DNSSEC Outages: The Ugly

- Encountered a bug during KSK rollover
- Signature over DNSKEY set missing
  - Affected e164.arpa on 15 February 2011
- Vendor could not reproduce the problem and concluded that high load on system caused it
DNSSEC Outages: The Bad

• Second outage on 14 April 2011
  - Affected ripe.net and 0.a.2.ip6.arpa

• Same exact problem – no high system load
DNSSEC Outages: The Good

• Gathered enough data to reproduce the bug
  - Awaiting release with bug fix before our next rollover

• Called for broad work on a safeguard
  - Spurred interest from others (SIDN, AFNIC, DENIC, …)
  - Initial work on a DNSSEC verification proxy started
  - Coordination on the DNSSEXY mailinglist
    - http://nlnetlabs.nl/mailman/listinfo/dnssexy
DNSSEC: Signed Parents (By Fall 2011)
DNSSEC in Reverse DNS

- DS records over time