Stimulating DNSSEC Validation at .nl

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SIDN

- SIDN = registry for the Netherlands (.nl)
- SIDN Labs = R&D team SIDN
- 5.5M domain names, 1.500 registrars
- Largest DNSSEC zone in the world (2.4M signed)
- RSP for .amsterdam (capital) and .aw (Aruba)
- Main DNSSEC challenge: validation
#1: DNSSEC Resolver Service

- DNSSEC validation by .nl registry

- ISPs don’t, so we decided to do it ourselves

- Also get more experience in operating resolvers

- Two resolver machines running UNBOUND

- Pilot with a high school (1.000 students)

- Opted for a white-listed service (unlike Google, Verisign)
#2: DNSSEC Validation Device ("ValiBox")
#3: DNSSEC Validation Monitor “XXL”

- **Access Provider** → **User**
- **Resolver**
- **.nl Registry** → **Validating Monitor XXL**
- **Validating Resolver** → **.nl zone file**
- **Registrar/DNS operator** → **Email**
- **Name Server** → **Network Engineer**

### Percentage DNSSEC validation errors

- **Average Jun 15-Jul 15:**
  - **Number:** 6,080
  - **Percentage:** 0.25%

- **XXL-version live Apr 4, 2015**

- **3+ level labels (and validation errors)**
  - 24 hours

- **Error at a registrar**
#4: Registrar Score Card

![Registrar Score Card](image)

- **Low churn score**: 0.00%
- **Active use score**: 65.91%
- **Reward forecast**: €10.95

- **NNSEG domain names**
  - 75% perform better
  - 25% perform worse

- **Correctness data**
  - 68,966 domain names
  - 30 configuration errors

- **Ranking**
  - Example Business B.V.: 37
  - Registrar Inc.: 96
  - Hello World Company: 38
  - Another One B.V.: 40
  - One More Name Inc.: 41
Registries Take the Lead!

• ISPs won’t, at least in the Netherlands

• Take a multi-track approach
  • Offer validation functionality
  • Help further reducing validation errors
  • Go horizontal (thru ISPs) as well as vertical (industry-specific)

• Help others
  • Sponsor software development (such as UNBOUND, PowerDNS)
  • Sponsor large-scale validation pilots, for instance at universities
  • Enable policy development, for instance at government agencies
  • Promote use (internet.nl, stats.sidnlabs.nl, dnssec.nl)
Questions and Feedback

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