

DNSSEC education

CZ.NIC

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CZ.

nic

CZ DOMAIN
REGISTRY

Contents

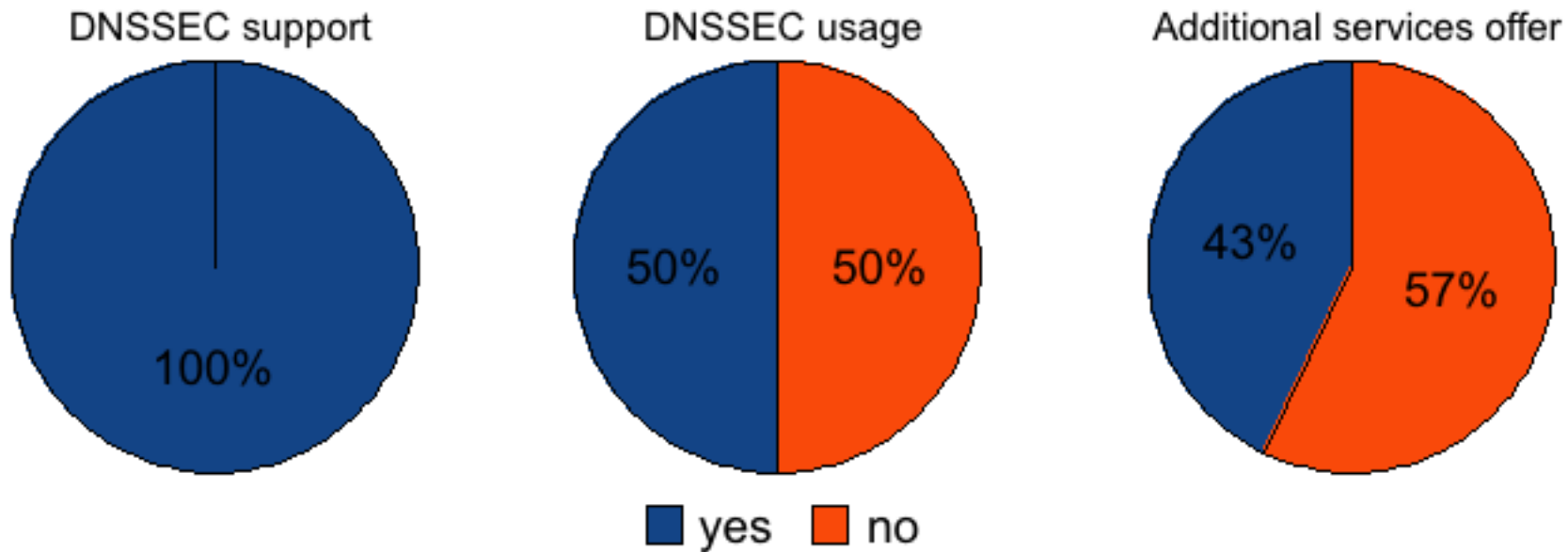
- Activities
- Approaches
- Lessons learned
- Technical / Administrative / Marketing
- **How to make DNSSEC deployment successful?**
- **86 888 .cz domains DNSSEC signed**
- **13.1 % of all .cz**

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?”



- Launch day: all registrars (30) supported DNSSEC!

Where is the trick?

