Stimulating DNSSEC Validation at .nl

DNSSEC Workshop @ ICANN54

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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
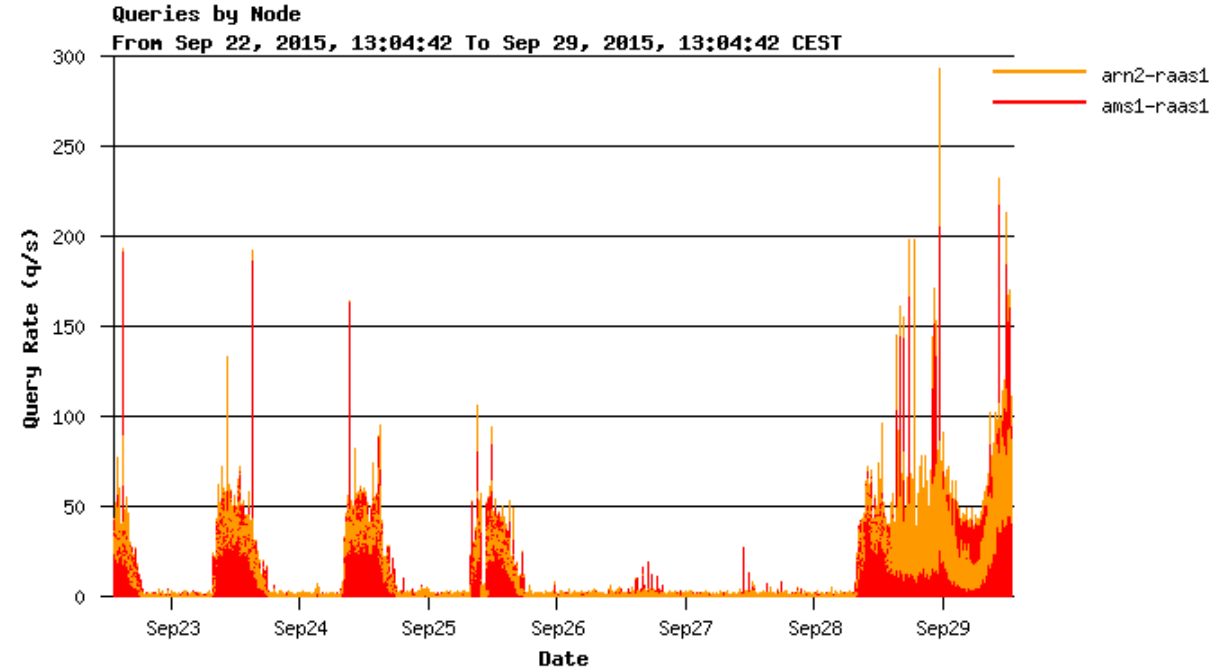

