



Taking a step aside: how stories shape the adoption of technical standards

Barbara Jantzen <barbara@desec.io>

ICANN 85 DNSSEC and Security Workshop – March, 2026 – Mumbai



Taking a step aside: how stories shape the adoption of technical standards

– TRIGGER WARNING –
This talk may contain traces of
emotions.

Barbara Jantzen <barbara@desec.io>

ICANN 85 DNSSEC and Security Workshop – March, 2026 – Mumbai

Common perceptions of DNSSEC

DNSSEC...

- is old
- is uncool
- is dead
- is complicated to implement and to use
- is expensive
- causes outages
- "burdens the Camel"
- is unnecessary
- doesn't do confidentiality
- is not perfect
- is "not what our customers want"
- is unheard of ("Sorry... DNS-what?")

Common perceptions of DNSSEC

DNSSEC...

- is old
- is uncool
- is dead
- is complicated to implement and to use
- is expensive
- causes outages
- "burdens the Camel"
- is unnecessary
- doesn't do confidentiality
- is not perfect
- is "not what our customers want"
- is unheard of ("Q")

D = best of all scenarios!

Common perceptions of DNSSEC

DNSSEC...

- is old
- is uncool
- is dead
- is complicated to implement and to use
- is expensive
- causes outages
- "burdens the Camel"
- is unnecessary
- doesn't do confidentiality
- is not perfect
- is "not what our customers want"
- is unheard of ("Q")
- nobody uses it anyway

= best of all scenarios!

Common perceptions of DNSSEC

DNSSEC...

- is old
- is uncool
- is dead
- is complicated to implement and to use
- is expensive
- causes outages
- "burdens the Camel"
- is unnecessary
- doesn't do confidentiality
- is not perfect
- is "not what our customers want"
- is unheard of ("Q")
- nobody uses it anyway
- can't be good, because if it was, it would be much better deployed

D = best of all scenarios!

Common perceptions of DNSSEC

DNSSEC...

- is old
- is uncool
- is dead
- is complicated to implement and to use
- is expensive
- causes outages
- "burdens the Camel"
- is unnecessary
- doesn't do confidentiality
- is not perfect
- is "not what our customers want"
- is unheard of ("Q")
= best of all scenarios!
- nobody uses it anyway
- can't be good, because if it w
= vicious circle
much better deployed

DNSSEC History – Just rationality and causality?

- 2005: The RFCs 4033, 4034 & 4035 define the DNSSEC protocol, designed to guarantee the integrity of DNS answers, as a response to the by then widely felt security weakness of the DNS. DNSSEC is deemed very useful.
- Enthusiasts promote DNSSEC, sending the subliminal message: “If you don’t do DNSSEC, you’re not doing security right.”
- In some contexts especially, DNSSEC is peddled to everyone regardless of their technological maturity, leading to massive outages.
- From 2009: DNSSEC related outages get listed in detail on the IANIX website.
- 2015: a roaring blog post called “Against DNSSEC” sets a DNSSEC-bashing trend.
- 2026: Secure delegations are still scarce.

DNSSEC – “No story” is ... a story ... eventually told by others

- 2005: The RFCs 4033, 4034 & 4035 define the DNSSEC protocol, designed to guarantee the integrity of DNS answers, as a response to the by then widely felt lack of trust in the DNS. DNSSEC is deemed very useful. **STORY**
- Enthusiasts promote DNSSEC, sending the subliminal message: “If you don’t use DNSSEC, you’re not doing security right.” **STORY**
- In some contexts especially, DNSSEC is peddled to mask the lack of their technological maturity, leading to massive outages. **STORY**
- From 2009: DNSSEC related outages get listed in detail on the IANIX website. It gets referenced to this day as a proof of DNSSEC’s unreliability. **STORY**
- 2015: a roaring blog post called “Against DNSSEC” sets a DNSSEC trend. Again, albeit sweeping and by now obsolete, it’s read and referenced. **STORY**
- 2026: Secure delegations are still scarce. **STORY**

DNSSEC – A history of emotions

- 2005: The RFCs 4033, 4034 & 4035 define the DNSSEC protocol, designed to guarantee the integrity of DNS answers, as a response to the by then widely felt security weakness of the DNS. DNSSEC is deemed very useful.
- Enthusiasts promote DNSSEC, sending the subliminal message: “If you don’t do DNSSEC, you’re not doing security right.”
- In some contexts especially, DNSSEC is peddled to everyone regardless of their technological maturity, leading to massive outages.
- From 2009: DNSSEC related outages get listed in detail on the IANIX website. It gets referenced to this day as a proof of DNSSEC’s unreliability.
- 2015: a roaring blog post called “Against DNSSEC” sets a DNSSEC-bashing trend. Again, albeit sweeping and by now obsolete, it’s read and referenced to this day.
- 2026: Secure delegations are still scarce.

