

What could kill NSTIC?

A Friendly Threat Assessment In Three Parts

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[Download the whitepaper: http://pde.cc/nsticrisks](http://pde.cc/nsticrisks)

High hopes for an ID ecosystem

Can we get to an international digital identity system?

High hopes for an ID ecosystem

**Can we get to an International, User-Centric
digital identity system**

that works across

Industries? Cultures?

Technologies? Governments?

Regulatory schemes?

High hopes for an ID ecosystem

This effort is driven in the United States under a 2004 program initiated by the [National Strategy for Trusted Identity in Cyberspace](#) through the [National Institute of Standards and Technology](#) (NIST) of the US Department of Commerce.



Our findings, in short:

The two most serious threats to NSTIC's success:

a user experience
that doesn't work

imbalance among
the forces that
hold an identity
ecosystem
together.

A dozen of us met

- to list and score threats to the NSTIC Identity Ecosystem vision.
- Internet Identity Workshop,
Mountain View, California
 - October 2012
 - May 2011.

We asked:

If NSTIC fails by 2016,
what could have
brought it down?

**HERE'S OUR HYPOTHETICAL
2016 POST-MORTEM OF NSTIC
FAILURE SCENARIOS**

**We spoke in the past-tense
as if the failures
had happened.**

Law

DEATH TO NSTIC!

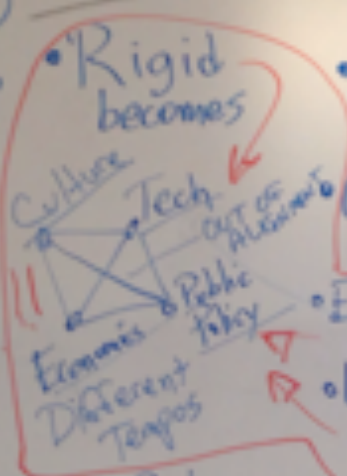
IE = Identity Ecosystem

4

- Current model (IDP/EP) is far inferior to something new or breaks at scale/context

4

- IE is an empty room.
- No critical mass.
- Imbalance of supply/demand
- Burned once, twice shy.



Local failure takes down the whole IE

3

- Rigid becomes
- Miscommunication within IE
- Citizens don't want Trusted ID
- Economic Motivations not aligned
- Liability model doesn't align with economics/market forces
- NSTIC Community Balkanized
- NSTIC Community loses cohesion/doesn't listen

Industry will Fail to Build IE

Takes Too Long Enterprise may not adopt

Big Brother Govt

UX too hard

Works but Not Trusted, Not Used (Failed Brand)

Subverted - Insecure



We didn't cooperate to build an ID ecosystem. We should have played well with others.

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Took too long. Strung out by process problems.

(Alternatives emerged.)

We didn't cooperate to build an ID ecosystem. We should have played well with others.

Industry failed to build it.

(Capital and management didn't prioritize.)

We didn't cooperate to build an ID ecosystem. We should have played well with others.

NSTIC community became balkanized.

NSTIC community lost cohesion; didn't listen to each other.

(Little to no interop.)

We didn't cooperate to build an ID ecosystem. We should have played well with others.

The program was co-opted by a Big Brother government.

(Not trustworthy internationally and for many purposes.)

**Just because it's built doesn't
mean they'll use it.**

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mean they'll use it.**

Worked, but was not trusted.

(Failed Brand).

**Just because it's built doesn't
mean they'll use it.**

Was subverted and insecure.

(Legitimately Untrusted).

**Just because it's built doesn't
mean they'll use it.**

Enterprise didn't adopt it.

(Business case not well made.)

Just because it's built doesn't mean they'll use it.

After one failure, supporters abandoned the project. “Burned once, twice shy.”

(Shallow, brittle commitment; low tolerance for failure.)

Just because it's built doesn't mean they'll use it.

The IE was an empty room. No critical mass formed. There was an imbalance of supply and demand.

(Anchor tenants didn't sign on. Institutions didn't enroll millions of users or pull in industry ecosystems.)

Just because it's built doesn't mean they'll use it.

Citizens didn't want trusted identity.

(Poor market fit; lack of perceived benefit over alternatives.)

**We didn't build the right things
the right way.**

We didn't build the right things the right way.

A local failure took down the whole identity ecosystem.

(Failures of ecosystem trust, architecture, integration testing, and risk analysis.)

We didn't build the right things the right way.

The IdP/RP/Trust identity model was inferior
to newer models.
(Technology risk.)

We didn't build the right things the right way.