WORLD NETHERLANDS MAP

0 5 5 9 9 1 1 8
.nl-domeinnamen

0 2 4 5 3 0 3 5
DNSSEC .nl-domeinnamen
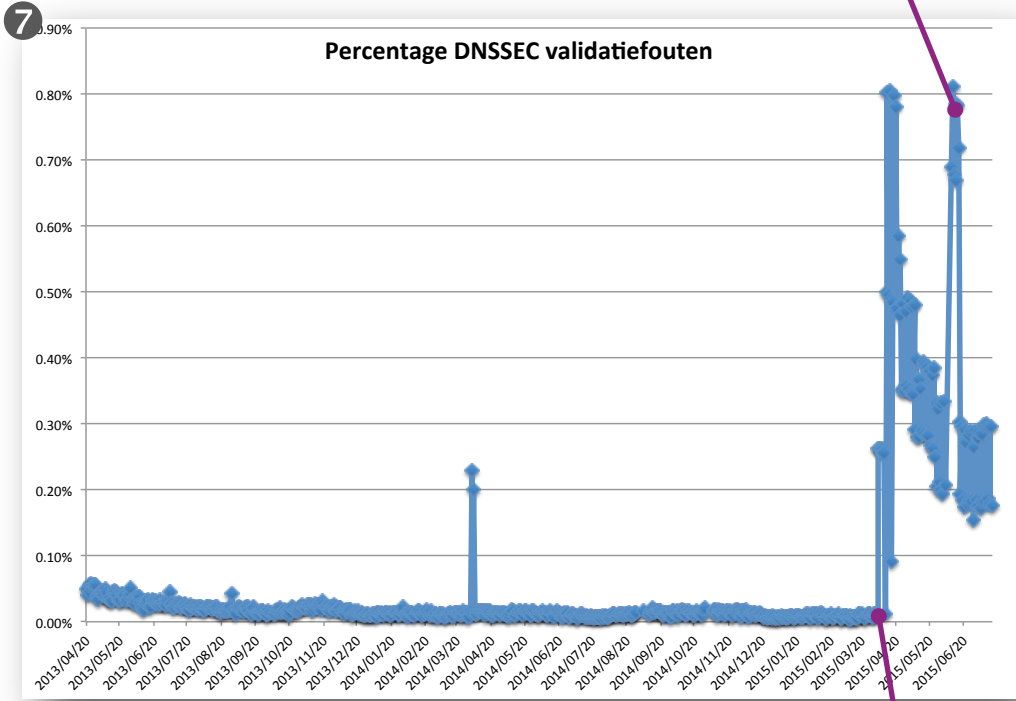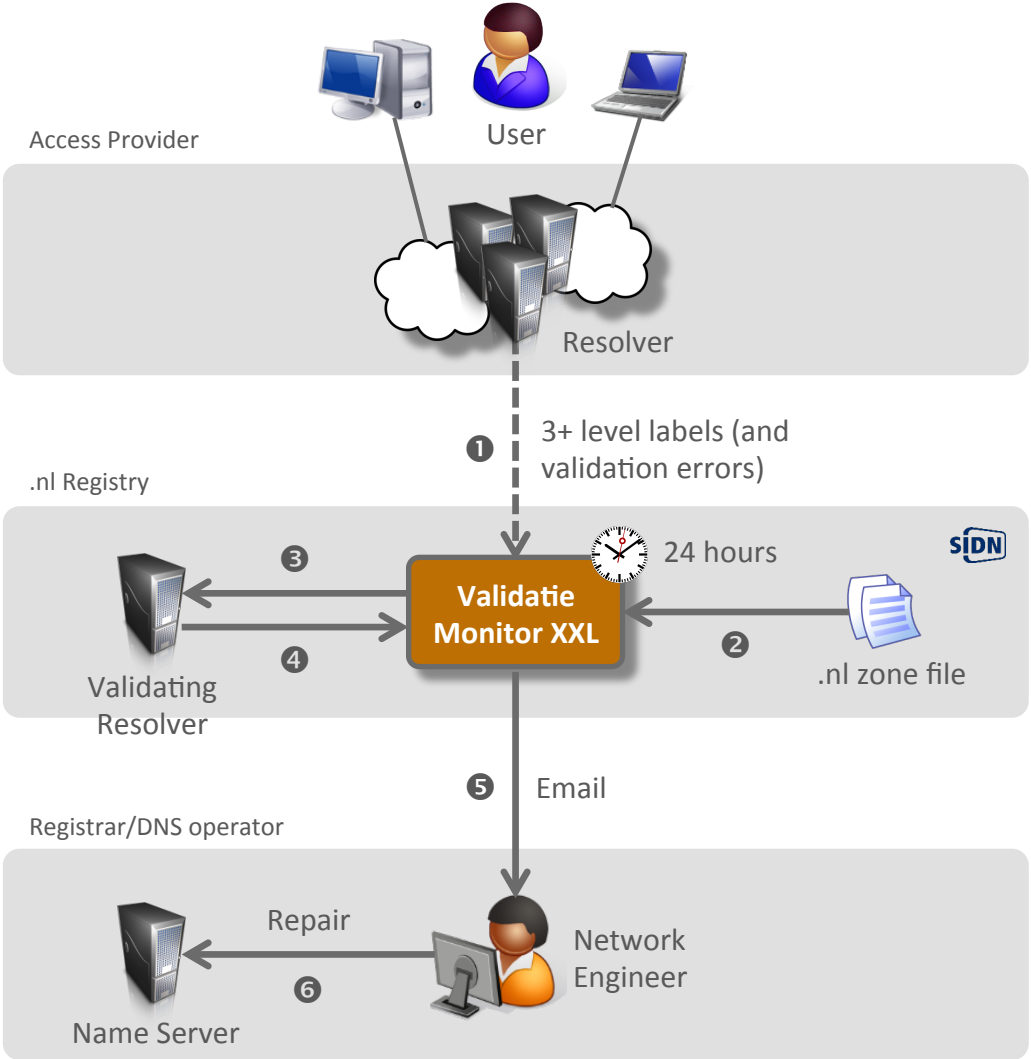
#1: DNSSEC Resolver Service

- 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)

Queries by Node
From Sep 22, 2015, 13:04:42 To Sep 29, 2015, 13:04:42 CEST

arn2-raas1
ams1-raas1

#2: DNSSEC Validation Device ("ValiBox")