DNSSEC – A history of emotions

- 2005: The RFCs 4033, 4034 & 4035 define the DNSSEC protocol to guarantee the integrity of DNS answers, as a response to the by then growing concern of the DNS. DNSSEC is deemed very useful. **SATISFACTION**
- Enthusiasts promote DNSSEC, sending the subliminal message: “If you don’t use DNSSEC, you’re not doing security right.” **PRIDE**
- In some contexts especially, DNSSEC is peddled to emphasize technological maturity, leading to massive outages. **DISTRESS & FACE LOSS**
- From 2009: DNSSEC related outages get listed in detail. It gets referenced to this day as a proof of DNSSEC’s usefulness. **ANGER & SHAME**
- 2015: a roaring blog post called “Against DNSSEC” sets a DNSSEC-baiting trend. Again, albeit sweeping and by now obsolete, it’s read and referenced to this day. **REVENGE**
- 2026: Secure delegations are still scarce. **SORROW**

DNSSEC – A history of emotions

- 2008: The DNSSEC project is initiated by the Internet Engineering Task Force (IETF) to provide a secure way to distribute DNS data.
- 2010: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2012: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2015: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2016: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2017: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2018: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2019: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2020: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2021: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2022: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2023: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2024: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2025: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.
- 2026: The DNSSEC project is approved by the IETF and the DNSSEC Working Group is formed.

SATISFACTION

PRIDE

DISTRESS & FACE LOSS

ANGER & SHAME

REVENGE

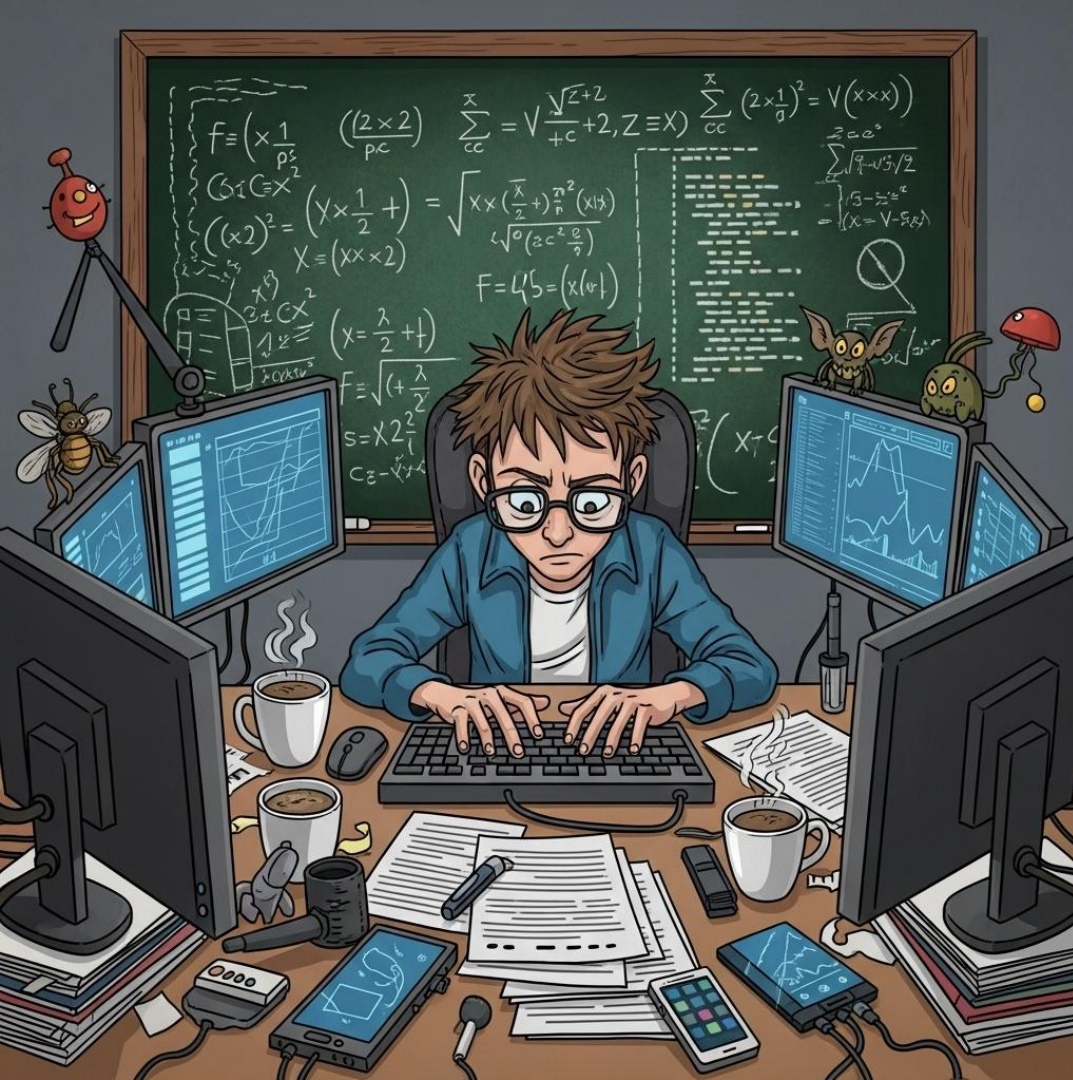
SORROW

Takeaways

- Human behaviour is often **irrational**: Non-factual factors bend people's assessment of factual matters and their perception of new developments. → **Story matters.**
- People have **feelings**, that will either make them behave irrationally or will remain unaddressed, both ways infringing fact-based interaction. → **Emotions matter.**
- Thus, even in a fact-driven community like this one, **human irrationality and people's emotions are factors that need to be taken into account.**

