DNS at NLnet Labs

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Outline

• Mission
• History
• Our Methodology
• For TLDs relevant Tools
• Support etc
• Current plans
• The open Source dilemma
Mission NLnet Labs

To provide globally recognized innovations and expertise for those technologies that turn a network of networks into an Open Internet for All
NLnet Labs History

- Founded by NLnet Foundation
- Not for profit organisation (ANBI)
- Live by Donations
- Want stable long term base
Methodology

- UNIX Background
- Tools based solutions
  - “Do one job at a time and do that well”
  - Don’t make policy decisions for the operator
- Employable reference implementations
- Special wishes on request
- Industry quality code
- There are things we don’t do
Relevant Tools

- **NSD** — Authoritative Name Server
- **LDNS** — Library to manipulate DNS data
- **Tools based on LDNS** — Drill, Dns-key-gen etc.
- **OpenDNSSEC** — To maintain dnssec keys and interact with HSM etc.
NSD History

1. Precompile all
   • very stable zones servers — root servers

2. DNSSEC added
   • and some support for “unstable” zones — TLDs

3. More support for dynamic zones — ISPs

4. Lot’s of zones, more operator friendly
   • Compilation as an option
LDNS

- Library to manipulate DNS data
- Some tools using the library
- Inspired by Perl NET::DNS
- C for Speed
- Now with Python and Perl(!) bindings
Other Tools/Projects

• Unbound
  • Recursive, caching, and validating name server

• Engrid
  • Routing policy engine

• Get-dns API (with Partners)
  • More detailed dns into to applications

• Perl Net::DNS
Random Ideas

• Masterdont — Provisioning engine
• Credns — pre publication checking
Support

- Third parties are doing and user support, consulting, courses, packaging etc.
- Direct flexible support via OpenNetlabs
  - Speak to Han Brouwers
- Specialised services
Future (NSD) Plans

• Outgoing XFR
• Per zone statistics (optional)
• Better interface with OpenDNSSEC
• Lots of TCP streams
Open Source Dilemma

- Free as in Free Beer
- Beer Barrels are not infinite
- Standards evolve
  - Tracking standards does have it’s costs
  - Requires long term commitment (and funding)
Questions

(If you like our work, please consider sponsoring us)
References

Han Brouwers <han@NLNetLabs.nl>
NLnet Labs <www.nlnetlabs.nl>
OpenNetlabs <www.opennetlabs.com>
Unbound <www.unbound.net>
OpenDNSSEC www.opendnssec.org