DNSSEC Validation Monitor

March 26, 2014

DNSSEC Workshop @ ICANN49

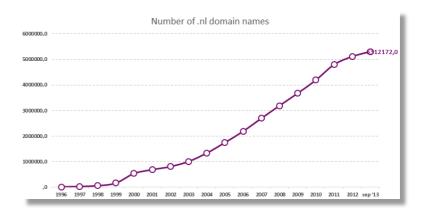
Marco Davids and Cristian Hesselman



SIDN Labs

- 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



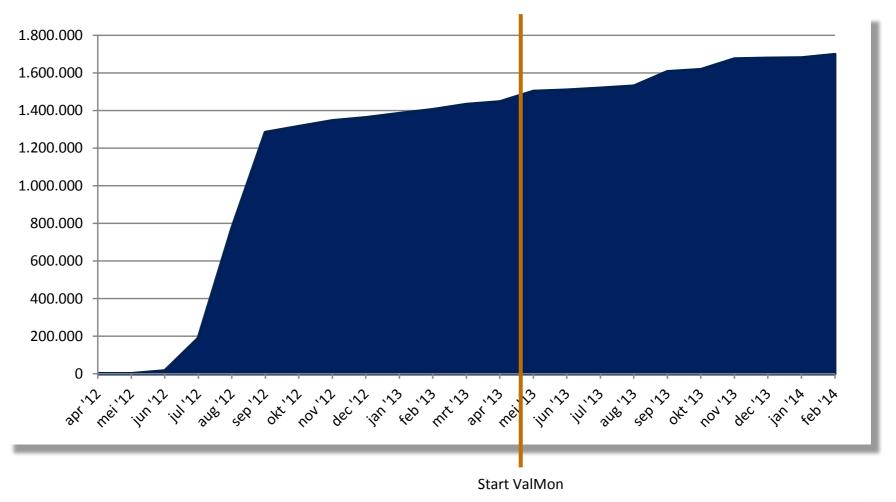


SIDN **ISP-registrar Information Relay** .nl Registrar .nl Registry Support Desk Support Desk Validating resolvers Phone call at ISP Email (overview) ValMon server Validation Email (per registrar) errors Check 4 ISPs SIDN Coming up: 3 universities **UNBOUND** resolver





