CZ.NIC, .cz and DNSSEC

CZ.NIC
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25 Jul 2012 – Prague / ICANN, Tech Day
Agenda

- A few words about company
- Czech domain
- Our software
- DNSSEC.cz
About CZ.NIC

- Founded in 1998 by group of 16 ISPs
- Main focus – TLD .cz ... and ENUM +420
- Special interest association of legal entities
- Open membership - 103 members - growing
- Registry-Registrar model (46 registrars)
- ~50 people, strong R&D part
- Based in Prague and Brno (2nd largest Czech City)
- Not for profit
Domain .CZ

- Fully liberalized, simple pricing model
- No restriction on numbers, presence etc.
- Strictly first come first serve
- ADR – Czech Arbitration Court (.eu, UDRP)
- DNSSEC, IPv6 – no fees
- End user domain locking
- 24x7 end user support, comfort notification
- Database cleaning
- No IDN
Number of domains
DNS system - anycasting
Other activities

- Registration system FRED
- Security
- Edification – books, conferences
- Training – CZ.NIC Academy
- Support of new technologies
- Support of Internet infrastructure
- Identify provider – mojeID (myID) - OpenID

Good of Internet
Internet infrastructure

- Free NTP server
- Mirror of root server F
- Mirror of root server L – first node outside US, main distribution node for Europe
- Anycasting – change of RIPE policy
- Hosting of foreign secondary servers - .tz, .cl (mutual exchange)
- Mirrors of Linux distributions etc.
Open validating resolvers

- Public DNSSEC validating resolvers
- Integrated into browser add-ons

Using anycast technology

http://labs.nic.cz/odvr
Our software

- Main page – http://labs.nic.cz
- FRED – http://fred.nic.cz
- Knot DNS – http://www.knot-dns.cz
- BIRD – http://bird.network.cz
  - Routing daemon – similar functions to e.g. Quagga
  - RIP, OSPF, BGP, v4 & v6
  - Fast, efficient, light-weight
  - Most popular as route server in IXP world
- Test DNSSEC compatibility – device (and network)
- On-line database - EN/CZ/HU

### ZYXEL – LIST OF DEVICES

<table>
<thead>
<tr>
<th>Device</th>
<th>Reports</th>
<th>Score</th>
<th>CZ.NIC score</th>
<th>DNSSEC compatibility</th>
<th>Last test</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZyXEL P-320W</td>
<td>1</td>
<td>102</td>
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<td>☁️ 52%</td>
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<td>ZyXEL USG 200</td>
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<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

- Windows / Linux / Mac OS supported
DNSSEC Validator

- Firefox/Chrome/IE add-ons - Shows icon similar to 'https'
- Validates domain name in the address bar
- No DNSSEC, broken DNSSEC, functional DNSSEC
- (Or search for DNSSEC at browser Add-ons)
DNSSEC HTML Widget

- Informs about DNSSEC validation and IPv6 support of connection (on http://www.nic.cz)

- Measures speed of IPv4 and IPv6

- http://labs.nic.cz/widget
Short history of DNSSEC.CZ

- April 4, 2008 - ENUM (0.2.4.e164.arpa) zone signed – first signed ENUM
- September 2, 2008 – .CZ signed (5th)
- September 30, 2008 - .CZ open for end-user public key registration (DS records)
- Started with NSEC – NSEC3 not deployed
- July 15, 2010 – root zone signed
DNSSEC penetration

• About 36.5% domains is signed
• That means ~ 348,000 domains! (of ~ 955,000)
• Check numbers at http://www.nic.cz
Communication

- Registrars – seminars, training, financial incentives, direct, conferences, technical support
- Important web sites (government, news, e-shops) – direct, conferences
- ISPs – campaign (via end users) and direct
- End users – campaigns
- Tools
Current situation

• 36.5% of all Czech domains – growing
• All major registrars (with 90% of market share) support DNSSEC – many of them by sign default – big thank to them!
• Many major ISPs validate (2 of 3 cell phone operators – Telefonica and Vodafone; majority of B2B; major xDSL provider
• Many important sites signed – news, magazines, e-shops, etc.
¿Questions?

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