real ecosystem. The NOI asks this question:

1.2. Are there broad, multi-sector examples of governance structures that match the scale of the steering group? If so, what makes them successful or unsuccessful? What challenges do they face?

Identity Commons was originally founded in 2001 by Owen Davis and Andrew Nelson to foster a user-centric identity layer of the web that the people “owned”²². In 2007 the communities that gathered at the Internet Identity Workshop retained the purpose and principles of Identity Commons but transitioned to become a 501(c)6 organization linking and connecting efforts across a range of different communities and organizations. Groups working on issues touching on user-centric identity did not have to leave their respective standards body or academic institution to join. Totally independent organizations could also join and groups that had not yet formed as their own organization or subsection of another organization could also join.

Identity Commons

Purpose

The purpose of Identity Commons is to support, facilitate, and promote the creation of an open identity layer for the Internet, one that maximizes control, convenience, and privacy for the individual while encouraging the development of healthy, interoperable communities.

Principles

- 1. Self-Organization.** Enable any working group to self-organize at any time, on any scale, in any form, around any activity consistent with the Purpose and Principles.
- 2. Transparency.** Fully and transparently disclose the Purpose and Principles of each working group, any requirement of participation, and any license or restriction of usage of its work product.
- 3. Inclusion.** Conduct deliberations and make decisions by bodies and methods that reasonably represent all relevant and affected parties.
- 4. Empowerment.** Vest authority, perform functions, and use resources in the smallest or most local part that includes all relevant and affected parties.
- 5. Collaboration.** Resolve conflict without resort to economic, legal, or other duress.
- 6. Openness.** Conduct, publish, and archive communications in a manner that facilitates open and trusted interactions within and across all working groups and the public Internet.
- 7. Dogfooding.** When feasible and appropriate, employ the work product of Identity Commons working groups to facilitate the operation and interaction of Identity Commons itself.

Identity Commons focuses on information sharing and playing a loose coordinating role as a form of providing relevant information to groups, to support informing their governance and decision-making relative to other groups, communities and organizations. It has a purpose and 7 principles that provide guidance for its community governance.

Above all else they share a purpose; this links them together across their diverse approaches and foci. There is a subtlety to these principles and how they help groups collaborate and share. The transparency principle is not about all information of all groups being open, but rather asking groups to be clear about how they operate and work, to be transparent about the level of transparency. Groups fill out a “charter”, meaning they answer some key questions about what they do, why they do, what they do and how they do it (their governance, and transparency level). Because all groups do this in the same format, it is easy to compare and understand the function of groups and the role or purpose they play.

Open information sharing like Identity Commons aspires to provide is a public good but essential for ecosystem health. Identity Commons has always had a vision of supporting the collection and aggregation of RSS news feeds from groups and relevant efforts. It also does share some information about events focused on key issues across the groups. There is a community call once a month where the stewards of each group share an update about their past and upcoming activity.

To date this organization has been led by volunteers and what funding has come in has been very small contributions from the main community event the Internet Identity Workshop. This has limited its ability to fully build out the technical infrastructure and people resources needed to curate this flow of information. To date it has been challenging to find funding mechanisms for organization networks and forms like that allow them to thrive and fully fulfill their purpose.

The NSTIC national program office should consider how information sharing networks systems like this are robust enough to support the level of information sharing and coordinating needed for a thriving ecosystem. It may be that the program office can fulfill this role particularly if also hosting the stakeholder wiki/list. Collecting and aggregating and organizing information flowing to and from these organizations is not governance but a key public good role that would be appropriate for government to play in facilitating the emergence of an ecosystem.

Structure of the Steering Group

1.1. Given the Guiding Principles outlined in the Strategy, what should be the structure of the steering group? What structures can support the technical, policy, legal, and operational aspects of the Identity Ecosystem without stifling innovation?

A systems approach must be taken using methodologies for structure and process that are holistic and adaptive over time. They must provide insight into the overall function and health of the ecosystem and give people who are leading organizations within the ecosystem a clear picture of where to intervene, how to adjust their behavior/actions relative to the players and for the overall good of the system. It must support new innovation while at the same time addressing new security threats and risks and be adaptive to social and cultural changes.

2.1. How does the functioning of the steering group relate to the method by which it was initiated? Does the scope of authority depend on the method? What examples are there from each of the broad categories above or from other methods? What are the advantages or disadvantages of different methods?

Understanding the current system(s) is a key first step to understanding how spin up, to initiate systems to “steer” towards greater interoperability and more coherence across a broad range of identity providers, attribute providers, relying parties and other diverse players while meeting the needs of individuals to manage their context and presentation of self (personae).

Polarity Management and Value Network Mapping and Analysis are two processes I have in my workshop design and facilitation practice. These methods can foster consensus about the current state of the systems that are proposed should converge into an ecosystem. Stakeholder groups participating will gain insight into the “goal” the eventual structure and quality of a thriving Identity Ecosystem. This shared vision will allow many organizations to take their own action appropriate for them based on shared systems insight and need not involve checking in with the “steering group” to see if they are going the right way.

The steering group by convening these systems level mapping efforts for all to see Thus “steering” towards the goal without necessarily needing a “steering group” to take that action.

Value Network Mapping and Analysis can address these kinds of questions:

- How do the systems that are envisioned to work together in a broader ecosystem articulated in NSTIC work today?
- What are their roles in these systems?
- How does value flow between roles in the system?
- Do these roles and value flows look very different in different industry sectors?
- What would be needed to make non-interoperable systems more interoperable?
- Is the picture of value flow in a larger, more interoperable ecosystem sustainable?

Polarity Management can address these kinds of questions:

What are the inherent tensions present when doing identity management for people and organizations?

How are these tensions managed today and how could they be effectively managed on a systems level within an identity ecosystem?

2.3. How can the government be most effective in accelerating the development and ultimate success of the Identity Ecosystem?

The government can be most effective in accelerating the development and ultimate success of the Identity Ecosystem by fostering shared understanding and with that broadly accepted consensus answers by a range of stakeholder groups to these questions listed above. With these shared collaboratively developed understandings ecosystem governance process and structures will become clear. Both of these methods should be lead in parallel by the NSTIC Program office and involve stakeholders via face to face and online sharing of iterative outputs as the processes unfold. Both could be completed by the end of this calendar year.

Ecosystem Maps - Present, Evolving, Future

Polarity Management:

Section co-authored with Barry Johnson and Jake Johnson

Polarities

Natural systems thrive when polarities are in dynamic balance - breathing in and out is a polarity humans leverage moment to moment. At the same time, we must attend to more than our Inhaling **and** Exhaling. We must attend to where the oxygen comes from and where the carbon dioxide goes. Paying attention to polarities within a part of the system is important to sustain life and, it is not enough. The part must also pay attention to the other parts and the whole for its own survival. With any polarity, it is always in the long-term interest of each pole to take care of both poles.

The Part **and** Whole polarity is available to be leveraged at every level of system. The individual cell in an organ; an organ in an organism; or, an organism in a larger community. We are talking about the development an Identity Ecosystem as a human techno-social systems ecosystem where polarities need to be leveraged. It seems appropriate as a way to gain insight and agreed upon signs of systems health to identify key polarities with stakeholders and monitor how well they are being leveraged over time. This ongoing assessment allows for informed self-correction as part of the dynamic balancing of the polarities in response to changing circumstances.

Polarities in the Strategy

The NSTIC Document clearly articulated many inherent tensions - polarities that exist when considering the formation of an identity ecosystem. This expression of polarities was one reason it was so well received by such a broad range of stakeholders. These stakeholders reflect different points of view relative to some key polarities. Those with perspectives that are on opposite ends of a polarity could see their point of view reflected in the outline of the broad vision. To make an ecosystem function the vision must be grounded and the tensions leveraged in service of each stakeholder group and the whole ecosystem.

Mapping the key polarities and getting broad stakeholder agreement on how to leverage them creates a process and structure to successfully negotiate the tensions between “opposing” stakeholder groups. It is also possible to assess how effectively a list of key polarities are being leveraged. This can be done by an unlimited number of people who only need to have access to the internet. The results can be broken down by any combination of demographics built into the assessment at the front end. The assessment also includes “Action Steps” and “Early Warnings” created with the stakeholders which support the effective leveraging of the key polarities.

When a polarity that we actually need to leverage, is instead treated as if it is a problem that we need to solve, those favoring different poles get into a power struggle over which pole will dominate. This leads to a vicious cycle in which everyone loses. The system loses first as energy is wasted in the either/or fight between the two poles. The system loses, again, when one side wins, because the result is to also get the downside of the “winners” pole. Then the system loses, yet again, when it actually finds itself with the downside of both poles.

On the other hand, when a polarity is identified as a polarity, it is possible to leverage both poles in a way that creates a virtuous cycle supporting both poles and the system as a whole. This is why it is important to be able to identify and leverage key polarities in the systems we want to work.

Here is a list of Polarities reflected in the NSTIC document and named in the governance NOI

Tensions / Polarities in NSTIC	
User-Centric (Part)	Organization Centric (Whole)
US Focus (Part)	International Scope (Whole)
Civil Liberties (Freedom)	Reducing Fraud (Accountability)
Privacy (Control of Information Flow)	Information Sharing
Effective Social Systems	Effective Technical Systems
Voluntary Elements	Required Elements
Security	Usability
Identifiers	Claims
Custom for Particular Sector (Part)	Interoperable (Whole)
Private Sector Interests	Public Sector Interests
Operational Standards	Innovation
Short Term Action	Long Term Vision
Formal Systems	Informal Systems
Peer to Peer Identity Validation	Government& Business ID Validation

Developing Polarity Maps work for the Identity Ecosystem

Proven Process for Leveraging Polarities: See, Map, and Tap.

A sub set of stakeholders would be involved in each step of the process. Once a draft assessment has been developed by the sub set of stakeholders, a much broader group of stakeholders will have the opportunity to experience and modify the draft assessment as a final step in confirming the final assessment.

See: The sub set of stakeholders gather and identify 4-8 of the most critical polarities that need to be managed for a healthy identity ecosystem.

Map: Each of the identified polarities are mapped which is a values and language clarification process. Agreement is reached on the positive (upsides) of each pole and the negative (downsides) of each pole which occurs when you over-focus on one pole to the neglect of the other pole. A **Greater Purpose Statement (GPS)** is agreed upon which responds to the question: “Why should groups invested in one pole generate a shared polarity map with groups invested in the other pole?” Then a **Deeper Fear** is also identified which a common fear of something advocates for each pole want to avoid. This completes a polarity map.

Tap: Ideas are generated for how to gain or maintain the upsides of each pole. This is done through **Action Steps** in support of each upside. Ideas are also generated for **Early Warnings** that let you know when you are getting into the downside of a pole so that you can self-correct early.

The objective is to create a virtuous cycle between the two poles in which you maximize the upsides of each pole and minimize the downsides. When this is done well, the system is more likely to thrive and move toward the Greater Purpose agreed to by all stakeholders.

Example of leveraging a polarity with the Deputy CIO at the DOD:

When Dave Wennergren was the CIO for the Navy, he learned about Polarity Management® through Frew and Associates working with Barry Johnson. When he moved to the position of Deputy CIO for the DOD, he noticed a chronic tension everywhere he went as he was exploring information issues within the DOD. Some were strong advocates for Information Security. Others were strong advocates for Information Sharing.

See: Wennergren saw this tension as a polarity he could leverage rather than a problem he needed to solve. The polarity is Information Sharing and Information Security.

Map: He invited Barry Frew and Barry Johnson to map this polarity with him and his executive team.

Tap: After completing the map, they created Action Steps and Early Warnings in order to be intentional about going after both upsides and minimizing both downsides. The office of the CIO of the DON also looked at the draft and enhanced the map, action steps, and early warnings.

On the next page is an example of their work.

Action Steps

How will we gain information from our country's center from focusing on this issue and what? What? By What? Measure?

1. Marketing (understand imperative to share)
2. Training (how/why to share)
3. Integrate security solutions into sharing activities
4. Implement Intel Community Information Security marking (IC ISM) standards
5. Implement good governance and oversight
6. Implement the DoD Net-Centric Data and Services Strategy by mission area and community
7. Implement ABAC

Early Warnings

Measurable indicators (things you can count) that will let you know that you are getting into the domains of the left pole

1. Loss of Personally Identifiable Information (PII) up
2. Successful Intrusions/Data exfiltrations up



Action Steps

How will we gain information from our country's center from focusing on this issue and what? What? By What? Measure?

