DNSSEC

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Agenda

- About Afilias
- DNSSEC
- DNSSEC Signing
- DNSSEC Validation
- Afilias’ s Role in DNSSEC Deployment
About Afilias

• Best known for domain name registry services
• Supporting 21M names across 16 TLDs

ICANN contracted gTLDs

Country Code TLDs
What is DNSSEC?

• A set of security extensions to the existing DNS protocol added by the Internet Engineering Task Force (IETF).
• DNSSEC provides:
  – Authentication of the source of the information in a DNS response
  – Integrity of the information in a DNS response
  – Authenticated denial of existence
• DNSSEC doesn’t provide:
  – Confidentiality, access control lists, or other means of differentiating between inquirers.
  – Protection against Denial of Service (DoS) attacks
• Two principle deployment dimensions for us to consider
  – Signing; and
  – Validating

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• Afilias has been signing TLDs since before the root zone was signed
• We are responsible for the key material used for the signing process, including publication
• .IN Registry has been one of the early adopter of DNSSEC, facilitated by Afilias as we are the registry services provider
• NamesBeyond and Net4India, registrars who have deployed DNSSEC services
Validating

- Our DNS provides authoritative responses when queried about a zone that we manage.
- Afilias provides the DS record that enables validation of signed domains in TLDs we host.
- Registrars are responsible for ensuring the registry has the public key information it needs for the DS record.

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The public key information needed for the DS record is managed by the DNS hosting provider.

Everything works great as long as the registrar is the DNS hosting provider.

When a third party DNS hosting provider is used, there needs to be an interaction between the registrar and that provider.

This is currently a manual copy-and-paste.
Reference

THANK YOU