

DNSSEC education

CZ.NIC

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CZ.

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CZ DOMAIN
REGISTRY

Contents

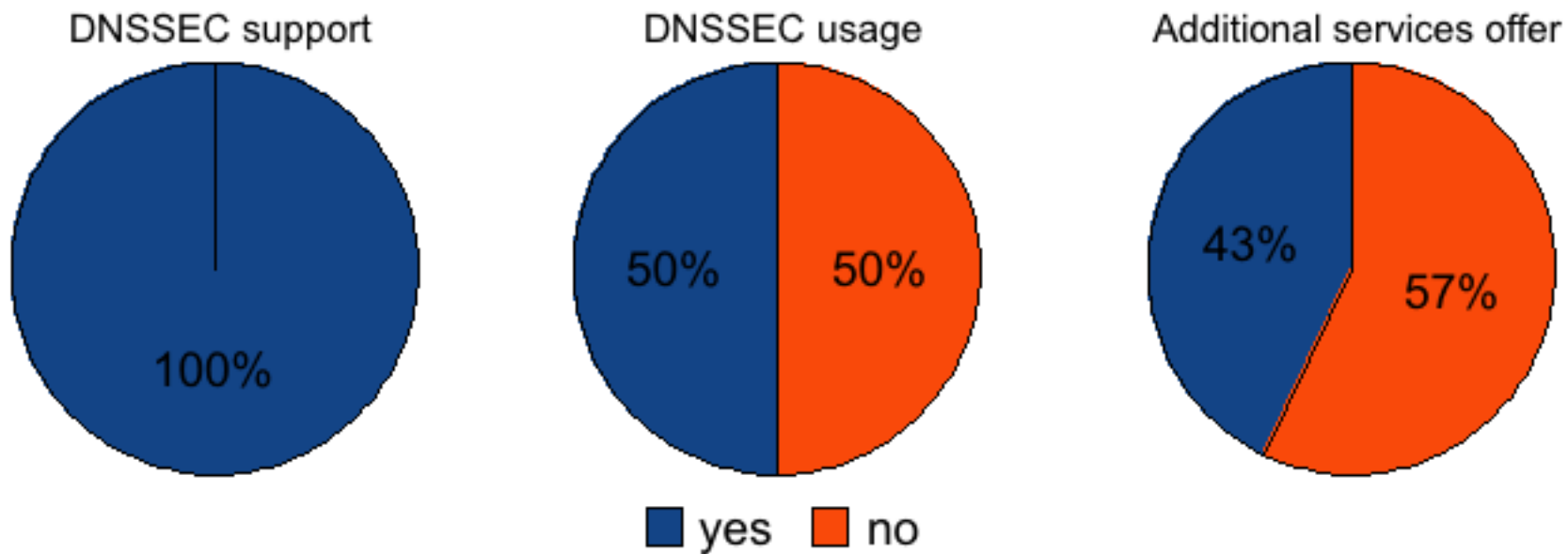
- Activities
- Approaches
- Lessons learned
- Technical / Administrative / Marketing
- **How to make DNSSEC deployment successful?**
- **86 888 .cz domains DNSSEC signed**
- **13.1 % of all .cz**

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?