1. Marketing (understanding the value of security)
2. Training (practicing good security hygiene)
3. Providing good security tools
4. Implement good governance and oversight
5. Develop better metrics to measure security vulnerabilities
6. Implement ABAC

Early Warnings

Measurable indicators (things you can count) that will let you know that you are getting into the domains of the right pole

1. Information in newly fielded systems not visible/accessible outside of the enclave
2. Time to get required information up
3. Access to information denied

It is very efficient. This is especially true if you contrast this process with not seeing this tension as a polarity and getting into a chronic power struggle between those wanting Information Sharing as a “solution” and those wanting Information Security as a “solution.” It does not matter who “wins” in an either/or power struggle, our country loses. Information Sharing without Information Security makes our country vulnerable because of access to information by those who would harm us. Information Security without Information Sharing makes our country vulnerable because of lack of needed and coordinated information throughout the DOD.

All polarities work in very predictable ways allowing us to be both strategic and tactical in leveraging them within the identity ecosystem.

Real Time Strategic Change

There are six polarities, the Real Time Strategic Change Principles that support system identity and improvement. These principles have been tested and proven effective in field settings around the world. Pay attention to them in systems work and your desired future is more attainable, faster and more sustainably. Each is defined as a key polarity – a tension between two elements that need each other over time to ensure greater system health.

Making Reality A Key Driver

Know the inside of your system and also know the outside too. Put together what you learn and you'll make informed decisions and take strategic actions.

Engaging and Including

Provide clear direction and invite participation. Lead in both ways and you'll make smarter choices and create the commitment needed for useful continuity fast and lasting change.

Preferred Futuring

Combine the best of your past and present and compelling visions for your future. Build this picture and you'll create your best future.

Creating Community

Ensure you focus on both the system as a whole achieving its full potential while at the same time finding ways for each part of the system and people in it to achieve their full potential. Do this and people achieve peak performance by becoming part of something larger than themselves that they have created and believe in.

Thinking and Acting in Real Time

Be in your future and plan for it at the same time. Learn to do them equally well and your desired future will happen faster.

Building Understanding

Stand up for what you believe in and be curious about what others think. Support both interests and you will continue to learn and develop – individually, in your teams and as an entire system.

We have repeatedly witnessed the magic of what happens when you bring disparate ideas, intentions and hopes together. People yearn to be heard. They want to be part of solutions to problems that affect them. Skilled design and facilitation make it possible to tap into this common human desire. Shared trust between consultants, clients, and participants is the second ingredient that helps make this happen. It is through the ideals and values of Real Time Strategic Change that we continue to hold hope for the world and for our chances of having a positive impact on it.

Value Network Mapping and Analysis

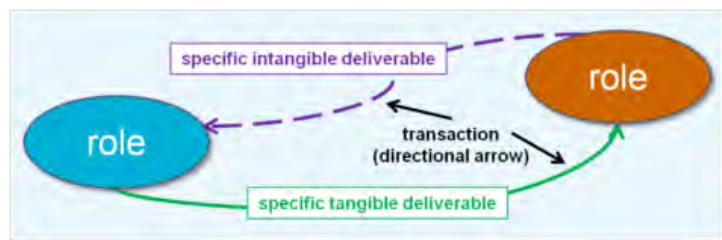
Section Co-Authored with Verna Alee

Living systems require exchanges with the environment in order to continually renew themselves. These exchanges are of two basic types: matter and energy and (or) cognitive exchanges that express the intelligence of the system.

From a living systems perspective, the molecular level of business economic activity also is the exchange. In traditional business thinking we have thought of economic exchanges only in terms of goods, services, and revenue – the “value chain” transactions. One can think of resources and money as roughly equivalent to the living systems exchanges of energy and matter in living systems.

In addition, as living networks, communities, companies and business webs engage in more than material exchanges - they also engage in cognitive exchanges. Sustainable business success depends on exchanges of information, knowledge sharing, and open cognitive pathways that allow good decision making. These exchanges not only have value, but are essential for the success of the enterprise, so they must also be considered as economic exchanges.

The Identity Ecosystem, as a human techno-social systems, operates as an ecosystem that has many roles. Between these roles value flows that is both tangible and intangible (things that are recognized but not easily quantified) deliverables.

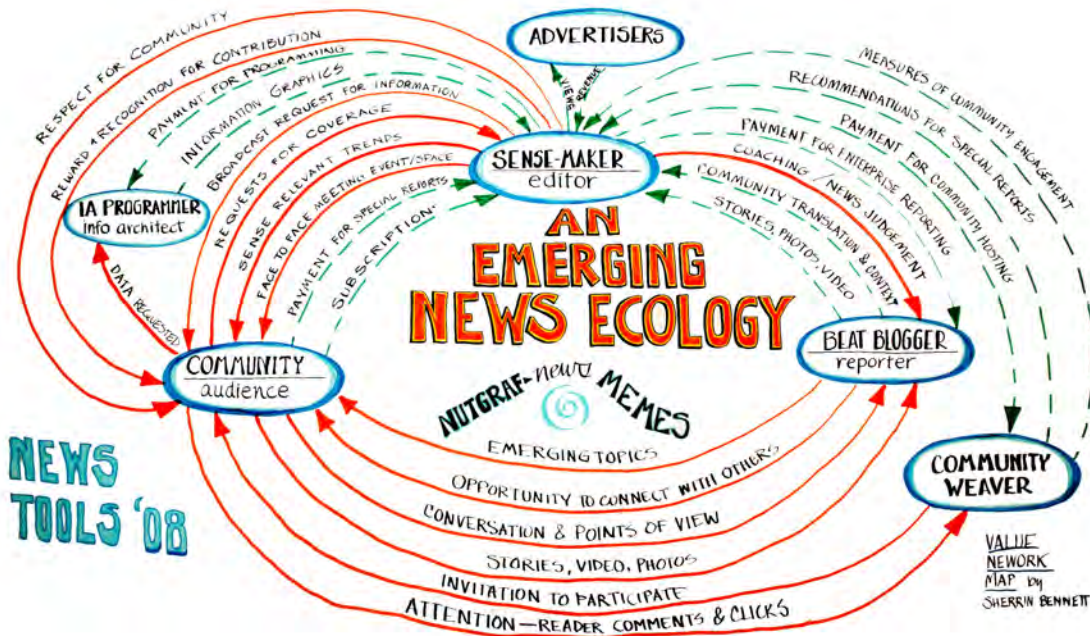


The value network modeling approach would model this ecosystem as a value network of roles and interactions that are involved in specific system-level outcomes. Roles can be played by organizations or individuals. In value network modeling, specific deliverables between roles are defined as a way of describing the creation and dissemination of value, and to understand how the innovative exploitation of technology and knowledge take place. When the interaction between the different players works well – new, valuable knowledge is generated which is quickly put to practical use. This creates the foundation for innovations and attracts investments.

Any Value Network ecosystem analysis typically addresses three levels of assessment:

- The roles, products, services and knowledge – including data flows – that work within the value network.
- The enabling technologies that support role execution and deliverables.
- The conditions, enablers, and constraints that influence the ecosystem

It is a proven method for mapping diverse industry network ecosystems with decades of practice and application. It provides a visual model and analytical structure as foundation for defining the emerging identity ecosystem and exploring possible scenarios and policy models. It is a dynamic approach to business modeling that scales from shop floor to industry ecosystems. Before sharing how I think this process can be used as part of speeding up the time it takes to make the NSTIC vision real, I want to share an example from where I applied this process to build shared



Applying VNA to NSTIC Vision for an Identity Ecosystem Framework

For a future Identity Ecosystem as envisioned by the NSTIC document to emerge it is vital to gain a clear present state understanding of the many industry ecosystems and consider how they can converge into a more integrated Identity Ecosystem Framework. Just as the polarities in an ecosystem can be named and mapped collaboratively by diverse stakeholder groups, the roles in the ecosystem and the value flows between them can be mapped collaboratively by diverse stakeholder groups.

Stakeholder groups have very different points of view about what is most important to them. A collaboratively developed Value Network Map can provide a common visual and analytical tool to talk about issues as they are expressed in the real flow between entities rather than just abstract ideas. A range of use cases can be explored and different constraints could be applied, including using the maps to develop regulation and liability scenarios.

The risk for not doing this kind of foundational work is high. Most ecosystem models do not address the gap between a high level landscape view (such as a few PowerPoint slides of stakeholder groups), typed lists of issues and proposed solutions or policies. The risk of jumping from high level views into policies or accountability frameworks without actual models of those policies as implemented is very high, particularly in the case of NSTIC.

Further, NSTIC must be inclusive about shaping the conversation around models and standards or regulators can easily fall into knee-jerk policy making that will constrain the market in unhealthy ways. With private sector leadership driving NSTIC it is vital that viable market models exist for services that choose to adopt enhancing technologies for verified anonymity. However, this conversation needs to include a diverse range of stakeholders, not just large companies. This means engagement conversations needs to include multiple stakeholders at a level that avoids

insider jargon and engages people in pragmatic models of how proposed changes would actually work in implementation.

As a stakeholder engagement activity, the process of developing value network maps of present and future potential Identity Ecosystem states with a range of stakeholders can foster a much higher level of support and agreement amongst stakeholders with interests. **Diverse stakeholders with seemingly unresolvable points of view could collaboratively work to find value flows** that bring value to business (they make money) and protect people's by limiting the flow of personally identifiable data and sensitive metadata and data sets. **It may be that new roles are needed in the ecosystem for these two goals to be achieved.** Any proposed roles, new services and regulations needs to be understand in terms of their systemic impacts on the existing system to manage both risks and opportunities. One thing all stakeholders share is a goal for the overall system and individual identities within it to be trusted. Trust is an emergent property of a healthy ecosystem that serves all stakeholders: individuals, organizations, businesses and government that play different roles in the system.

There is widespread agreement that new accountability frameworks are needed to grow trust. How these get accountability frameworks are created, listed, complied with and audited is still being worked out. This issue area is an ideal "test" scenario for using the value network as a common analytical framework. Using Value Network Mapping and Analysis in a collaborative process to understand how these new frameworks fit in at a system level could increase understanding of their uses and the roles associated with them, illuminate risks and implementation issues and increase trust in them through this higher level of transparency. The mapping and engagement process can be done periodically as the ecosystem evolves to ensure that value and trust are growing.

Value Network Mapping and Analysis is an invaluable tool to clarify specific roles, value flows and key activities within the ecosystem. It will provide a way for people to contribute coherently to the larger conversations about the ecosystem as a whole. The value network models will provide a common visual and analytical language to integrate discussions that will take place in meetings across different jurisdictions and industries and increase transparency for critical decisions.

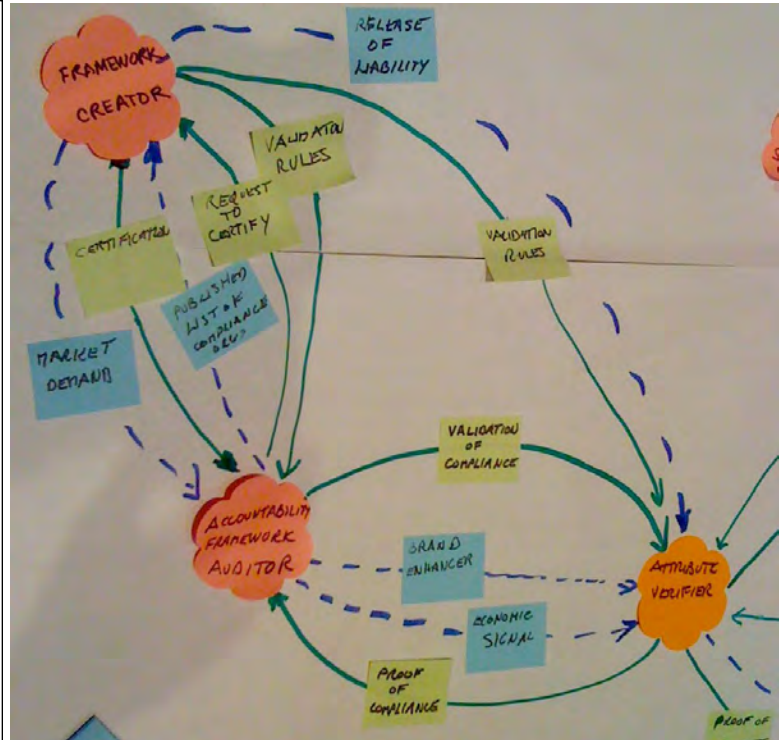
Applying VNA to the Personal Data Ecosystem

The first Industry Collaborative Project of the Personal Data Ecosystem Consortium (that Kaliya founded and serve as the Executive Director) is using this method to gain shared insight into the overall market model and consider how it will evolve differently in different industries.