As a consequence: **Even technical matters need storytelling.**

- **Tell whatever story needs to be told.** Just, don't leave it to others. And, after you started it, be alert to the versions that will be unfolding, and **react**.



Actual factors bend people's assessment
w developments. → **Story matters.**

them behave irrationally or will remain
d interaction. → **Emotions matter.**

this one, **human irrationality and**
o be taken into account.

s need storytelling.

leave it to others. And, after you started it, be alert to

n storytelling, and deeply so.

them behave irrationally or will remain
d interaction. → **Emotions matter.**

his one, human irrationality and
to be taken into account.

We need storytelling.

Leave it to others. And, after you started it, be alert to

n storytelling, and deeply so.



Takeaways

- Human behaviour is often **irrational**: Non-factual factors bend people's assessment of factual matters and their perception of new developments. → **Story matters.**
- People have **feelings**, that will either make them behave irrationally or will remain unaddressed, both ways infringing fact-based interaction. → **Emotions matter.**
- Thus, even in a fact-driven community like this one, **human irrationality and people's emotions are factors that need to be taken into account.**

As a consequence: **Even technical matters need storytelling.**

- **Tell whatever story needs to be told.** Just, don't leave it to others. And, after you started it, be alert to the versions that will be unfolding, and **react**.
- If you face a **substantial image problem**, engage in **storytelling, and deeply so.**

DNSSEC – Tackling the image issue (at technology level)

- make DNSSEC simpler by automation



- design reliable automation to handle multi-signer setups and DS updates, in close coordination with the involved parties
 - Internet draft “Operational Recommendations for DS Automation”:
<https://datatracker.ietf.org/doc/draft-ietf-dnsop-ds-automation/>
 - Status: WG Consensus: Waiting for Write-Up

DNSSEC – Tackling the image issue (at discourse level)

- provide updated information on DNSSEC's actual state of the art
(→ press articles, conference talks, podcast episodes)
 - put outdated publications into perspective
 - communicate in a balanced, non-evangelizing way, allowing people to make informed decisions about whether they should use DNSSEC
 - raise awareness on how narratives can impact the assessment of technical matters (e.g., CircleID article [“The excruciating slow rise of DNSSEC – A Dialogue With Roy Arends About Myths, Realities and Hard Lessons”](#))
- reach out to the community and injecting lightheartedness and self-deprecating fun into the talk on DNSSEC (e.g., comedy [pecha kucha](#) at IETF 123)

Transfer

D N S S E C

Transfer

D N S S E C

Transfer

D
D N S S **E** C
L
E
G

DELEG – Scattered Thoughts

- avoid history repeating
 - optional (= you can always do things the old way if you want)
→ deployment motivation...
 - „but when DELEG comes“ → double risk:
 - temptation to adopt a hailing tone
 - slacken innovation in the wake of its arrival
 - good timing is needed as to when the community should be actively encouraged to use it = when complexity reduced to a minimum by design, documentation and outreach

DELEG – Outreach & Communication

- outreach $\approx$ communication
- DELEG hasn't hit the public yet (= a “blank slate”!) → a very good time to reflect on how to shape communication
- addressing the ecosystem → „Hell is other people.“ (Jean-Paul Sartre) & the circles of Hell (Dante)

DELEG – Outreach & Comm

- outreach $\approx$ communication
- DELEG hasn't hit the public yet (but it's a very good time to reflect on how we can communicate)
- addressing the ethical implications (cf. Paul Sartre) & the circles of responsibility

DELEG – Outreach & Communication

- outreach $\approx$ communication
- DELEG hasn't hit the public yet (= a “blank slate”!) → a very good time to reflect on how to shape communication
- addressing the ecosystem → „Hell is other people.“ (Jean-Paul Sartre) & the circles of Hell (Dante)
 - actors of DELEG deployment
 - story network that will co-determine DELEG's deployment success
 - ask questions!

DELEG – Ideas for Questions

1. What is their situation?
2. What might be their interest as they see it?
3. What are their priorities?
4. What is at stake?
5. What are their fears?
6. What might be their spontaneous reaction(s) to DELEG?
7. How would a good implementation look like from their point of view?
8. What is their technical knowledge?
9. What kind of conceptions or preconceptions do they have? Where do they come from?
10. Whom do they consider an authority regarding DNS matters?
11. What do they need to take a decision?
12. What kind of people are they? What drives them? What's their history?

Thank you!

— — —