The IdP/RP/Trust identity model broke at scale or broke in diverse contexts.
(Project design risk.)

We didn't build the right things the right way.

Miscommunication within the Identity Ecosystem contributed to its death.
(Poor cooperation, weak community, high self-interest, low trust.)

Failed User Experience.

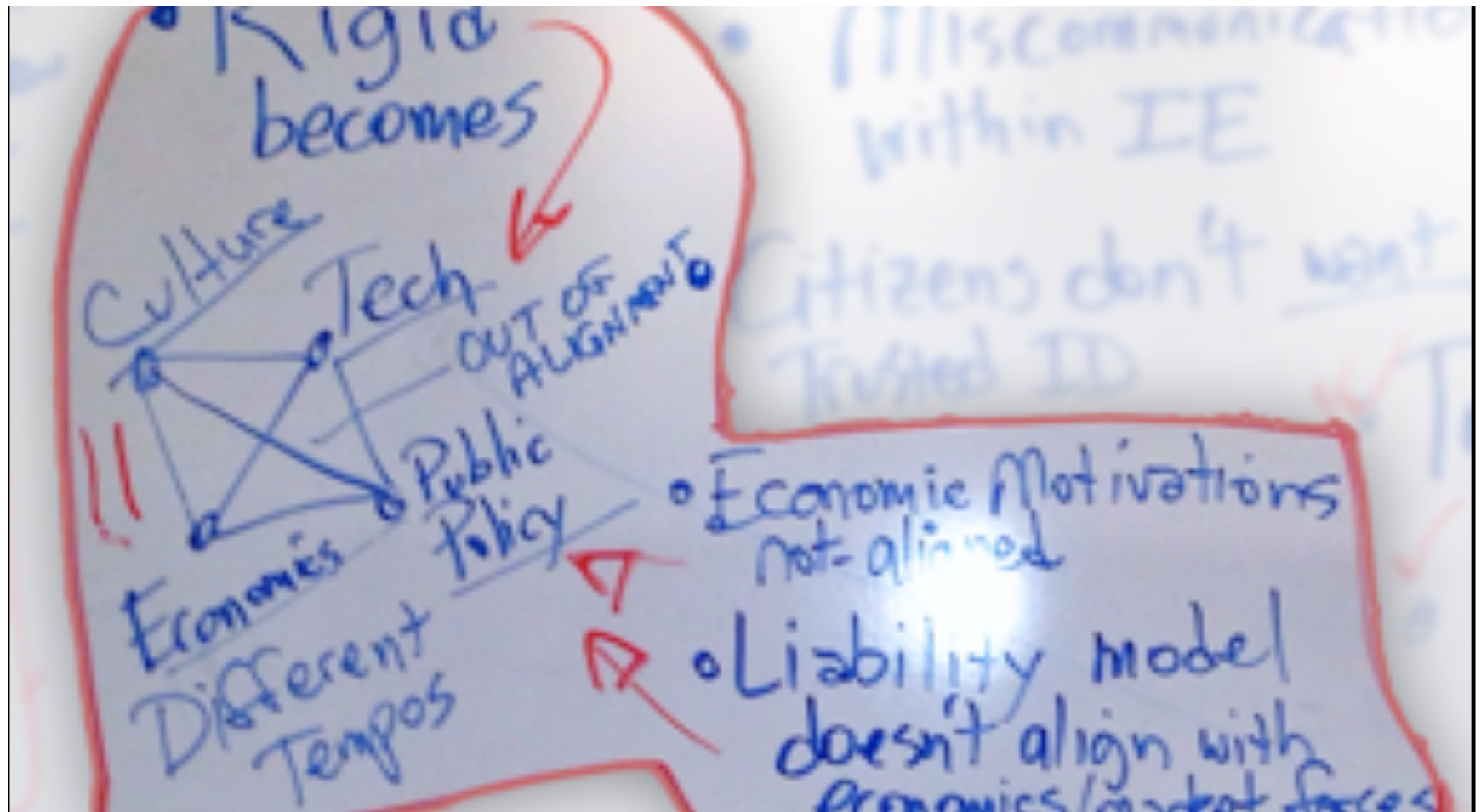
Failed User Experience.

UX was too hard.

Failed User Experience.

Everything went wrong that could go wrong.

We Built-In Structural Instability.



We Built-In Structural Instability.

Along with user experience, structural instability was the big issue, according to the group...

We Built-In Structural Instability.

- Four pillars of the ecosystem must be strong
 - Technology
 - Economics
 - Policy
 - Culture
- Each relationship among them was imbalanced.