Here is part of an initial map from the first collaborative mapping session Personal Data Ecosystem Map that took place June20-21, at the Cloud Identity Summit. This section of the map shows the flow of implicit (blue dotted lines) and explicit (green lines) value flow between an Accountability Framework Creator, Accountability Framework Auditor and an Attribute Validator. This very early view illustrates how important it is that these roles and flows be integrated into the larger Personal Data Ecosystem mapping effort. See on next Page.

How does the value flow between Accountability Framework Providers, Accountability Framework Auditors and Attribute Verifiers. This is what we explored on this little corner of a much bigger map about personal data.

Maps collectively made by stakeholders from particular industries that are involved with NSTIC could be developed and then shared with other industries who also made maps. In sharing maps of existing industry value flows. Insights into how things could work in the future when two industries work more closely together.



Benefits of Systems Mapping Processes

Value Network Mapping and Polarity Mapping and Management are system level sense making tools processes for systems level insight. Other systems level insight an synthesis methods could also be considered. I chose to articulate how the two I know best could be applied well towards making the NSTIC vision real.

These processes give vastly different stakeholder groups the opportunity to come to broad agreement, consensus if you will, about the nature and shape of the ecosystem. What organisms are in the ecosystem? How do they interact? What are the inherent tensions that need to be managed for the ecosystem to thrive?

They are complementary because Early Warning signs for the down side of polarities could be identified for particular roles in the ecosystem defined in the value network mapping process. Action Steps for particular roles could be anticipated and put into action when particular warning signs emerged in other roles.

Stakeholders with seemingly opposing points of view or with very different emphasis of what is important can see how their perspectives fits with others in a holistic way. They can also come a shared understanding of overall ecosystem health and work together to proactively maintain it. These maps should be updated regularly and remapped every 3 years.

Having shared maps of the roles and polarities will go a long way to having productive dialogue between all the ecosystem stakeholders. The next section goes on to cover options for having effective systems level dialogue among self identified stake holders and perhaps most importantly regular people who are doing transactions in the ecosystem.

Insight for Governance

Stakeholder Engagement with Dialogue and Deliberation

Co-Authored with Tom Attlee, Director of the Co-Intelligence Institute

The NSTIC governance NOI highlights the government's role should be in an ongoing way to protect people's interests. I invited Tom Attlee to co-author this section with me because of his 10+ years of research into a whole range of inclusive citizen engagement processes processes that effectively synthesize the people's perspective on whether their interests are being protected well enough.

I worked with Tom Attlee in 2006 to explore which emerging electronic collaborative tools (blogs, wikis, online forums) could be used to augment and complement proven deliberative processes that were developed before the web existed. They have proven very effective but also expensive and labor intensive. Based on this work with Tom I wrote a chapter in the Personal Democracy Forum book Rebooting America about how these methods could be used. You can find this in Appendix 6.

The the authors of NSTIC did a good job bringing forward clear overarching principles and guidelines for the development of an ecosystem. Naming these guidelines and principles is a great starting point and they are in alignment with citizen's people's interest.

Turning to the private sector and encouraging the further development of accountability frameworks and networks is good. Clearly there are many private sector uses for more trusted identities and the government can use them too.

Is there really private sector motivation to implement privacy processing technologies like U-Prove and IDMix that provide verified anonymity²³? Tools that are good for people when they don't want to have activity linked together because they use the same OpenID URL or e-mail address all over the web and the sites can then find other sites they have used.

There are currently many uncertainties about the market viability of technologies that provide verified anonymity²⁴. Dr. Stefan Brand's U-Prove technology has been around so long that the patent is almost expired. It has been involved with 4 startups before it was acquired by MSFT. They have opened up the technology under the Open Specification Promise and even releasing code. The OASIS IMI standard based on the work of Kim Cameron and the ideas of Information Cards being tokens for individuals to manage the sharing of claims using software agents on their machines.

The private sector has found that these technologies either reduce costs or increase revenue. In fact they increase costs (user ID systems and logins must be changed at great expense) and they reduce revenue. For example on a publishing site By not knowing a user's ID (e-mail address or URL) that can be looked up at Facebook, Twitter, LinkedIn, google, Yahoo! etc. they can't know enough about the user to effectively target ads at them.

To really make the vision presented in NSTIC deeper insight, consensus and collaboration is needed.

However taking on the responsibility of a whole ecosystem requires this group having broad insight into how the ecosystem is growing, evolving, working and earn legitimacy from stakeholder groups and the people with identities who are using the system.

As highlighted above the number of self identified stakeholder groups is already exceeds 75 and could conceivably be every individual on the planet that uses digital networks. So the questions are:

- 1) How does the steering group incorporate a broad range of stakeholder perspectives? In particular how does it incorporate the perspectives of regular people from very diverse backgrounds and live stages (see Appendix 3) who are doing transactions in the Identity Ecosystem as it evolves?
- 2) How is legitimacy earned from the many organized stakeholder “groups”? but also from regular people?

Legitimacy of the NSTIC steering group will emerge when a broad range of stakeholders even those with “opposing” views are following recommendations and working together towards the development of coherent Identity Ecosystem. How can this happen? What processes could significantly increase the likely hood this emergent property of legitimacy emerges?

The answer lies in not have the members of the “steering group” itself be the origin of the “steering” from their perspective. It should be a group that is serving as a steward of and coordinator of proven systemic dialogue processes that regularly engage a wide range of stakeholders. The steering group takes action and makes recommendation based on the clarity and wisdom surfaced from regular, systematized stakeholder engagement online and offline. This section outlines a proposal of how this could work.

What does the Steering group Do?

- (a) convenes periodic (at minimum every 6 months) stakeholder conversations (which include but are larger than the steering group) to get input on how the Identity Ecosystem Framework is working,
- (b) publicizes the recommendations and their status to the stakeholder community using online tools and collaborative platforms that invite response from stakeholder individuals and groups.
- (c) adopts the recommendations of those conversations (or explains in detail why they cannot).

The steering group ensures that participants in subsequent periodic stakeholder conversations have read or are adequately briefed on the previous period's comments in the online stakeholder forums.

We suggest a twice-a-year Creative Insight Council (CIC) of 36 participants with six members randomly chosen from selection pools of each of the six primary stakeholder groups -- government, business, academia, standards development and technical organizations, consumer representatives, and privacy and civil liberties advocates (or whatever the appropriate groups are).

Ideally on the alternate quarters from the CIC there would be

- a open world cafe of all stakeholders (potentially up to 450 people) who wished to participate
- an unconference (similar to the Internet Identity Workshop) of all stakeholders who wished to participate -- with the results of both posted for public/stakeholder review.

These three processes (CIC, OST, TWC) allows both a 2x/year rigorous microcosm conversation with coherent recommendations AND two broadly participatory creative conversations open to any and all interested people that allow for innovations to surface, provide systems, and create coherence.

With some experimentation these methods could be complemented with some online components however at their core they must remain face to face processes. To ensure their legitimacy and the including of a broad range of perspectives (divers geography, financial ability, etc) compensation could be provided to regular citizens for participation in for example an Insight Council or Citizens Jury.

Engaging international stakeholders and people in the Identity Ecosystem living outside the united states may involve hosting or convening dialogues outside the US. There are efforts that are somewhat similar around the world and it maybe possible for those efforts to also adopt these processes and results could be shared.

Assumptions in this proposal:

- A. The best way to (a) formulate and administer good evolving policy and standards for the ecosystem and (b) engage the voluntary cooperation of all players in the ecosystem on an ongoing basis is to periodically involve the full spectrum of stakeholders in co-creating each iteration of that policy and those standards.
- B. Effective co-creation requires conversation among a full spectrum of the players to ensure all angles are adequately addressed and to stimulate creativity to deal with divergences among their diverse interests and perspectives. To the extent this inclusive conversational work is not done, whatever was not adequately attended to in the policy and standards formulation will come back to disrupt the ecosystem.
- C. Each iteration of policy and standards will produce unexpected consequences and opportunities which will need to be collectively noticed and dealt with in a timely way for the ecosystem to thrive, thus the need for iterative engagement of all the players. This is a form of collective intelligence to monitor the ongoing evolution of the Identity Ecosystem.

D. To accomplish these ends, the conversational processes and facilitation used must move beyond simply allowing all participants to speak but most also

- (a) successfully engage the creativity of the group and all its members;
- (b) successfully use differences and conflicts as grist for that creativity; and
- (c) help the group satisfy its goals and expectations without controlling the conversation or pre-determining outcomes.

These requirements allow unforeseen problems, solutions, and possibilities to emerge and be addressed by the group, thus further reducing the chance that ill-conceived or inadequate policy will result. Among the processes that serve this purpose well are Dynamic Facilitation, Open Space, and The World Cafe.

How is the Steering Group Composed?

If the purpose of the group is to hold space for the broad range of stakeholders to share insights then it will be a far less “political body”. It is important to have body that is diverse but the mandate to listen and respond to the overall ecosystem makes it not “about” the members having the power to decide how to steer for all the stakeholders of the ecosystem because they were elected as their “representatives” but rather their mandate is to convene periodic stakeholder conversations with well tested proven methodologies and to act on the recommendations and insights they generate.

Since the NSTIC NOI asks respondents to directly answer this question I am sure there will be many answers. Any number of steering group formations could work for this proposal to have its main function be effective stakeholder convening that surface issues.

Our proposal for a steering group is a stakeholder body made up of two representatives from each of the six main stakeholder groups elected by members of their stakeholder groups by nomination, instant-runoff voting, two-year terms (with the highest initial vote-getter in each stakeholder category having a 3-year term so that annual turnover is not total) and recall elections.

The primary stakeholder categories are:

- * government,
 - * business,
 - * academia,
 - * standards development and technical organizations²⁵,
 - * consumer representatives, and
- privacy and civil liberties advocates
(whatever the appropriate groups are)

The steering group also includes two members chosen at random from a pool of public volunteers (should they have some qualification?). Their decisions should be by supermajority (67%?...80%?)
The relatively small size of the steering group (14 people) increases their operational efficiency,

while the conversational and input systems described below maximize the inclusivity, depth, and effectiveness of their management capacity.

Other Possible Options for the Steering Group

What if each time a vote is taken, only half of the 14 people vote and they are picked from the group by random selection immediately before the vote is taken. In other words, only seven of the members (in my existing model) would vote on each decision, and it would be a different (unpredictable) seven each time. (This is similar to the story of the mother dealing with her kids arguing over who gets the biggest piece of pie; she has one kid cut the pie and the other one pick the first slice.) Since none of them know which of them is going to be empowered to vote next time, it is in their interests not to screw each other this time, and to support a process that helps them find solutions they can all buy into (like dynamic facilitation or a process that focuses on explicitly asking for and handling concerns).

Processes and Structures for Distributing Power and Ecosystem Evolution

Of course the number of sectors, organizations and reps could be adjusted in a variety of ways. My effort was to limit the size of the steering committee to increase its efficiency, while making it hard for adversarial power centers to battle and dominate, due to the open nonlinear (ie, hard to control) elements I've injected into the voting process and the subsequent conversational protocols. The power held by the steering committee is real, but limited by the conversational context of its operations. The ability of any one entity in the ecosystem to skew outcomes is limited by the equalizing and randomizing factors I've put in place. In the system as set up, there is FAR more motivation to seek solutions that integrate one's own needs with those of others than there is to seek solutions that benefit oneself at the expense of others.

Some Answers to NSTIC governance NOI Questions

2.2. While the steering group will ultimately be private sector-led regardless of how it is established, to what extent does government leadership of the group's initial phase increase or decrease the likelihood of the Strategy's success?

If government leads by convening conversations of stakeholders rather than designing the steering group, the creativity and relevance of those conversations will determine NSTIC's success.

2.3. How can the government be most effective in accelerating the development and ultimate success of the Identity Ecosystem?

By quickly convening stakeholders in the mapping processes outlined in the prior section and in parallel hosting well designed, adequately inclusive, and wisdom generating conversations using the methods outlined in this section. It must ensure that the charter that creates the steering group does not just articulate how it is formed but also that it must convene regular meaningful stakeholder engagement processes to ensure broad public confidence, legitimacy and ultimately trust in the Identity Ecosystem.

2.4. Do certain methods of establishing the steering group create greater risks to the Guiding Principles? What measures can best mitigate those risks? What role can the government play to help to ensure the Guiding Principles are upheld?

Failure to engage all parties in productive conversations will endanger the Guiding Principles, because all the interacting factors will be insufficiently taken into account, increasing the chance that blind spots and biases will shape the outcomes.

2.5. What types of arrangements would allow for both an initial government role and, if initially led by the government, a transition to private sector leadership in the steering group? If possible, please give examples of such arrangements and their positive and negative attributes.

