DNSSEC Progress in .UK
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Where Are We Now?

- **.uk** was signed using OpenDNSSEC in March 2010
  - 14 top level domains affected
  - No adverse impact on the zone

- Trial of both the technology and our processes
  - Getting key signing procedures correct
  - Eating our own dog food with OpenDNSSEC

- Creating a solid foundation for moving onto **.co.uk** and other second level zones
Where Are We Going Next?

• Pushing on with getting .co.uk and other second level zones signed by Q1 2011

• Continuing to contribute to the development of OpenDNSSEC

• Working with SIDN and NLNETLABS to create a joint testing partnership for dynamic zones

• Looking at options for providing the best possible future for OpenDNSSEC development and support
Why not sign co.uk earlier?

- **.co.uk** has 8.5 million domains
- **.co.uk** is a dynamic zone. OpenDNSSEC doesn’t yet support dynamic updates
- Allow **.uk** (and the **root**) to bed in first.
- We want to take a holistic approach – this is not just a technology challenge, but also education and awareness
The Challenges for the Registry?

- We need to make changes to:
  - Our operational systems
  - Our practices and processes

- Creating awareness amongst our registrar and ISP community
  - Getting them to care
  - Getting them to act
  - This is not a Y2K problem

- Ensuring that we do nothing that affects the stability and reputation of the registry
The Technical Challenges: DNS

- How to sign very large highly dynamic zones
  - Updated every minute
  - Need to ‘continuously sign’ data

- We want to use OpenDNSSEC (ODS)
  - Currently limited to static zones
  - Continuous signing for dynamic zones in V2

- We want to use BIND 9.7
  - Funded development of continuous signing
  - Funded HSM support
The Technical Challenges: Registry

- Extend the database
  - Store DS record information

- Extend Whois interface
  - Show DS record information

- Extend the EPP interface
  - To allow registrars to channel DS records
Roles, Procedures and Actors

• Roles
  – Safe keeper, holds credentials to access the safe.
  – Security Officer, holds credentials to manage HSM
  – Administrator, manages the non-crypto part of system
  – Auditor, audits the procedures.

• Procedures
  – All the actions one can perform on the signing system
  – Acceptance tests, exports, key-roll, etc.

• Actors
  – Strictly tied to level of responsibility
  – Safe keeper: CEO/CTO,
  – Sec.Officer & auditor: Team Leaders
Project Approach

• Agile approach
  – Close cooperation between individuals
  – Frequent updates between self-organizing teams
  – Continuous attention

• Dualistic/parallel track
  – The Signing System
  – The Registry Changes

• Partners
  – Kirei: Signer Design
  – SIDN: Testing
  – Sinodun: Development
  – ISC: BIND 9 support
Thank you

- Looking for folks using BIND 9.7’s continuous signing, and more support for BIND 10.

- OpenDNSSEC milestones: Version 1.1.0 released
  - Now used by ICANN, DK, SE and UK.

- Questions?