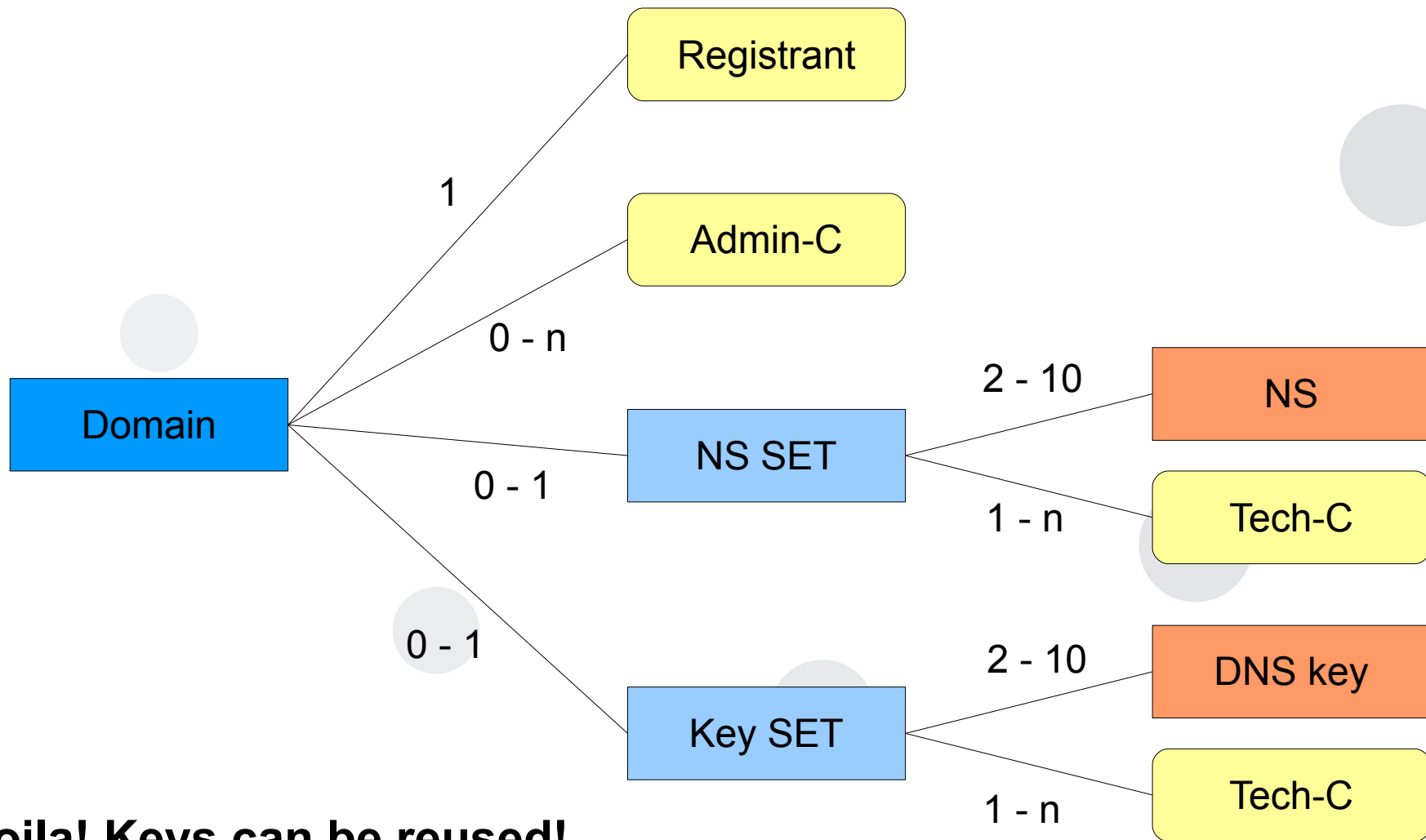
- FRED client software since 2007
- Registrars use it directly (instead of API)
- FRED client was upgraded to DNSSEC (no other changes)
- Upgrade mandatory!
- All registrars virtually support DNSSEC ... manually
- On the other hand ... just few other fields in the registry
- Seriously
 - Registrars with 35% market share **at launch**
 - Registrars with 80% market share **today**



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%)

The logo for web4u, featuring the text "web4u" in a bold, sans-serif font. The "4" is stylized in blue, while the other letters are black.

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

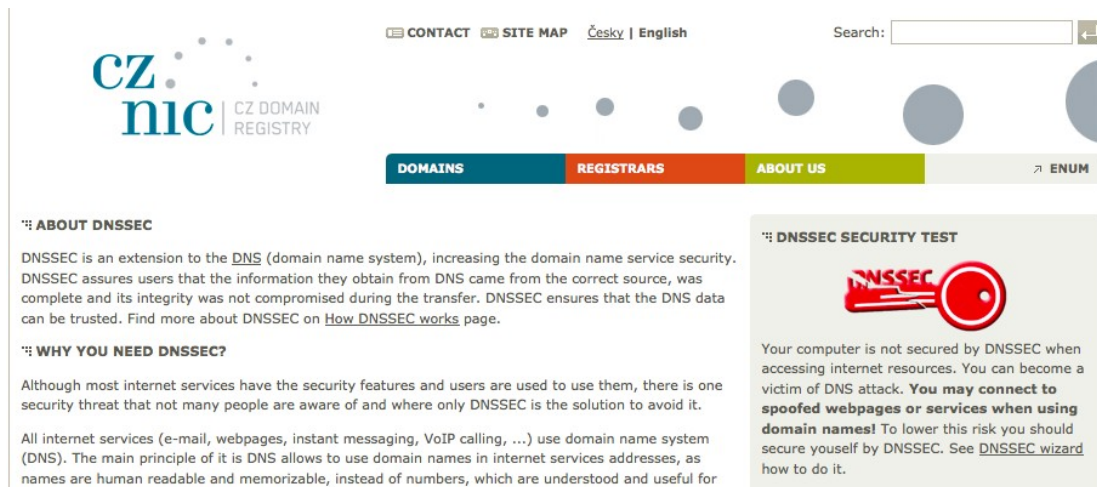


DNSSEC Validator

- 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 ...



The screenshot shows the website for CZ.nic, the Czech Domain Registry. The page features a navigation menu with 'DOMAINS', 'REGISTRARS', 'ABOUT US', and 'ENUM'. The main content area is titled 'ABOUT DNSSEC' and includes a section for 'DNSSEC SECURITY TEST'. The test section contains a red circular icon with 'DNSSEC' written on it and a warning message: 'Your computer is not secured by DNSSEC when accessing internet resources. You can become a victim of DNS attack. You may connect to spoofed webpages or services when using domain names! To lower this risk you should secure yourself by DNSSEC. See DNSSEC wizard how to do it.'

- 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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