Government convened conversations will enable a transition to private sector leadership, making sure that this includes an institutionalized principle of inclusion that reduces the chances any sector will unduly bias the evolution of the ecosystem.

Processes to be leveraged by the Steering Group

Dynamic Facilitation (DF)

Dynamic Facilitation (<http://tobe.net>) is a powerful nonlinear creative process designed to use the group's diversity, conflicts and potential co-creativity and sense-making capacities to generate breakthrough solutions to intractable problems. It is based on several deep dynamics of individual psychology and group functioning:

- a. When people feel truly and fully heard, they tend to become less defensive, less assertive, and more open to the views of others and to novel possibilities.
- b. When all perspectives are respectfully collected into a whole, a picture of the situation is revealed that is both more messy and more comprehensive than the initial perspective of any individual participant.
- c. If all participants have been truly and fully heard, their collective response to the messiness of their collective "map" of the situation is to try making collective sense of THAT -- i.e., to find a solution that includes or transcends all their individual perspectives.

As part of the DF process, disagreements and conflicts are legitimized as "concerns" and are duly heard and recorded by the facilitator. Furthermore, any statement of a concern or articulation of the problem, once fully heard, is followed by a question like "What do you think should be done about that?", giving the whole process a solution-seeking vector. Taken as a whole, the entire process constitutes one of the most powerfully creative conflict-digesting processes available.

Creative Insight Council (CIC)

A Creative Insight Council (<http://www.tobe.net/DF/DF/page52/page52.html>) is a small, legitimately representative microcosm of a community or stakeholder system that uses Dynamic Facilitation to help participants and others grow toward a more systemic understanding of the issues involved, by listening deeply to the various perspectives reflected in the group. As needed, a Creative Insight Council can draw upon the specialized knowledge of experts, outside stakeholders or leaders.

However, instead of “lecturing,” these experts present their views within the context of a dynamically facilitated conversation.

Open Space Technology (OST)

Open Space Technology (<http://www.unconference.net>) is a simple process through which a gathering of people passionate about some subject or concerned about some situation can self-organize to talk about and/or take action on that topic. It is the main process used in the Internet Identity Workshop. Participants originate, announce, and post breakout sessions with titles of their choosing and, when all sessions are announced, work out their own individual participation schedules. Session times and locations are standardized but fully flexible, and participant meandering among sessions or not attending any sessions at all is fully legitimized (considered productive).

Session conveners take responsibility for making sure some notes are taken and turned in for publication to the entire group. The whole group gathers at the beginning and end of each day's activities for sharing news and experiences. The chaos that results from this process is, in fact, surprisingly orderly and, perhaps most importantly, very energized and productive, regularly producing significant insights, new collaborations, and unforeseen possibilities. It is a potent tool for "covering the ground" of a complex topic, evoking useful responses to a shared inquiry, and assisting the players in a complex situation to self-organize into more productive roles. If done over multiple days, the iterative dynamics (issues arising in one day being addressed during subsequent days) tend to process the material at an increasingly deep and creative level.

The World Cafe (TWC)

The World Cafe (<http://www.theworldcafe.com/>) can engage dozens or thousands of people in productive conversation on a topic of shared interest over several hours or days. TWC is set up like a cafe with 3-5 people at each of many small tables, usually with paper tablecloths and writing materials for taking notes, sometimes flowers. This familiar setting itself facilitates the desired spirit of conversation.

The shared topic is framed as a question (powerful question design being a specialty of TWC practitioners) which participants discuss with each other for 20-60 minutes in each of several timed conversational rounds. When each round ends, participants mix and move to other tables so that in each round they are talking with different people. As each round starts, participants are encouraged to share with their new tablemates highlights from their conversation in previous rounds. Their question may remain the same in subsequent rounds, or change to guide the conversation to new or deeper territory. In final rounds participants are usually encouraged to seek together for deeper patterns in the topic being explored.

TWC concludes with a "harvesting" process in which individuals can share insights or developments with the whole group. TWC by design provides each member of a large group considerable airtime and opportunity to interact in a small group, while simultaneously ensuring that good ideas get spread around and processed by the whole group. Quite often significant new ideas and possibilities emerge out of TWC's complex, randomly organized iterative dynamics.

Using These Processes

Dynamic Facilitation, Open Space and The World Cafe can all be convened outside of any decision-making process, simply as powerful forms of public/stakeholder engagement. However, within the context of a decision-making effort, all three are best viewed not as decision-making processes themselves, but as forms of dialogue that facilitate deeper group understanding and creativity prior to the formal decision-making process (e.g., voting). That said, good solutions often become so obvious in the dialogue process that voting becomes a formality to record the emerged consensus.

There are many other processes that could be used and principles that could be understood in public and stakeholder engagement. If other approaches are desired, a good starting place and resource is the National Coalition for Dialogue and Deliberation's public engagement guide referenced in the Appendix.

Stakeholder Insight Combined with Ecosystem Maps

Because these processes are public and the outputs published on the web they create a level of systems accountability and increase the likely hood of earning legitimacy in the eyes of a vast majority of united states citizens and residents but also international stake holders. The initial consensus can be developed amongst diverse stakeholders not on the solution to the problems but on the polarities inherent in the system and a shared map of the roles and value flows in the existing and proposed ecosystem will support effective dialogues that don't go in circles but actually get at how the system is not working of various stakeholders as it evolves and provides some tools to discern action to improve the situations arising.

The systems insight provided by the dialogue processes outlined in this section combined with a steering group who's mandate is to respond to the outputs of those regular stakeholder dialogues relative to the shared maps I believe will be effective in creating a thriving Identity Ecosystem that works for people.

The Importance of Public Legitimacy

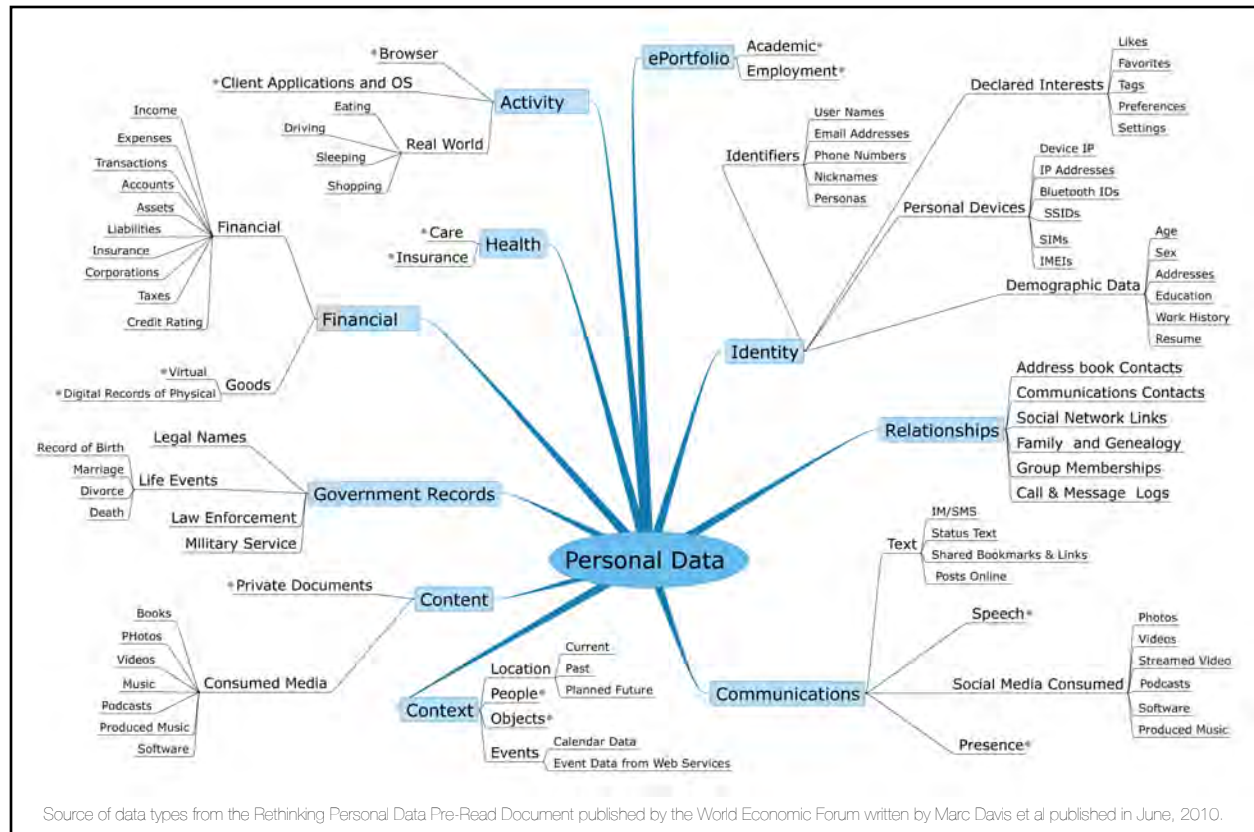
The importance of regular people feeling heard and that the processes are broad and inclusive should not be underestimated. A trip to Marin last month made this particularly apparent to me. I stopped at a "groovy organic grocery store" to pick up a snack for the long ride I had ahead of me. Outside were two women with a table of stickers and literature about various progressive causes and issues.

They had a sign on a chair that said "STOP THE SMART GRID" I was interested in what their concerns were "why" did they want to stop it. They were concerned about many things but in particular the data collection from houses, the use of the data, who had the ability to see the data and what it would be used for.

I founded the Personal Data Ecosystem for a reason, I believe that people should have the tools to collect, manage and get value from their own data (including electricity use). I challenged some

aspects of their assumption when I put forward the idea that getting more data, more information about the electricity use in their houses was a good thing. It was information that could empower them to know more, save money and conserve energy. They just didn't buy it - they were very concerned about being exploited by the corporate power company and spied on by the government. This was a reaction to changes in the way electricity is tracked and metered - NISTIC is about "identity" and broadly defined identity in digital forms touches on a vast array of personal information.

This diagram from the World Economic Forum Rethinking Personal Data Project illustrates the vast amount of personal data that exists about people.



Iain Henderson Founder of a two startups in the nascent personal data banking space has a taxonomy of 4500 attributes that are found across a range of CRM (Customer Relationship Management) services that companies use to manage their relationships with existing and potential customers.

The Smart Grid Interoperability Panel was spun up by NIST a few years ago and they are as an industry a few years ahead of this industry in terms of roll out and adoption of common standards and pilots being spun up. This private sector led with (government participation) structure is being suggested as a potential model to base the Identity Ecosystem Framework Steering Group.

I figure that the negative public reaction to the Identity Ecosystem will be even greater than the one happening to the Smart Grid right now. The concerns and issues of regular individuals (the users of the identity ecosystem) from all walks of life must be surfaced and addressed earlier rather than later in the evolution of the ecosystem,

Unless the stakeholder engagement processes that focus on broad inclusion and the results are made public, and not just posted on a wiki but proactively distributed to foster public discussion then the public socialization and cultural conversations needed for the Identity Ecosystem to succeed won't happen. It is vital to remember that this is NOT about technology and standards it is about human beings, after all you are not a gadget²⁶.

An effective strategy for socializing NSTIC with the public will be key to success.

Missing Questions about NSTIC Governance

Many questions missing from the governance NOI. I answered these ones explicitly in my response.

Is there currently shared language amongst the identified NSTIC stakeholders?

Is there currently shared understanding and alignment amongst the identified NSTIC stakeholders?

What processes and structures are needed to meet the goals of NSTIC?'

Appendix 1: Planetnetwork Link Tank

From: <http://www.planetwork.net/consortium/textpages/background.html>

The first International Planetnetwork Conference was held at the Presidio in San Francisco in May 2000. Soon after that conference an informal group calling itself the Webcabal started meeting to discuss various possibilities and potential implementation strategies. In 2001 this process became LinkTank, operating as a fiscal project of Planetnetwork, Inc. LinkTank is officially a network of twenty three voting participants, from a variety of professional backgrounds, largely in the Bay Area and New York, with a nine member board. However, the conversation expanded to include participation by more than fifty people spanning many organizations in several counties. The Link Tank process distilled the following statement of purpose:

We are dedicated to the creation and maintenance of a digital communications platform, operated as a public interest utility, that will strengthen civil society by enabling people to connect, communicate, make transactions, and self-organize in a manner that is consistent with the highest principles of democracy and reflects an enlightened understanding of the fragile beauty of our planet. We will bring together, develop, promote, and hold as a global public commons, software tools and infrastructure that facilitate the emergence, growth, and vitality of networks of individuals and organizations who share ecological and social justice values, as articulated in the Earth Charter.