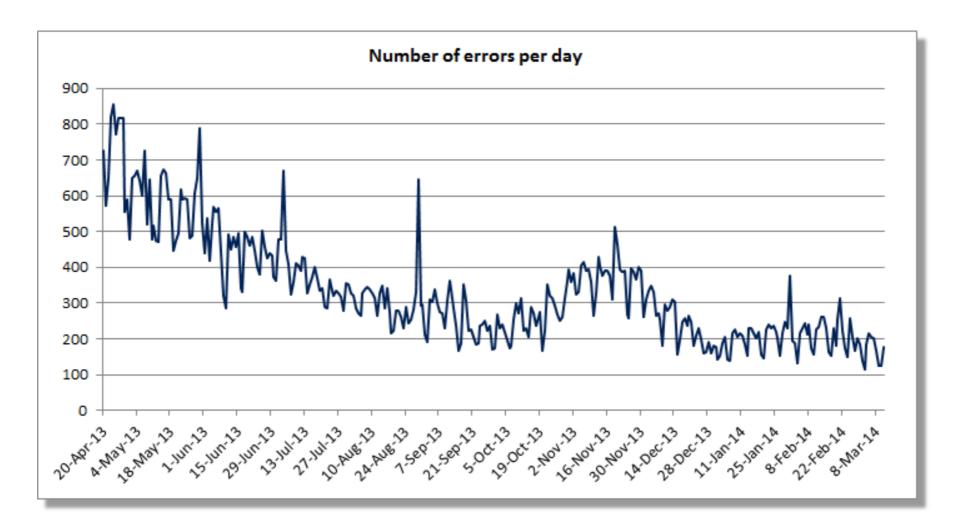
DNSSEC Signing .nl







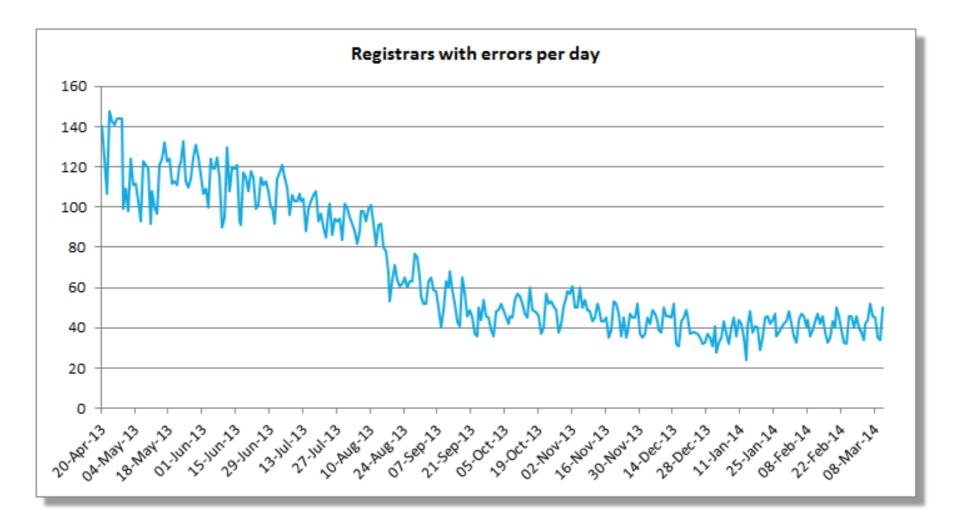
Validation Errors







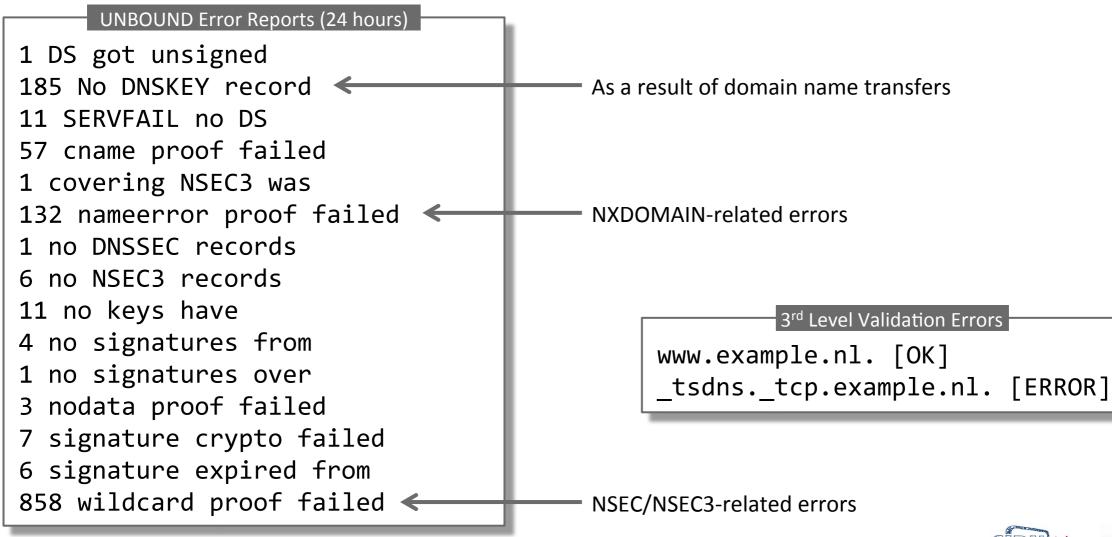
Registrars







Types of 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





Questions?

Marco Davids marco.davids@sidn.nl

Cristian Hesselman cristian.hesselman@sidn.nl

www.sidn.nl | ww.sidnlabs.nl





