DNSSEC in NL
Testbed #2

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Summary

Players
DNSSEC 101
Testbed #1
Testbed #2: SECREG
  Goals
  Set up
  Lessons learned
Future
Players

SIDN

Registry for NL
Bart Boswinkel
Yours truly

NLnetlabs

Research arm of NLnet foundation
Miek Gieben
Ted Lindgreen
DNSSEC 101

What DNSSEC *does not*
- Secure the internet
- Create a PKI
- Encrypt the IP layer
- Secure IP rights, such as © Ⓡ ℗ ™
  - IP ≠ IP™ lawyers

DNSSEC *does*
- Authenticate queries
- Allow spoofing detection
Why DNSSEC?

- Trace to trusted source
- Helps to deploy security protocols
  - IPsec
  - PKI
- Raises quality of zone data
  - Authenticate denial of existence
    - Wild cards are hard!
Testbed #1

Operational done in a shadow tree: nl.nl
Classic RFC 2535
Crypto too expensive?
   Not
Key signing too hard
   Yes
   Sig@Parent → DS record
New RFC’s: DNSSEC-bis
Testbed #2: Goals

Hands on operational experience
What can be automated?
Impact on registry, registrar, registrant
Testbed #2 Operation

Separate “secure” registry: SECREG

Separate name servers
  Allows registrars to play
    Registrants as well
    and users?

Two Servers in nl, one in se
  One recursive

Limited lifetime (Yr 2003)
Testbed #2

Zone signed every day
  1½ Hour (800K domains, 1.8M Records)

Size
  350MB Zone file
  15 Minutes loading time

One DS per secured zone
  (One KSK)

One operational Problem
SECREG Operations

Securing a domain
  Getting the KSK signed
Key rollover
  Replacing existing key
Block
  Revoke security (back to normal)
    Key compromise
    Administrative reasons
SECREG Registrars

Registrar #1
Production system
15000 domains
  Same key for all

Registrar #2
140 domains
  Different keys
Findings

No problem with

Signing
Serving
Zone size
Key rollover

Lot’s can be automated
Findings

Contact role needed
 Zone contact, signs updated zone file

Distributing Registry key
 Not needed when root is signed

More emphasis on security

Handling of key compromises
Findings

When not to do DNSSEC

Weak existing authentication of registrars or registrants

Too bold expectations

such as dnssec secures the network

...
Useful links

The full report:
www.secreg.nlnetlabs.nl
Lots of links to DNSSEC material:
www.dnssec.net
Questions

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