Many organizations, and even networks of networks, are now represented in online databases, but each remains largely an island unto itself. Many sites have sought to be "the" portal to the larger whole, but this approach only insured that none could ever succeed. The LinkTank Principles were articulated in response:

- Any solution must appeal to the perceived objectives of existing constituent entities.
- Any solution must facilitate the creation of an "interoperable" network of networks.
- Any larger "meta-network" must be an emergent property, an epiphenomenon of many individual decisions and actions.
- There must be no specific center to the network; its center must be everywhere and nowhere.

The most effective approach will be to facilitate the development of tools that will allow organizations to better interact with their own memberships. Then, by virtue of many people in many overlapping networks using interoperable tools, a very large virtual network can be formed - a vast array of databases representing individuals and their relationships as if in a virtual peer-to-peer network.

Appendix 2: ASN

The Augmented Social Network:

Building identity and trust into the next-generation Internet

The need for a civil-society, not just commercial, solution.

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Could the next generation of online communications strengthen civil society by better connecting people to others with whom they share affinities, so they can more effectively exchange information and self-organize? Could such a system help to revitalize democracy in the 21st century? When networked personal computing was first developed, engineers concentrated on extending creativity among individuals and enhancing collaboration between a few. They did not much consider what social interaction among millions of Internet users would actually entail. It was thought that the Net's technical architecture need not address the issues of "personal identity" and "trust," since those matters tended to take care of themselves. This paper proposes the creation of an Augmented Social Network (ASN) that would build identity and trust into the architecture of the Internet, in the public interest, in order to facilitate introductions between people who share affinities or complementary capabilities across social networks.

OBJECTIVES AND ELEMENTS

The ASN has three main **objectives**.

1. To create an Internet-wide system that enables more efficient and effective knowledge sharing between people across institutional, geographic, and social boundaries.
2. To establish a form of persistent online identity that supports the public commons and the values of civil society.
3. To enhance the ability of citizens to form relationships and self-organize around shared interests in communities of practice in order to better engage in the process of democratic governance.

In this paper we present a model for a next generation online community that can achieve these goals. In effect, the ASN proposes a form of "online citizenship" for the Information Age.

The ASN weaves together four distinct technical areas into components of an interdependent system. The four main elements of the ASN are: Persistent online identity; interoperability between communities; brokered relationships; and, public interest matching technologies. Each of these is discussed in a separate section in detail.

The four main **elements** of the ASN are:

1. Enabling individuals online to maintain a persistent identity as they move between different Internet communities, and to have personal control over that identity. This identity should be multifarious and ambiguous (as identity is in life itself), capable of reflecting an endless variety of interests, needs, desires, and relationships. It should not be reduced to a recitation of our purchase preferences, since who we are can not be reduced to what we buy.
2. Interoperability Between Online Communities. People should be able to cross easily between online communities under narrowly defined circumstances, just as in life we can move from one social network to another.
3. Brokered Relationships. Using databased information, online brokers (both automated and "live") should be able to facilitate the introduction between people who share affinities and/or complementary capabilities and are seeking to make connections . . . Such a system of brokered relationships should also enable people to find information or media that is of interest to them, through the recommendations of trusted third parties.
4. Matching technologies need to be broad and robust enough to include the full range of political discussion about issues of public interest. They should not be confined to commercial or narrowly academic topics; NGOs and other public interest entities need to be represented in the process that determines these matching technologies.

The ASN calls for a public interest approach to online identity that enables individuals to express their interests outside contexts determined by commerce. This approach would include a digital profile that has an "affinity reference" that would facilitate connections to trusted third parties.

Aspects of the implementation could be undertaken by for-profit companies that respect these open standards, just as companies today profit from providing e-mail or Web pages. But to insure that the ASN meets its public interest objectives, participating organizations would have to agree to abide by the ASN's principles of implementation.

The "next generation" of online community should be a manifestation of flourishing, innovative democracy that encourages the active participation of its citizenry. Asking for any less would be a betrayal of our highest ideals.

In this new world, you will have an online identity that remains constant, allowing for continuity between your experiences in separate online environments. Well conceived, and done in the public interest, persistent identity could enhance interpersonal relationships and social organizing just as powerfully as the PC has extended personal creativity.

THE CONSUMER / BUSINESS INITIATIVES AND NEED FOR CIVIL SOCIETY TOOLS

Two business-based initiatives — the Passport initiative that is part of Microsoft's .Net architecture and the Liberty Alliance — are deliberate efforts to create de-facto standards for personal identity online. Unfortunately, these are primarily focused on how you behave as a consumer, rather than as an independent citizen apart from the commercial arena; their intent is to privatize this information, and then manage it in a way that gives them a share of every financial transaction you make. Current trends are pushing the Internet to become a closed, controlled, commercial space that most resembles a shopping mall. Certainly these initiatives show good business sense, but are they sound public policy?

But as the online social network grew from a few hundred to the many millions — becoming, effectively, many different, overlapping social networks — the ability to identify affinities and establish trust through the Net withered. And perhaps most importantly, a myriad of online communities — both commercial and not-for-profit — have emerged with little to no interoperability with one another. They exist as separate, isolated islands of discourse, unable to exchange meaningful information, leverage their accumulated knowledge, or connect with other communities that share their concerns.

Without trusted relationships, civil society comes undone. In effect, the ASN promises new tools that will support citizen involvement in governance. Already *de facto* standards for online identity and trust are being established. But where is the voice of civil society in these discussions? The intention is for the ASN to become the *de facto* standard for Internet-wide online community interactions — the functionality described in the scenarios above should be the norm. But it is important to understand that the ASN can be effective if used by only a fraction of the Internet's community members. The ASN can be launched as a sub-set of all online community activity. Then, over time, as it proves itself to be valuable, the ASN's applications, protocols, and standards can be adopted by a growing number of Internet communities.

TECHNICAL DESCRIPTION

The essential technical elements of the ASN are as follows:

1. **Persistent Identity.** As federated network identity becomes ubiquitous on the Internet, spearheaded by industry initiatives such as the Liberty Alliance and Passport, civil society organizations will need to articulate a public interest approach to persistent online identity that supports the public commons. As one aspect of a public interest vision of persistent identity, we propose (a) a civil society digital profile that represents an individual's interests and concerns that relate to his or her role as a citizen engaged in forms of democratic governance. One aspect of this civil society approach would be to provide a working model for persistent identity that gives individuals a high level of control over how their profile is used. In particular, the digital profile should include the ability for each individual to (b) express affinities and capabilities, and to list or assist in the discovery of other trusted individuals who share these interests. The purpose of this functionality is to enable automated agents or third party brokers to access this data in a digital profile, through a series of (c) introduction protocols, in order to provide connections between individuals who share affinities or have complementary capabilities. In this way, the ASN is able to introduce those who have shared affinities or complementary capabilities, including those who are members of wholly distinct online communities, based on the recommendations of trusted third parties. These recommendations might either be fully automated, in the case of less valuable or less sensitive relationships, or take place through a brokering service, when privacy, trust, and stakeholderhood is of the highest concern.
2. **Enhancements to Online Community Infrastructure.** Some "walled garden" online communities have begun to implement ASN-type functionality within the confines of a single community infrastructure. With the implementation of the ASN, automated ASN interactions will take place across existing online community environments. In order to support this activity, modularized enhancements to the technical infrastructures of separate online communities will need to be developed and adopted. These enhancements are essentially of two types. The first is the writing and adoption of (a) interoperability protocols that will enable communication between the membership management databases of distinct online community infrastructures, so that ASN-related data can flow between separate online communities. The second is the development of modularized applications that enable (b) the pre-processing and post-processing of e-mail communications on online community infrastructures, as well as the ability to compose, address, and tag ASN messages appropriately. These applications would facilitate three types of activity. First, they would enable ASN users to (c) receive specially tagged automated introductions to others with whom they share affinities or have complementary capabilities.
3. **Matching Technologies.** For the ASN to be effective, the civil society issues addressed within the system have to be easily identified by searches, with matches made even when exact use of language does not correspond. To facilitate high quality searching which supports online discourse and networking in the public interest, there is a need for an initiative to develop (a) matching technologies for topics relevant to civil society, including public interest ontologies and taxonomies. Focused efforts must be established to insure that ontologies and taxonomies developed with standards such as XML, RDF and topic maps include consideration of those issues relevant to civil society. In addition, the ASN would develop (b) protocols for the interoperability of online ontological frameworks, so that the same set of data could be encountered through multiple perspectives, enabling comparisons of diverse viewpoints, which in itself would lead to new connections between disparate social networks.

4. Brokering Services. In instances when personal relationships are highly prized and carefully guarded, though still available through the ASN, an automated introduction system would not be advisable. In these cases, ASN users would engage a third party brokering service to carefully analyze potential affinity or complementary capability matches, and to provide (a) a brokered introduction. These interactions would not necessarily take place only within existing online community infrastructures, but also through the auspices of a brokering service that exists as a separate entity, designed to facilitate these more sensitive introductions. In these special cases, (b) context specific introduction protocols would be developed, allowing each social network to establish the terms through which introductions are made at a highly granular level, perhaps including intermediaries in the process in order to facilitate the initial person-to-person interactions.

THE PROBLEM OF SITE-BASED IDENTITY

... [W]hile the Web has developed a sophisticated system for the creation of "sites," there has yet to appear a good means to represent each of us as individuals in cyberspace. Every time we visit a new Web site, we enter as an anonymous person. Then, with our own labor, we create an identity within that specific site, following the rules as they are presented to us (For example: "Please click here to register ..."). Once we establish our identity on that Web site, it effectively becomes the property of the Web site owner. For this reason, URL-based communities are like walled castles with one-way doors; once you have created an identity on that Web site, it is only of use on that same Web site; it can never escape.

Shouldn't we ask: in an ideal world, what kind of online identity would we want?

Many will protest that they do not want any form of online identity to be put in place. But the commercial sector is already creating the infrastructure that will support it, and there is nothing illegal about aggregating the information about what you buy that the system is being based upon. The challenge is not to stop this process, but rather to engage with it and influence it in order to insure that personal identity is implemented in the public interest, so that the system enhances, rather than detracts from, the public commons.

See: <http://www.xns.org>

Also: <http://www.identitycommons.net>

THE CONCEPT OF FEDERATED IDENTITY

In recent years, online businesses began to see the advantages of a persistent identity that could be maintained by an individual as she surfs from site to site. A persistent identity would combine the aggregated information about a person that sophisticated Web sites currently collect with the verification feature enabled by digital certificates — so that a user's digital profile could be shared by websites who choose to federate with one another. One of the major initiatives to establish such a form of federated network identity is the Liberty Alliance. In the introduction to the Liberty Alliance specifications document, the objective is succinctly expressed:

"Today, one's identity on the Internet is fragmented across various identity providers — employers, Internet portals, various communities, and business services. This fragmentation yields isolated, high-friction, one-to-one customer-to-business relationships and experiences.

"Federated network identity is the key to reducing this friction and realizing new business taxonomies and opportunities, coupled with new economies of scale. In this new world of federated commerce, a user's online identity, personal profile, personalized online configurations, buying habits and history, and shopping preferences will be administered by the user and securely shared with the organizations of the user's choosing."

The challenge is to establish a form of federated network identity that is an appropriate representation of the self, one that is flexible enough to provide a range of "public faces," depending on context. Certainly, information that facilitates commercial transactions should be a part of this identity — but only part.

Defining the full potential of online identity, and pushing for the actualization of that vision as part of the development of the "next generation" Internet, deserves to be a public interest priority.

While there are several independent initiatives focusing on persistent identity, the field is being paced by two large scale efforts that, because of their access to resources and their position in the market, dominate discussion of the issue — and will likely determine the system everyone else will ultimately use to implement federated network identity. These are the Liberty Alliance, which was mentioned above, Microsoft's .Net identity system, named Passport.

Liberty's architecture calls for a variety of identity providers from whom consumers could choose, depending on personal needs and proclivities. Their intent is to create a market for online identity, just there is a market today for Web services (like online auction houses, stores, games, specialized information services, and newspapers). It is conceivable that the public interest sector could collaborate with one or several identity providers to develop digital profiles that reflect the needs of civil society, and not only those of business.

The not-for-profit initiative XNS.org has completed the first iteration of a civil society approach to building identity into the Internet's architecture. This work show great promise. In 2002, XNS.org worked with members of the standards body OASIS [6] to form a technical committee so they could agree on, discuss, and publish a standard for persistent identity and related data exchange. A specification for the persistent identity standard was published in 2002, and is now making its way through the OASIS approval system. A related specification for data-exchange, using the Security Assertion Markup Language, or SAML, is being developed following the same procedures, with an eye toward ultimate ratification by OASIS.

