DNSSEC education

CZ.NIC
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cz.nic | CZ DOMAIN REGISTRY

Contents

- Activities
- Approaches
- Lessons learned
- Technical / Administrative / Marketing

- **How to make DNSSEC deployment successful?**

- **86 888** .cz domains DNSSEC signed
- **13.1 %** of all .cz

Once upon a time ...

- … long before DNSSEC deployment

- T – 8 months
- "Start early, release often" strategy
- Regular meeting with registrars "Contact days"
- Test systems
    – Signed zones first

    – End user records later .... but not much later
- Check and discuss progress

Registrars feedback

- Survey 6 weeks before public launch

- "What are the plans?"

DNSSEC support

DNSSEC usage

Additional services offer

50% | 50%

100%

43% | 57%

■ yes ■ no
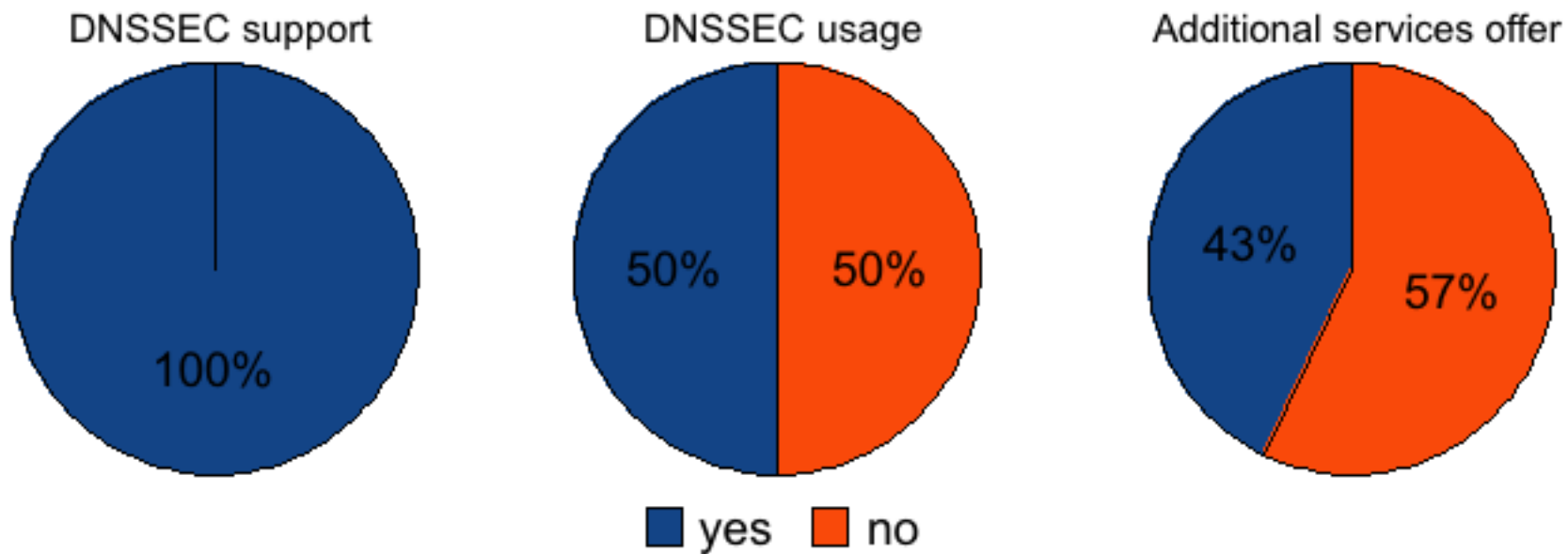
- Launch day: all registrars (30) supported DNSSEC!

Where is the trick?

- FRED client software since 2007

- Registrars use it directly (instead of API)

- FRED client was upgraded to DNSSEC (no other changes)

- Upgrade mandatory!

- All registrars virtually support DNSSEC … manually

- On the other hand … just few other fields in the registry

- Seriously

  – Registrars with 35% market share **at launch**

  – Registrars with 80% market share **today**

FRED

Keep it simple & stupid

- What if the user operates more domains?
- Is the DNSSEC voodoo really necessary for each domain?
- 50% of domains: registrar = DNS provider

- Could that be improved?

