DNSSEC Validation Monitor

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• R&D team SIDN

• SIDN = registry for the Netherlands (.nl)

• 5.4M domain names, 1.500 registrars

• Largest DNSSEC zone in the world (1.7M signed)

• RSP for .amsterdam (capital) and .aw (Aruba)
DNSSEC Validation Monitor (ValMon)

• Experimental service that informs registrars of validation errors occurring at Dutch ISPs for their signed domain names (reduce information asymmetry)

• Goal: reduce validation error rates at Dutch ISPs, thus stimulate adoption of DNSSEC validation

• Motivation: relatively high numbers of validation errors
  • Mostly due to transfers to registrars that do not support DNSSEC (9.6% of transfers, Oct 2012)
  • Other sources: ISPs and DNSSEC Portfolio Checker (http://portfolio.sidnlabs.nl:8080/form)

• Low error rates important to ISPs because
  • Validation errors generate support calls (50 EUR/65 USD/76 SGD per call)
  • ISP customers don’t understand why a site goes black while it still works via their neighbor’s ISP
  • ISPs take the hit for errors (unintentionally) caused by others
ISP-registrar Information Relay

- 4 ISPs
- SIDN
- Coming up: 3 universities

Validating resolvers at ISP

.UNBOUND resolver

Validation errors

Email (per registrar)

Check

Email (overview)

Phone call

Support Desk

.nl Registry

Support Desk

.nl Registrar

UNBOUND resolver

ValMon server

Email (overview)
DNSSEC Signing .nl
Validation Errors
Registrars
Types of Validation Errors

UNBOUND Error Reports (24 hours)

- 1 DS got unsigned
- 185 No DNSKEY record
- 11 SERVFAIL no DS
- 57 cname proof failed
- 1 covering NSEC3 was
- 132 nameerror proof failed
- 1 no DNSSEC records
- 6 no NSEC3 records
- 11 no keys have
- 4 no signatures from
- 1 no signatures over
- 3 nodata proof failed
- 7 signature crypto failed
- 6 signature expired from
- 858 wildcard proof failed

As a result of domain name transfers

NXDOMAIN-related errors

- www.example.nl. [OK]
- _tsdns._tcp.example.nl. [ERROR]

NSEC/NSEC3-related errors

3rd Level Validation Errors
Lessons Learned

• ValMon appears to work!

• Also seeing validation errors at 3rd level, which we would not have seen at the registry-level

• Sites sometimes broken for weeks because registrars don’t have a validating resolver themselves

• Errors also caused by resellers, need to stimulate registrars to exercise more control over their resellers
Verwijder de bestaande foto en klik op het icoon, om een foto in te voegen:

1. Zoek de gewenste foto en dubbelklik hierop.
2. Staat de afbeelding er niet goed in? Selecteer de foto, klik 'Format' in het lint en selecteer 'Crop'.

Als de afbeelding boven het tekstvak verschijnt, kun je de slide resetten. Selecteer hiervoor de dia met een rechtermuisklik en selecteer 'Reset slide'.

Questions?

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