Underlying this report is the assumption that every individual ought to have the right to control his or her own online identity. You should be able to decide what information about yourself is collected as part of your digital profile, and of that information, who has access to different aspects of it. Certainly, you should be able to read the complete contents of your own digital profile at any time. An online identity should be maintained as a capability that gives the user many forms of control. Without flexible access and control, trust in the system of federated network identity will be minimal.

BEHAVIOR AS CITIZEN, NOT CONSUMER

As Liberty Alliance and Passport documentation suggest, most of their resources will go toward the capture and distribution of information about you that relates to your behavior as a consumer. They give little regard to information that could enhance your behavior as a citizen.

Once digital profiles include expressed affinities, the potential for networking through the Internet around common interests becomes significant, because it is a simple technical matter to connect individuals to others based on their shared affinity with a third party.

The wheels are already in motion to digitize some of the most sensitive personal information imaginable — including your finances, work history, and health care records. . . . Certainly, everyone needs to maintain a vigilance regarding the security of their personal data. This will be one of the touchstone civil rights issues of the digital era — who gets to know what about you, and how is it protected . . . The greatest danger to civil society is not that the data associated with digital profiles is open to theft and illegal activity, but rather the real possibility that a system of federated network identity that erodes civil liberties and the public commons comes into being — while following the letter of the law.

The ASN should be embraced by existing online communities, because its intent is not to replace them, but rather to offer additional functionality that enhances their value. Just as commercial content sites came to appreciate the additional traffic that targeted links to "competitors" brought them, online communities will be glad to see the added traffic that comes with tactical interconnection between social networks . . . Most importantly, the ASN will not "break down the walls" between online social networks to create a single, global online community. Rather, the ASN calls for strategically placed doors that allow

people and information to pass from one distinct online social network to another under certain, limited circumstances.

Persistent identity will enable people to present a consistent set of personal data as they go from one Web site to another. The technical infrastructures of online communities may well adapt to the emerging environment, and add functionality that can leverage persistent identity data into new services. For instance, once this new functionality is in place, after you review a Grateful Dead album on Amazon.com, you may find yourself greeted with a link to a Grateful Dead discussion page when you enter AOL.

COMMERCIAL RELATIONSHIPS WILL DRIVE GROWTH OF ASN

Given the current state of software development and the way new functionality is now being added to the Internet, the interoperability likely to emerge between communities — if it comes about at all — will be limited, and driven by commerce.

Of course, there is nothing wrong with commerce-driven interoperability between communities. But a great opportunity to strengthen the public commons could be lost without a deliberate effort to develop community interoperability for non-commercial purposes.

We believe it to be of the utmost importance that ASN interoperability protocols give individuals the broadest possible range of options regarding how they represent themselves in online environments.

In the preparation of this paper, while looking for potential partners in the development of the ASN, we identified 11 community-ware efforts that provide well-considered suites of tools to support communities of practice. We deliberately did not include the efforts of the software Goliaths, like IBM or Microsoft. Rather, these efforts are being spearheaded by smaller, independent companies, in some cases by not-for-profits. Several of them have a strong commitment to serving the public interest. They are:

- Real Communities/Mongoose
- Communispace
- Community Zero
- Tomoye
- Plumtree
- Living Directory
- Friendster
- Plaxo
- Spoke
- LinkedIn
- Ryze

NEW APPLICATIONS AND FUNCTIONS

Bringing ASN activity to online community infrastructures will require additional applications beyond those online community systems provide today. New applications that enable enhanced search features, as well as the pre-processing and post-processing of e-mail communications, need to be available to users of the ASN in order for the system to work. These applications would be developed as free-standing modules that can be "plugged-in" to existing online community infrastructures. They will need to allow ASN users to identify their messages properly when they are written, address messages in the appropriate manner (so that they are sorted and distributed by the ASN system), and send and receive messages in a way that distinguishes them from other e-mail (so that they are recognized as ASN messages when they arrive in an "in box").

Among the functionality that these applications would provide are the following:

- **ASN Search Interface.** Users of the ASN need to be able to access its distributed database of affinity and compatibility profiles through their online community tools. An ASN search feature is

essential, in order for users to find others with whom they share affinities or have complementary capabilities.

- **ASN Composition and Addressing.** When creating an ASN message, users will need to designate the message as an "introduction," "forwarded media," or an "ad hoc social network." Properly designated and addressed, the message can be sorted by the ASN system, and sent to the appropriate recipients.
- **Tag Incoming ASN Messages.** When ASN messages appear in an "in box," they should be tagged in a manner that distinguishes them from other e-mail.
- **Filter Incoming ASN Messages.** When an incoming ASN message arrives, it should be checked to make sure that it has a header that identifies its subject as a relevant affinity, and that it indeed came through a trusted third party. A filtering mechanism is necessary to eliminate spam within the system.

The "next generation" of online communities now being developed have begun to add elements from the list above to their infrastructures. But by no means has a standard community "tool kit" to support matching technologies emerged. Moreover, little attention has been paid to how the knowledge created inside each "walled castle" community could be exchanged with those outside its walls. The exponential benefits of connectivity (remember the discussion of Reed's Law) will be realized when the matching technologies allow focused interconnectivity between community groups. One of the purposes of the ASN is to make this kind of interoperability commonplace on the Internet — and to raise the bar of expectations for what online communities serving the public interest ought to deliver.

THE BROKER FUNCTION

The essential activity of the ASN is that it brokers introductions between people across social networks, based on expressed affinities and capabilities, through trusted third parties. In order for those introductions to take place, there have to be rules that guide when introductions can be made and how they are facilitated.

Clearly the ASN needs to provide a range of introduction options, so users can choose what is right for them. These options, and the rules they would follow, would be determined by a set of "introduction protocols" — explicit instructions about the sequence of actions that would automatically take place before an introduction is facilitated through a trusted third party.

What would this protocol do? It instructs an automated agent (or "broker-bot") to follow a sequence of actions that would lead to relevant introductions. It tells the broker-bot to read the "affinity reference" in a user's digital profile, and then match those expressed affinities or capabilities to others with complementary interests, based on links through trusted third parties. The broker-bot would be instructed to use ontological frameworks as a guide to determine meaningful matches. At the end of this sequence, the broker-bot would send a specially tagged ASN Introduction e-mail to the match that it found, without copying the person who made the original request. That "discovered match" can then decide whether to reply to the introduction, or not. If the "discovered match" does not reply, the person who made the initial inquiry would never know, and so would not feel slighted by the rejection.

These customized introduction services, among many others, would be offered by independent brokers, which would mix and match protocols, shaping them to meet the needs of their constituents. Brokering services could either be for-profit companies, or not-for-profit civil society initiatives. A brokering service could be hosted on a single destination Web site (like About.com, where you go to their online "front door" to use their services), or it might syndicate its services on many other sites (like Amazon.com's Affiliates program, which allows a multitude of Web sites to create their own e-bookstores by linking into Amazon's backend). Our interest is in allowing for the widest possible variety of these services to take shape — which means that the basic introduction protocol has to be written to facilitate this wide range of customization while maintaining interoperability.

IMPLEMENTATION CHALLENGES

Suffice it to say that the ASN is unlikely to become an industry priority. It does not offer immediate avenues to profitability.

The ASN could be achieved in an incremental manner, with software and protocols developed among a relatively small group of participants, and gradually adopted by larger online community systems as they see fit. The development of the software and standards would best take place as part of pilot projects that introduce ASN functionality to a small group of online communities that can participate in working kinks out of the system, preparing it for a broader launch. These online communities could be either not-for-profit initiatives or for-profit companies, or a combination of the two.

But once the ASN is in place, it offers a range of opportunity for companies that could generate revenue by providing features of the overall system. These include:

- Community sites that have incorporated ASN functionality;
- Personal identity companies that offer identity services that cater to specific communities;
- Boutique brokering services that charge for specialized introductions; and,
- Specialized search services that use customized ontological frameworks.

IMPLEMENTATION PRINCIPLES

The intent of the ASN is to increase interconnectivity between people by enabling them to more easily find and share relevant relationships and information. Clearly, engendering trust in the system is critical to its success. To that end, it is necessary for the implementation of the ASN to be guided by principles that support such an environment of trust. These principles include:

- **Open Standards.** For this system to be broadly adopted, it must be transparent so that all of the entities that participate in it are reasonably assured of its trustworthiness. This means that the software code that enables the system should be non-proprietary and freely available, and that the process by which the software is written and the standards enacted should be open to the highest levels of scrutiny.
- **Interoperability.** Our vision is of an Internet with more bridges and fewer walls, where the individual can travel easily between communities. To enact this vision, online communities need to consider ways of being open to one another. Interoperability between diverse environments and ontological frameworks is central to this effort.
- **Inclusivity.** For the system to successfully draw in the largest possible number of participants, and to enable free connection between potential correspondents, it must be designed to embrace every online community that agrees to its standards and principles. In this regard, the ASN must be value-neutral, open, and inclusive, not unlike the open connectivity of the underlying Internet protocols.
- **Respect for Privacy.** The ASN should be a galvanizing force for the strengthening of privacy protections online, in support of a thriving civil society. Every person online must be certain that private information remains private, and that neither governments nor commercial interests will use this information in any way without the individual's knowledge and expressed permission.
- **Decentralization.** The Internet works best when systems are not commanded from the top down, but rather emerge from the bottom up — and are then adopted on a voluntary basis, in a manner that best suits the specific needs of the distinct communities that together comprise the Net's totality. We are in favor of an "opt-in" system, rather than one commanded by a government or commercial authority. For that reason, our approach is to develop software and standards that can be added to existing community operating systems in a modular fashion — so they do not have to rewrite their

software from scratch, but rather can "plug-in" these modules to their existing infrastructures. Similarly, the ASN would support decentralized structures for the maintenance of persistent identity and ontological frameworks.

RECOMMENDATIONS

In the near term, there are a number of practical steps that should be taken to bring the ASN into being. While some of this work could be pursued as for-profit/not-for-profit hybrids, our inclination is to support this work strictly through grants, and to make the fruits of these efforts (the software and protocols they lead to) freely available to the public through GPL (and other similar) licenses. These steps include:

- Establishing an ASN coordinating body.
- Convening a board of technical advisors.
- Providing a dedicated engineer to represent the public interest at standards bodies working on persistent identity.
- Co-develop basic ASN functionality with select online community companies.
- A dedicated team would coordinate implementation of matching technologies for the public interest sector. The ASN effort should act as a catalyst to bring attention and support to the development of ontologies and taxonomies for the public interest sector. A pilot project to begin this work should be initiated in collaboration with one or more NGOs.

About the Authors

Ken Jordan is one of the pioneers of Web-based multimedia. In 1995 he led the development and served as founding editorial director of SonicNet.com, the first multimedia music zine. SonicNet was named best Web site of 1995 by Entertainment Weekly and won the first Webby award for music site before becoming a property of MTV. In 1996 Mr. Jordan became creative director of Icon New Media, publisher of two seminal, award-winning online magazines: the general interest zine Word.com, and the action sports site Charged.com. In 1999, he co-founded the public interest portal MediaChannel.org, in partnership with Globalvision and the international civil society network OneWorld.net; it was OneWorld's first U.S. based project. He is currently a writer and digital media consultant based in New York, and Director of the Art and Culture Network.

Ken is co-editor of Multimedia: From Wagner to Virtual Reality (New York: W.W. Norton, 2001), an anthology of seminal articles that trace the "secret" history of digital multimedia; the book is widely taught at colleges and universities around the world. Outside the digital realm, he collaborated with the playwright and director Richard Foreman on the book Unbalancing Acts: Foundations for a Theater (New York: Pantheon, 1992).

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Jan Hauser (<http://www.janhauser.com>) is currently a Business Development Manager at Science Application International Corporation (SAIC) and is also a visiting professor at the Naval Postgraduate School, in Monterey California. At SAIC Jan focuses on business development of SAIC's Latent Symantec Indexing Product (LSI). This product is capable of discovering and matching "concepts" which it discovers in unstructured text. LSI functions independent of what native language these concepts are expressed in and also works independent of the various terminologies used by individuals to express their concepts.

Jan was formerly principal architect at Sun Microsystems where he was responsible for Sun's membership in the Santa Fe Institute (SFI). Jan has been a catalyst for the application of Complexity

Science to business, social, and environmental problems. In this pursuit he co-organized a workshop with the Institute For The Future (IFF) – Growing At the Edge: The New Corporate Structures for Innovation and the Challenge of Governance.

Jan has worked on the development of Sun's architecture for automated markets, Electronic Trade Exchanges, and principals that lead to the emergence of "communities" of trading partners. He currently spends much of his personal time working on problems of "Global Sustainability."