- Standard DS …
- "Domain sensitive" - calculated from key and domain name
- Let's see …

.cz registry data structure
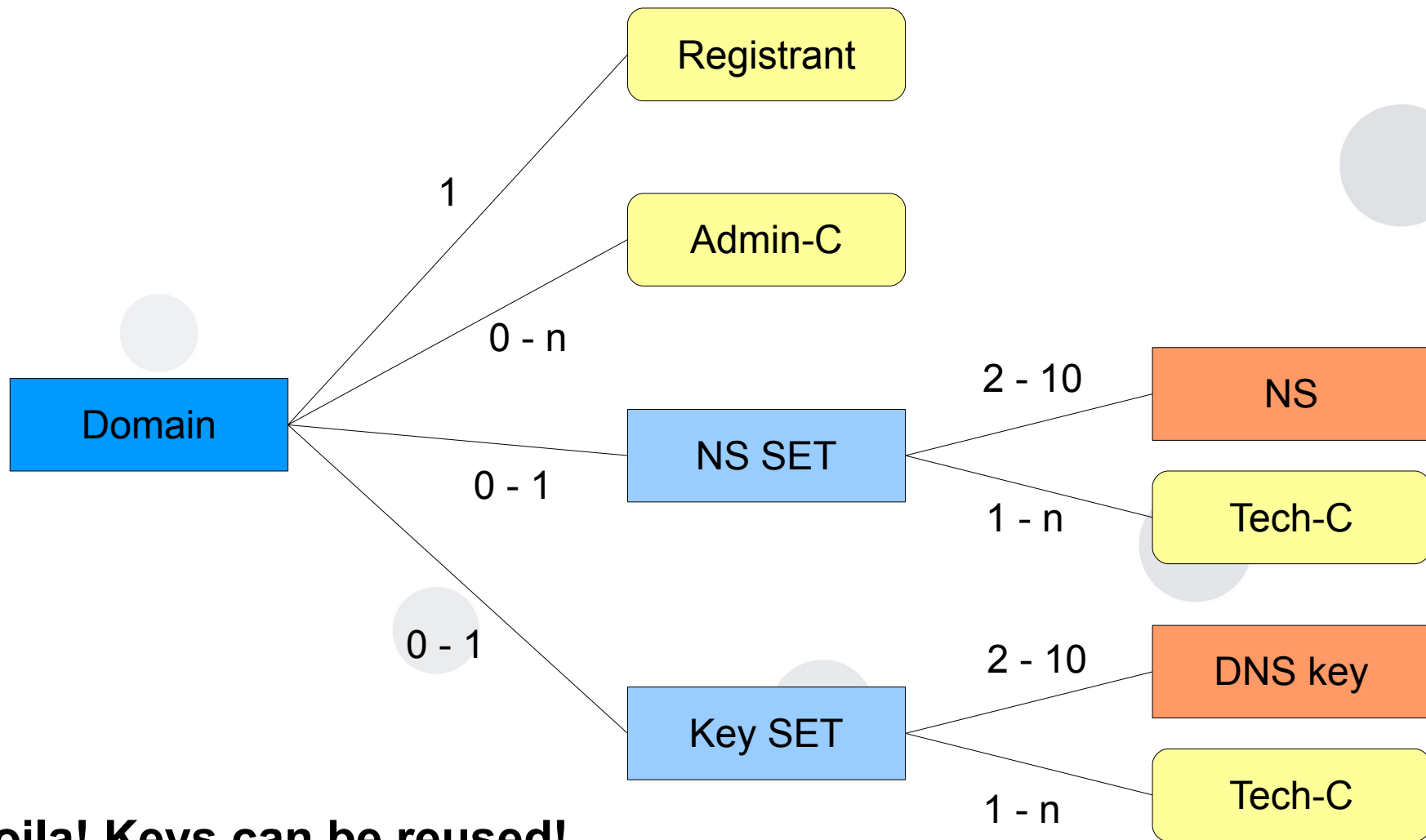
Voila! Keys can be reused!

Resolvers side

- ISPs
- Co-operation with NIX.CZ
- Good response on the workshop …
- … just a few deployed
- No major ISP onboard yet :(
- DNS / DNSSEC trainings
- DNSSEC users mailing list
- Government?