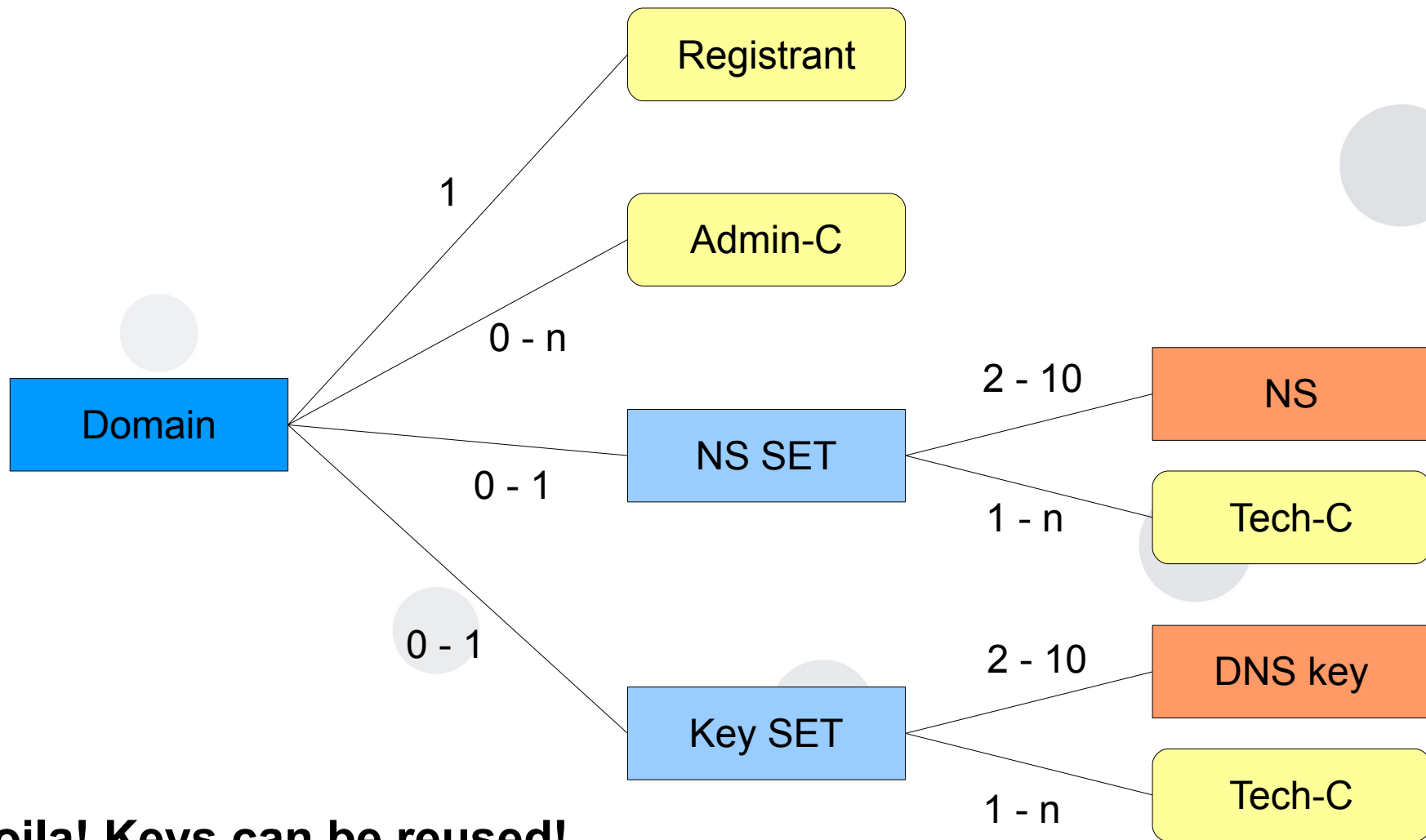
- FRED client software since 2007
- Registrars use it directly (instead of API)
- FRED client was upgraded to DNSSEC (no other changes)
- Upgrade mandatory!
- All registrars virtually support DNSSEC ... manually
- On the other hand ... just few other fields in the registry
- Seriously
 - Registrars with 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, lowercase sans-serif font. The "4" is a light blue color, while "web" and "u" are black. A grey semi-circle is positioned above the "4".

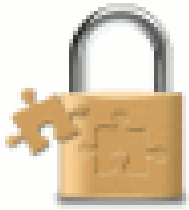
Co-marketing

- 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

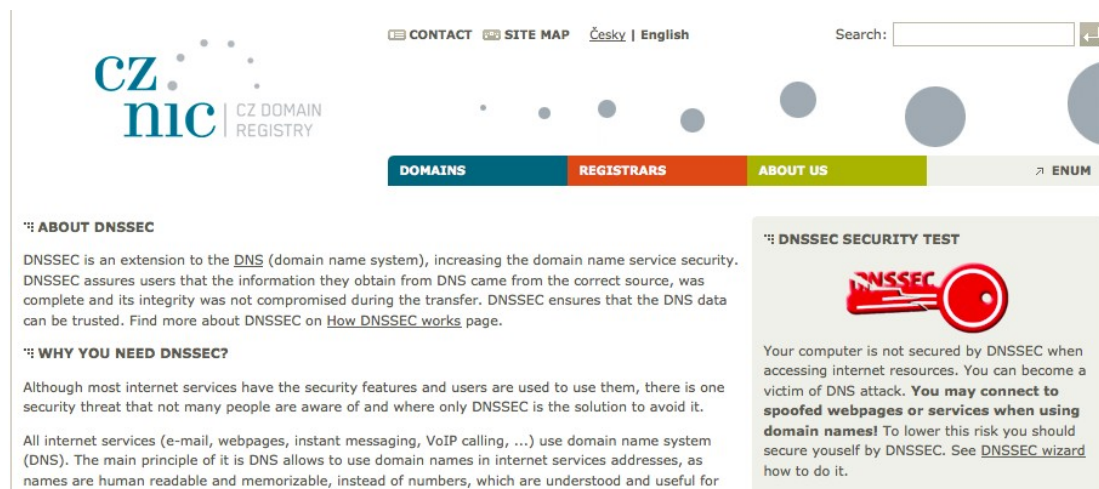


DNSSEC Validator

- 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 ...



ABOUT DNSSEC

DNSSEC is an extension to the [DNS](#) (domain name system), increasing the domain name service security. DNSSEC assures users that the information they obtain from DNS came from the correct source, was complete and its integrity was not compromised during the transfer. DNSSEC ensures that the DNS data can be trusted. Find more about DNSSEC on [How DNSSEC works](#) page.

WHY YOU NEED DNSSEC?

Although most internet services have the security features and users are used to use them, there is one security threat that not many people are aware of and where only DNSSEC is the solution to avoid it.


All internet services (e-mail, webpages, instant messaging, VoIP calling, ...) use domain name system (DNS). The main principle of it is DNS allows to use domain names in internet services addresses, as names are human readable and memorizable, instead of numbers, which are understood and useful for

DNSSEC SECURITY TEST

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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