Jan has also worked with Dee Hock, founder of VISA International, in the development of new organizational models and implementations of so called "Chaordic," or self-organizing institutional forms, which were included in Sun's Jini community, design. This work led Jan to focus his energies on promoting the development and adoption of technologies that would support the emergence of "Chaord Light," a means of exploiting the internet in catalyzing latent "Social Networks" based on shared or complementary interests and capabilities combined with the transitive nature of trust amongst people who know each other indirectly through our "six degrees" of our personal knowledge and connectivity.

He can be reached through his Web site at <http://www.janhauser.com>.

Steven Foster was a pioneer in Internet resource discovery. His Veronica project, the first comprehensive Internet search engine, was the paradigmatic resource harvester which established many precedents for succeeding search engines. Veronica was the most active service on the Internet in 1994 and was awarded the American Library Association's award for "most valuable research tool." Steven has worked in development of software for taxonomic crosswalks and presently is focused on creating concept-based matching technologies for interpersonal brokering.

Steven also has a long term interest in problems of "global sustainability" and was an initiator of the first Planetnetwork conference.

Appendix 3: People Diversity

Lifecycle perspectives

- being born
- being adopted
- being a child
- being a teenager
- being a foster child
- being a proto-adult (college)
- adult
- partnership/marriage
- having children
- retiring
- dying
- being dead

Rights/needs of particular constituencies

- Women
- Domestic Violence Victims
- Ethnic Groups - African American, Latino, Asian, Native American,
- Mental Health and Physical Disease Groups
- Religious Groups
- Disability (Physical and Intellectual)
- Sexual Minorities

Civil Society Groups

- Environmental
- Social Service
- Schools
- Sports Teams and other Civic Leagues
- Trade Associations
- Technology Types (Smart Cards)
- Industry Sector (Hospitals,

Academic Researchers

- Sociologists
- Legal Scholars
- Computer Scientists

Advocacy Groups

- Privacy Industries
- Banking
- Data Brokers
- Telecommunications
- Web Services (google, yahoo, twitter)
- Internet Service Providers
- Cable
- Health Care
- Electric Utility
- Gas Utility

Governments

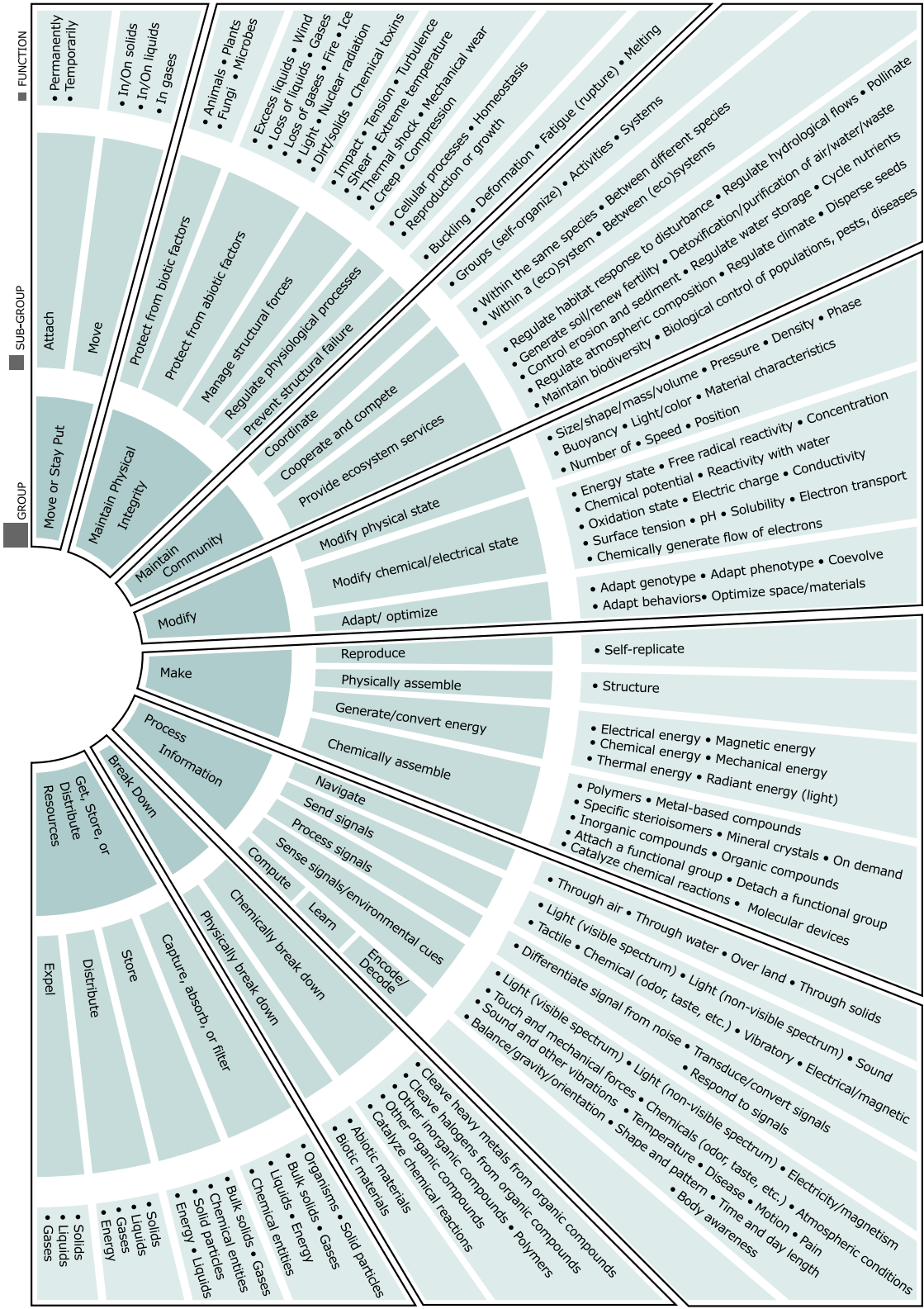
- National
- State
- County
- Municipal
- Neighborhood
- Tribal

International Standards Development Organizations (W3C, IETF, OASIS, ISO, ITU-T)

International Nonprofit and Government Organizations (OECD, WEF)

Appendix 4: Biomimicry http://www.asknature.org/article/view/biomimicry_taxonomy

BIOMIMICRY TAXONOMY



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Appendix 6: Reboot: Deliberative Democracy

I was asked by Allison Fine to contribute to the Personal Democracy Forum Rebooting America anthology. This article looks at three leading edge deliberative methods that engage small groups of citizens representing voices of the whole. They all were invented before personal computing and all could be augmented. You can see the methods outline in a chart in Appendix 7 and the eight steps of the processes are described in this article. You the topic of NSTIC and issues around citizen identity online and use on of the methods to engage the public

DELIBERATIVE DEMOCRACY IN THEORY AND PRACTICE

Kaliya Hamlin

“ At the heart of America’s liberal democracy are competitive elections, but this design choice does not enhance collective intelligence and wisdom. ”

John Ralston Saul, in “The Unconscious Civilization,” wrote “The most powerful force possessed by the individual citizen is her own government. ... Government is the only organized mechanism that makes possible that level of shared disinterest known as the public good.” During the winter of 1997, fifteen Boston citizens—from a homeless shelter resident to a high-tech business manager, from a retired farmer to a recent inner-city high school graduate—undertook an intensive study of telecommunications issues. Over two weekends in February and March, they discussed background readings and got introductory briefings. Then, on April 2nd and 3rd, they heard ten hours of testimony from experts, computer specialists, government officials, business executives, educators, and interest-group

representatives. After interrogating the experts and deliberating late into the night (with excellent facilitation), they came up with a consensus statement recommending judicious but far-reaching policy changes which they presented at a press conference at Tufts University, covered by WCVB-TV/CNN and the Boston Globe, among other news organizations. U.S. Representative Edward J. Markey, ranking Democrat (and former Chair) of the House Telecommunications Subcommittee, said, “This is a process that I hope will be repeated in other parts of the country and on other issues.”

These ordinary citizens ended up knowing more about telecommunications than the average congressperson who votes on the issue. Dick Sclove, a lead organizer of the event, says that their behavior contradicted the assertion that government and business officials are the only ones competent and caring enough to be involved in technological decision-making. This lay panel assimilated a broad array of testimony, which they integrated with their own very diverse life experiences to reach a well-reasoned collective judgment grounded in the real needs of everyday people. This proves that democratizing U.S. science and technology decision-making is not only advisable, but also possible and practical.²¹

When the Framers of our Constitution met in Philadelphia in 1787, digital media, modern psychology, social psychology, and ecological and systems science did not exist. The deliberative democracy approach outlined above and expanded upon in this essay integrates the best of face-to-face social collaboration technologies with information and communication technologies for wise governance decisions. Using these kinds of processes and technologies we can actually hear what my collaborator and network colleague Tom Atlee

21 “Ordinary Folks Make Good Policy,” Co-Intelligencer website, <http://www.co-intelligence.org/S-ordinaryfolksLOKA.html>, downloaded April 18, 2008.

calls the Voice of “We the People” expressing the public good.²²

At the heart of America’s liberal democracy are competitive elections, but this design choice does not enhance collective intelligence and wisdom. It fragments communities and societies into reductionist, adversarial “sides” and reduces complex spectra of possibilities to oversimplified “positions” that preclude creative alternatives. The norm is that citizens abdicate decision-making to elected officials, who are in turn heavily influenced by the special interests they must serve to raise money to be re-elected. With few exceptions, existing processes of democracy

- Do not provide much effective power to ordinary citizens
- Promote at least as much ignorance and distraction as informed public dialogue
- Serve special interests better than the general welfare
- Impede breakthroughs that could creatively resolve problems and conflicts, and
- Undermine the emergence of inclusive community wisdom

Voting developed as a process to support self-governance in American history, and at its inception in the 18th century it was new and innovative. In the town halls of New England, citizens gathered together, debated, and decided among themselves those who would hold leadership positions in the community. The method has not scaled to address the wicked problems we as a country and world face. Wicked problems are incomplete, contradictory and have changing requirements; and solutions to them are often difficult to recognize because of their complex interdependencies—solutions may reveal or create more wicked

22 How Can We Create an Authentic, Inclusive Voice of We the People from the Grassroots Up?
<http://thataway.org/forum/viewtopic.php?t=477> Initiated by Tom Atlee Modified by/commented on by Kaliya Hamlin

an emerging suite of online tools that can augment these processes and reduce their costs. The right combination of face-to-face deliberation with online tools can be as revolutionary as the self-governance process developed by the Framers in 1787.

Any neighborhood council, city council, region, state or even national lawmakers can use these processes to tap the wisdom and decision-making potential of the people. Here's how it could work:

Pick an Issue. Choose the topic from all the possible problems that could be tackled. Issues can be surfaced online using popular participation websites such as Digg that allow users to rank issues or polling via a network like Twitter.

Frame the Issue. Framing an issue for deliberation means describing the range of approaches to an issue and the arguments and evidence for and against each approach. A wiki is the kind of tool that will allow large groups of people (think Wikipedia) to work on understanding and elucidating an issue together.

Select Deliberators. This step is key to the legitimacy of citizen councils. The selection of deliberators must represent the diversity of the community and be resistant to outside pressures. This gives them a legitimacy that is similar to, but more refined than, the selection of juries, which also seeks to convene a cross-section of the community. Database tools can be used to create unbiased and inclusive selections of deliberators. These same kinds of tools can also be used to pool citizens willing to participate in deliberative councils.

Collect Information and Expertise. Gathering information from a range of experts and stakeholders about the pros and cons of different approaches is the next step. This is an important factor in both collective intelligence (which learns from and integrates diverse views) and legitimacy (the willingness of ordinary citizens and officials to respect the outcomes of the process). We can find experts via the Web, draw in their expert testimony via web video conferencing, and perhaps have

online forums where their knowledge is aggregated. Massive datasets of expert information are now free and available about critical issues, such as environmental toxins and the relationship between lobbying funds and legislation in Congress. These can be compiled, presented and widely shared with visualization tools, using methods beyond prose or PowerPoint to present critical information and tell relevant stories.

Deliberation. Most citizen deliberative councils involve 12-24 deliberators meeting in concentrated dialogue over four to eight days (distributed over one to ten weeks, depending on the method), led by professional facilitators. Since this may not be feasible in all circumstances, we can use the distributed intelligence of the Web to augment the in-person deliberations. Deliberations can happen both online and face-to-face over time, thus reducing the time and cost. Different algorithmic and semantic tools can be used to help deliberators see patterns of agreement and understanding.