We Built-In Structural Instability.

Each of these pillars were operating on different tempos.

- It was fast to iterate improved user experiences but slow to socialize each round among public policy and enterprise lawyers, for example.

We Built-In Structural Instability.

Motivations were misaligned.

- Some companies, for example, engineered tariffs for data sharing into their terms of service, cutting off public sector and NPOs from their customers.

We Built-In Structural Instability.

Core ideas didn't survive translation.

- Several large Internet engineering companies backed out of supporting IE infrastructure because the “Easy ID” brand became a running joke on sitcoms, SNL, and a biting meme on YouTube.

We Built-In Structural Instability.

Liability was broken.

- Tragic risks were taken with some technologies and contracts by pushing exposure from those who enabled risk to those who didn't.

This session was in October 2012.

- But wait, there's more...

We did a similar exercise 18 months earlier in May 2011 with a similar group.

<https://secure.flickr.com/photos/philwolff/5713880402/> cc-by Phil Wolff

2. EIGHTEEN MONTHS EARLIER...

Key Risks (via 2011):

Death to NSTIC!

Risks

- ✓ - Lack of adoption
- ✓ - Impatience for learning curve
- ✓ - Usability Failures
- ✓ - Interop Failures
- ✓ - Overscope
- ✓ - Phishing (3x) Malware
- ✓ - Perversion of Principles (#)
- ✓ - Overpromising (by Tom for they)
- ✓ - Dystopian Fear
- ✓ - Regulatory Blocks
 - Privacy Laws
 - Liability
 - Antitrust
 - Uncertainty
- ✓ - Short Attention Span
- ✓ - Type Cycle
- ✓ - Chicken vs. Egg
- ✓ - Waiting for Winners

ACTIONS

- Small Successes
- Industry Marketing/PR/Media & Voice
- Community UX sharing (ICM)
- ✓ Cultivating Engineering Focus
- Governance → Interop Testing
- Clear/Global Roadmap (Short-Term Plans)
- Industry Association Outreach (Long-Term Vision)
- NIST SP 800-63 & other threat content
- Security Council / Anticipating Working Group
- Government Affairs
- OITX Risk Wiki - threat

Key Risks (via 2011):

Lack of adoption.

Key Risks (via 2011):

Impatience for long learning curve.

Key Risks (via 2011):

Usability failures. (early concern)

Key Risks (via 2011):

Interop failures.

Key Risks (via 2011):

Overscope.

Key Risks (via 2011):

Security problems like phishing and malware drawn by money.

Key Risks (via 2011):

Perversion of principles.

Key Risks (via 2011):

Chicken vs. Egg problems.

Key Risks (via 2011):

Short Attention Span and
the Hype Cycle

Key Risks (via 2011):

Regulatory blocks

privacy laws

antitrust concerns

uncertainty about liability

Key Risks (via 2011):

Waiting for Winners

Key Risks (via 2011):

Dystopian Fear

Key Risks (via 2011):

Over-promising by tech communities to policy communities

Key Risks (via 2011):

- Lack of adoption.
- Impatience for long learning curve.
- Usability failures.
- Interop failures.
- Overscope.
- Security problems like phishing and malware drawn by money.
- Perversion of principles.
- Chicken vs. Egg problems.
- Short Attention Span and the Hype Cycle
- Regulatory blocks including privacy laws, antitrust concerns and uncertainty about liability
- Waiting for Winners
- Dystopian Fear
- Over-promising by tech to policy communities

We had time, in the 2011 session, to brainstorm what might avoid or mitigate these threats.

Action:

Small successes

Build confidence

Action:

Industry marketing, PR, Media/Voice

Build public understanding

Action:

Community user experience sharing (KM)

Accelerate design

Action:

Cultivate Engineering Focus

Developer relations

Action:

Governance driving Interop Testing

Interop is a leadership challenge

Action:

Clear/Graded Roadmap

Short term plans, long term visions

Action:

[Electronic Authentication Guideline](#),
NIST SP 800-63, and other threat comment

Connect to existing NIST processes

Action:

Security Council / Antiphishing Working
Group

Make security an explicit IESG activity

Action:

Government Affairs activity

Engage US and other governments

Action:

OIX Risk Wiki

Engage the OIX community

The fear of “failure to deliver” was still there.

**WHAT CHANGED
BETWEEN THE TWO
SESSIONS?**

What changed between the two sessions?