Pricing

- Feature, not service

- No fee

- Seen as a service on the market
  - Active 24 – "Secure domain" product
  - 2 EUR / year (+25% of the price)
  - ROI: 4 months

- Now the security feature
  - Signed all operated domains
 - Web4u (3,3%)
  - Active 24 (16,4%)

Co-marketing

- Registrar & CZ.NIC together
- Cost split 50:50
- Maximum limit is based on registrar performance
- DNSSEC bonus
- 10% of price given back
- One DNSSEC campaign already during 2009

- Co-operative communication with registrars or even (significant) end users
- Mainly press releases … print & TV few times

End user education

- Increase the awareness … always good

- Spread the word – "How to attack DNS in 21 minutes"

- Marketing communication – Dobra domena

- http://www.dobradomena.cz/#/en/security/

- Together with registrars … how to enable DNSSEC

- Upcoming: more marketing & PR communication

- DNSSEC tools @ beta stage

- Research Labs http://labs.nic.cz

- Open source … get, use and spread!
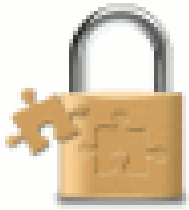
DNSSEC HARDWARE TESTER

- Test DNSSEC compatibility – device (and network)
- Live demo ...
- Online database

ZYXEL – LIST OF DEVICES

Device	Reports	Score	CZ.NIC score	DNSSEC compatibility	Last test
ZyXEL P-320W	1	102	0	☁ 52%	06-12-2009
ZyXEL P-660HW	4	574	0	⛅ 72%	08-12-2009
ZyXEL P-660RU	1	182	0	☀ 92%	08-12-2009
ZyXEL P-660R-63	1	182	0	☀ 92%	02-01-2010
ZyXEL P-661HW	0	0	0	—	—
ZyXEL USG 200	0	0	0	—	—

- Windows / Linux / Mac OS supported
- Download at www.dnssectester.cz
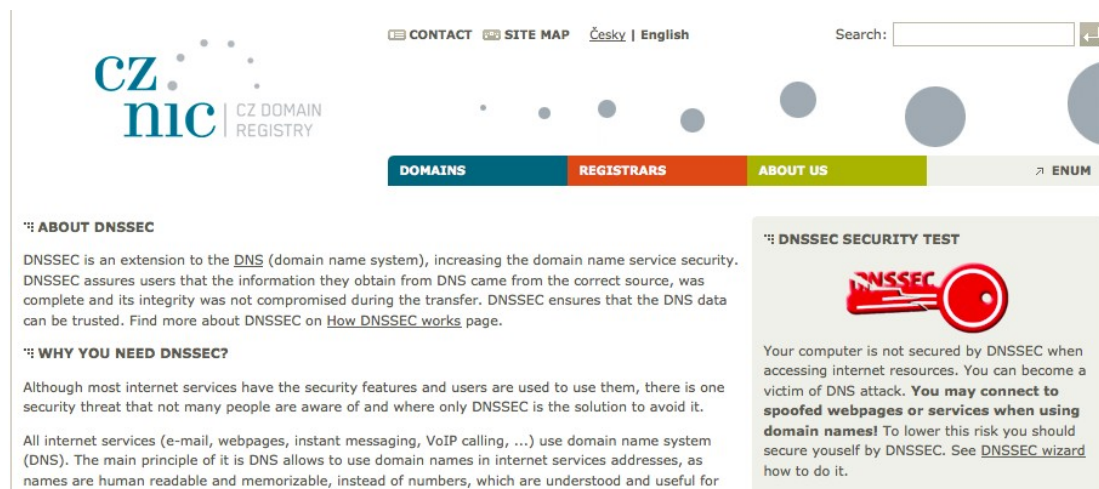
DNSSEC Validator

- Firefox add-ons

- Validates domain name in the address bar

- Key ikon

- No DNSSEC, broken DNSSEC, functional DNSSEC

- Option to change DNS resolvers

- Live demo …

- Download at:

  https://addons.mozilla.org/en-US/firefox/addon/64247

Open validating resolvers

- Do you have a validating resolver?

- Go to www.dnssec.cz and check ...

- Public DNSSEC validating resolvers

	IPv4	IPv6
DNS 1	217.31.204.130	2001:1488:800:400::130
DNS 2	217.31.204.131	2001:1488:800:400::131

Thank you

Questions?

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