Decision-Making. It is important to find processes that produce a deliberative Voice of “We the People” that the vast majority of the population will recognize as legitimate. Online tools like Synanim.com build consensus and shared statements using a multi-step online process. Iteration can also happen using methods like Digg or Slashdot-style voting and community commentary.

Dissemination and Impact. It is critically important to the ultimate success of citizen deliberative councils that their impact on public awareness, public policy, and public programs be discussed and understood. Online tools are critical to these assessments in a variety of ways. Politicians and other officials should also sign pledges in support of these efforts (this can be a campaign issue) that can be shared online. Ongoing feedback can be integrated and continually shared with the public using online phenomena like Facebook and organized networks like MoveOn.org to share results and empower “We the People” to ensure its Voice is heard.

The approaches and processes discussed in this essay are not an answer to our democratic woes and difficulties. The tools and advantages of the Internet alone aren't enough to augment existing democratic processes and strengthen our country. This essay is intended as a call to action and research to learn how best to scale new methods of citizen consultation, leadership, and wisdom together with online tools. I invite a more thorough exploration of how these steps can create a deep well of ongoing, meaningful citizen participation in the critical decisions of our government at all levels.

About the Author

Kaliya Young Hamlin designs and facilitates gatherings of professional technical communities addressing large challenges. She is an expert in the field of user-centric digital identity, blogging at unconference.net and identitywoman.net. Born and raised in Vancouver, Canada she has lived her whole adult life in the United States and recently applied for citizenship.

Ways to Generate an Inclusive, Legitimate, Informed, Coherent and Trustworthy Voice of "We the People"

Type of Citizen Deliberative Council	Picking an Issue	Framing the Issue	Selecting Deliberators	Information and Expertise	Deliberations	Decision-making	Dissemination and Impact	Organizational Support
Citizen Jury	Picked by Convening Authority - • Government Agency • Large NGO • Corporation • University • Wisdom Council • Automatic part of government operations	Organizers usually create a "change" naming options deliberators must choose among and describing pros, cons and tradeoffs	* Random selection, usually with stratified sampling to reflect demographic profile of the larger community * 12-24 jurors	• Oversight committee of diverse partisans and/or respected neutral experts choose briefing materials and expert witnesses	* Normal agenda-based meeting facilitation, often includes values analysis and voting * 4-5 days	* Usually majority or supermajority vote * Generate findings and recommendations	* Results sent to convening authority and media (with varying degrees of publicity) * Wisdom council reports to community meeting + high participation from participant selection * Sometimes -- other dialogues organized before, during and/or after -- officials take action or explain why not	* Professional (or other high quality) organizers * \$20,000 and up
Consensus Conference		Citizen panel frames the issue within their mandate, in liaison with the organizers	* Random from whole country/community database and/or newspaper recruitment; select people who know little about the issue * 12-24 panelists	Similar to citizen jury, but citizens have final say on expert witnesses	* Moderated public hearings followed by facilitated consensus process * 2 briefing weekends, then 3-4 day conference	* Usually consensus, sometimes reporting the nature of any remaining differences * Generate findings and recommendations		* Professional (or other high quality) organizers * \$30,000 and up
Wisdom Council	Picks its own issue(s)	Citizen panel frames and refines the issue as they proceed through dynamic facilitation	* As close to pure random selection as possible, chosen in public ceremony to generate public interest * 12-24 members	Citizens are experts in their own experience, and can choose other experts if they wish.	* Dynamic facilitation of choice-creating process * 2-5 days, culminating in public meeting	* Usually emergent consensus, but sometimes a more crafted agreement * Generate statement		* Can be done by grass-roots citizens from manuals * \$2,000 and up
Tao of Extreme Democracy (ideas for)	Some method of surfacing issues online on an ongoing basis through popular participation?	National Issues Forums- style issue framing, which provides 3-5 approaches w/ arguments for and against, trade-offs, values, etc., for each - and invites deliberators to move beyond them.	* Random selection (using demographics) from large pool of volunteers who have provided demographic information * Random selection of and from diverse groups (NGOs, churches, unions, etc.)? * 24-100 or more deliberators	* Info from issue framings and web searches * Experts available from pools of diverse volunteer experts, accessible via all telecommunications media (online, teleconference, etc.)	* Volunteer facilitators following standard guidelines? * Numerous groups of deliberators simultaneously considering the same issue + (parallel processing - a la German "planning cells")?	* Probably supermajority * Mixing and matching members of diverse parallel groups may increase common sense agreements * Could have feedback between deliberators and public before decision made		* Since not-for-profit and very experimental, needs may or investment in experiments (high ROI of social change when successful!)
Resources and Comments	Purpose -- To facilitate the emergence of an inclusive, legitimate, informed, coherent and trustworthy voice of We the People	* Need to cover popular issues and emerging dangerous ones	* Universities, graduate students * Existing "issue books" * Wikipedia of issue framings co-created through a citizen journalism movement * Must be demonstrably inclusive and/or unbiased	* Database and Selection software * Needs to be as unbiased and inclusive (wide spectrum diversity) as feasible, to nurture both legitimacy and collective wisdom	* Wikipedia pattern map for solutions? * Needs to be as unbiased and inclusive (wide spectrum diversity) as feasible, to nurture both legitimacy and collective wisdom	* Dialogue Circles * NIP/Ketting * Needs facilitation to help diverse teams evolve towards wise agreement	* Building expectations builds "buzz," afterwards * Parison advocacy tools can be used to advocate for inclusive solutions	* Needs to be easily replicable and inexpensive - and hopefully very appealing ("stick's menu") Tom Allee (w/Kaliya Hamlin) at@gc.org co-intelligence.org

1. In democratic theory, a leader, institution, system or policy is **legitimate** to the extent people will voluntarily go along with it without being coerced. Force -- importing *extrinsic* energy into a system -- does not achieve stable outcomes. Intelligence (which collectively involves dialogue) is an alternative to force -- learning the *intrinsic* energies, tendencies and patterns that can be worked with (as in permaculture).

2. Things to consider: Imagination. Wisdom Civilization. Civic Intelligence / CPSR. Anthony Judge. CWPR. URL. "How Not to Make a Decision." Pattern language. Noo. Edmonton Sean. *The future is here -- it's just not well distributed yet!*

Appendix 7: Extreme Tao of Democracy

Appendix 8: Core Principles for Public Engagement

These seven recommendations reflect the common beliefs and understandings of those working in the fields of public engagement, conflict resolution, and collaboration. In practice, people apply these and additional principles in many different ways.

1. Careful Planning and Preparation

Through adequate and inclusive planning, ensure that the design, organization, and convening of the process serve both a clearly defined purpose and the needs of the participants.

2. Inclusion and Demographic Diversity

Equitably incorporate diverse people, voices, ideas, and information to lay the groundwork for quality outcomes and democratic legitimacy.

3. Collaboration and Shared Purpose

Support and encourage participants, government and community institutions, and others to work together to advance the common good.

4. Openness and Learning

Help all involved listen to each other, explore new ideas unconstrained by predetermined outcomes, learn and apply information in ways that generate new options, and rigorously evaluate public engagement activities for effectiveness.

5. Transparency and Trust

Be clear and open about the process, and provide a public record of the organizers, sponsors, outcomes, and range of views and ideas expressed.

6. Impact and Action

Ensure each participatory effort has real potential to make a difference, and that participants are aware of that potential.

7. Sustained Engagement and Participatory Culture

Promote a culture of participation with programs and institutions that support ongoing quality public engagement.

Members of the Core PEP Working Group

Tom Atlee, Director of the Co-Intelligence Institute

Stephen Buckley, CEO of U.S. Transparency

John Godec, Board member of the International Association for Public Participation (IAP2)

Reynolds-Anthony Harris, Managing Director of Lyceum Patners & Co.

Sandy Heierbacher, Director of the National Coalition for [Dialogue](#) & [Deliberation](#) (NCDD)

Leanne Nurse, Board Member of the National Coalition for [Dialogue](#) & [Deliberation](#) (NCDD)

Steve Pyser, Editor of the International Journal of Public Participation

1 Jamais Cascio The Rise of the Participatory Panopticon, 2005 <http://www.worldchanging.com/archives/002651.html>. Institute for the Future 2007 Ten-Year Forecast Perspective on Participatory Panopticon, <http://www.iff.org/node/2784>

2 <http://ncdd.org/2460>

3 Dee Hock wrote extensively about this in his book Birth of a Chaordic Age

4 The World Economic Forum Report on Personal Data <http://www.weforum.org/issues/rethinking-personal-data>

5The term was first coined in 1935 by ecologist, A. G. Tansley in a paper entitled “ The Use and Abuse of Vegetational Concepts and Terms” he described it as:

...the more fundamental conception is the whole system (in the sense of physics), including not only the organism complex, but also the whole complex of physical factors forming what we can call the environment of the biome--the habitat factors in the widest sense. Though the organisms may claim to be our primary interest, when we are trying to think fundamentally we cannot separate them from their special environment within which they form one physical system.

6 <http://en.wikipedia.org/wiki/Ecosystem> (accessed July 17, 2011)

7 **Social Constructionism:** Individuals and groups participate in the construction of their perceived social reality. It involves looking at the ways social phenomena are created, institutionalized, known, and made into tradition by humans. The social construction of reality is an ongoing, dynamic process that is (and must be) reproduced by people acting on their interpretations and their knowledge of it. Because social constructs as facets of reality and objects of knowledge are not "given" by nature, they must be constantly maintained and re-affirmed in order to persist. http://en.wikipedia.org/wiki/Social_constructionism

8 Thrivability: A Collaborative Sketch edited by Jean Russell http://s3.amazonaws.com/nurture.wagn.org/card_files/29/Thrivability.pdf

9 <http://blueoxen.net/wiki/Collaboration>

10 http://blueoxen.net/wiki/Shared_Language

11 http://blueoxen.net/wiki/Shared_Understanding

12 <http://eekim.com/blog/2006/06/developing-shared-language/>

13 http://blueoxen.net/wiki/Shared_Language

14 https://www.socialtext.net/iiv2005/internet_identity_workshop_2005

15 http://blueoxen.net/wiki/High-Performance_Collaboration

16 [http://en.wikipedia.org/wiki/Trust_\(social_sciences\)](http://en.wikipedia.org/wiki/Trust_(social_sciences))

* Mayer, R.C., Davis J.H., Schoorman F.D. (1995). An integrative model of organizational trust. Academy of Management Review. 20 (3), 709-734.

17 http://en.wikipedia.org/wiki/Computational_trust

18 http://en.wikipedia.org/wiki/Trusted_system

19 http://en.wikipedia.org/wiki/Trust_metric

20 http://en.wikipedia.org/wiki/Human_dignity Dignity is a term used in moral, ethical, and political discussions to signify that a being has an innate right to respect and ethical treatment. It is an extension of the Enlightenment-era concepts of inherent, inalienable rights. Dignity is generally proscriptive and cautionary: for example in politics it is usually used to critique the treatment of oppressed and vulnerable groups and peoples

21 Make a link on Identity Commons blog

22 They founded the organization partially in response to the formation of Liberty Alliance which was developing “open standards” for identity, but from a large enterprise perspective rather than a grassroots people’s perspective. They drew inspiration from Dee Hook who grew the the Visa network using innovative organization principles. They were active in the Planetnetwork Link Tank discussions (See Appendix 1) that lead to the writing of the ASN paper - an excerpt of this is in Appendix 2.

23 My Fastco on Verified Anonymity

²⁴ My Fastco on Verified Anonymity

25 Regarding who in the standards development organizations (and other sectors') votes for the reps on the stakeholder body, consider this (just to shake up things):

* In an organization with one to three staff members, all the staff members would participate in nominating, discussing nominees, and individually voting (for their top five candidates, in instant run-off style, rated preferential voting) for their sector's (stakeholder category's) reps on the steering group.

* In an organization is 4-10 staff, three people are chosen at random from the whole organization to participate in nominating and voting.

* In an organization with 11-20 staff, three people are chosen at random from the executive/management levels and two at random from the general staff. All five participate equally in the nominating and voting. Management is given preference on the assumption that they know more about the entire field and its players than lower level staff.

* In an organization with over 20 staff, all five nominators and voters are chosen at random from the executive/management levels since in a large organization the chances of lower level staff having all-field knowledge and perspective is greatly reduced.

All voting would be done electronically and anonymously for the whole sector and not disclosed until all sector votes were in, to prevent any repercussions on staff members who voted for people that their bosses didn't like. All individual votes would be listed with anonymous ID numbers attached to them, along with a list of participating organizations, so that the voters could verify that their own votes were counted and see that there was no electronic ballot stuffing. The winners (and their placement or popularity) would be clearly represented in the tally.

²⁶ The title of Jaron Lanier's Book.