- 1. Outside forces** like dystopian fear among users, security failures, and regulatory challenges **were less prominent or not mentioned.**
- 2. Drivers of failure expanded almost exclusively to internal ones.**

What changed between the two sessions?

The primary concern: leadership

Once funding, staffing, and collaboration started: **the identity ecosystem did not take charge** and master the challenges as they emerged.

3. Last minute update...

COASTWISE 1 VICTORIA PARK

Distance 4 miles/6.5km
Map OS Landranger sheet 54
Start/parking/whiting/teas, Victoria Park, call 01330 800112
Grading: An easy level walk which can be enjoyed by all ages at all times of the year
but take great care along the cliffs

Arbroath — Auchmithie

The cliff trail north of Arbroath is awash with fascinating rock formations, christened with such evocative names as the Dull's Held, Seaman's Grave and Mermaid's Kirk. It's a tracing coastal walk skirting the swirling sea that can be enjoyed at any time of the year. A tarmac path leaves the park at an information board and climbs above the red sandstone cliffs. It levels out quickly and skirts between open fields on the left and the sea to the right. The path is not far from the edge, so take care. You pass through Seaton Cliffs Wildlife Reserve here. This is home to a range of seabirds including fulmars and herring gulls; an array of wildflowers and butterflies plus sea life including dolphins, seals and whales.

Climber air-lifted after cliff accident

Someone In Trouble? DIAL 999
Ask for the COASTGUARD
Help the Coastguard by giving as much detail as you can.
Tell them you are at COASTWISE 1 and location of incident. Stay by the telephone and keep in touch until help arrives.

SCHOOLGIRL HAD 'NO CHANCE OF ESCAPE'

STAY ON THE CLIFF PATHS
DO NOT APPROACH THE EDGE
KEEP CHILDREN AND PETS UNDER CONTROL
DO NOT THROW THINGS OVER THE CLIFFS
DO NOT CLIMB THE CLIFFS
DO NOT STAND UNDER THE CLIFFS

THE COURIER
SOUTH AFRICAN
WILSON'S GREAT BRITAIN
TRENDS
ANGUS
Arbroath 2006

Cuts are coming

- US federal government is cutting spending in 2013 as we prepare this paper in December 2012.
- By cleaver if a “fiscal cliff avoiding” budget is passed
- By chainsaw if Congress and the President fall over the “cliff.”

Direct effects.

Nobody knows if this will directly affect NIST and the NIST staff managing the NSTIC project.

Direct effects.

Could the stream of funding for NSTIC innovation grants dry up and will existing projects be halted?

Direct effects.

Will NIST's funding for the Identity Ecosystem's Secretariat, that coordinates and supports the work of the IE, be sustained or cut?

Direct effects.

In a trillion dollar budget, today's spending on NSTIC is a rounding error.

Indirect effects.

We don't know how cuts in federal spending will affect the program indirectly

Participating organizations change behavior as they

- lose government contracts,
- experience greater risk, or
- enjoy new opportunities.

eGovernment as customer.

We also don't know if the largest government agencies that would be among the first implementers of these open, user-centric, trust networks will stay in the game.

eGovernment as customer.

Having huge customers as “anchor tenants” provides strong incentives for the private sector to invest and make the identity ecosystem work.

eGovernment as customer.

Will spending cuts interfere with project continuity?

eGovernment as customer.

Will key personnel stay engaged?

Lots of unknowns.

- And no strategy to respond to these risks from the Identity Ecosystem Steering Group.
- Yet.

Our findings, in short:

The two most serious threats:

A user experience that doesn't work

Imbalance among the forces that hold an identity ecosystem together.

What do you think is the biggest threat to making the dream of an international user-centric digital identity system that works across industries, technologies, governments, and regulatory schemes come true?

Further Reading and Resources

- <https://pensivepeter.wordpress.com/2012/10/23/death-to-nstic-long-live-nstic/>
- <https://skydrive.live.com/?cid=9a70d9142ec4cc44&id=9A70D9142EC4CC44!827&sff=1>
- [PDEC White paper: What Could NSTIC?](#)

A word from our sponsors...

- [PDEC](#) is a not-for-profit education, advocacy, and research association, promoting the emergence of a user-centric personal data ecosystem where personal control of personal data is good for business and society.
- Our consortium's [Startup Circle](#) and individual members are in North America, across Europe, Australia and New Zealand
- We meet at [local meetups and conferences](#) and [hold seminars](#).



Thanks

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PDEC, the Personal Data Ecosystem Consortium, is a “small data” NGO representing startups, individuals and others who believe personal control of personal data is good for people, business, and society