#3: DNSSEC Validation Monitor "XXL"

Access Provider

User

Resolver

1 3+ level labels (and validation errors)

.nl Registry

3 24 hours

Validatie Monitor XXL

2 .nl zone file

Validating Resolver

4

5 Email

Registrar/DNS operator

Repair

Network Engineer

6

Name Server

7 Percentage DNSSEC validatiefouten

error at a registrar

XXL-version live
Apr 4, 2015

Average Jun 15-Jul 15:
Number: 6.080
Percentage: 0.25%

#4: Registrar Score Card
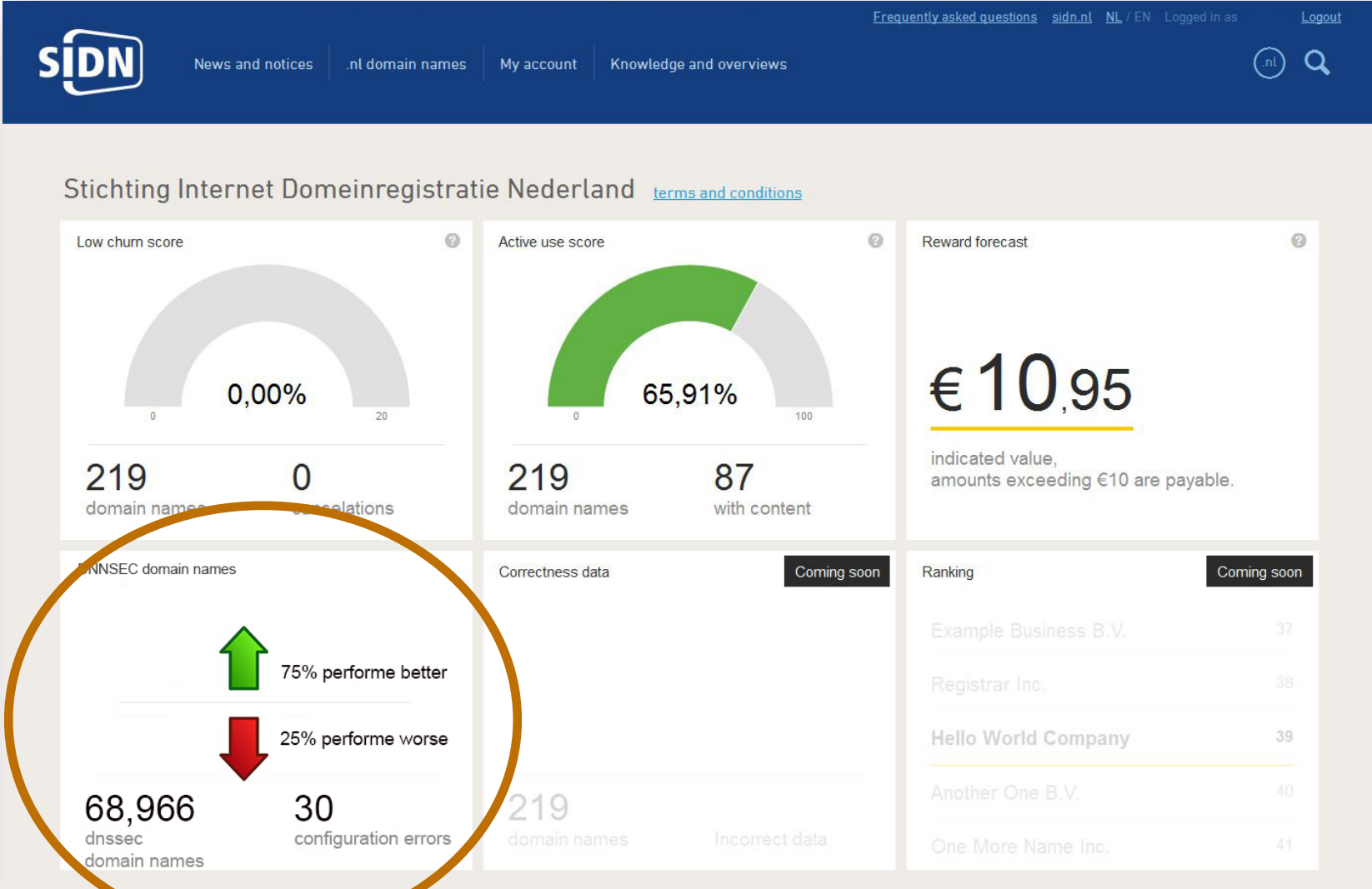
Registries Take the Lead!

- 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

www.sidnlabs.nl

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