



# DNSSEC in the .CO ccTLD

## *Experiences and Challenges*

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**neustar.**



# DNSSEC in .CO Agenda



- Tech deployment overview
- Awareness Strategy
- Status
- Challenges
- Q & A





# DNSSEC in .CO

## Tech deployment overview

- **Dec. 2.010:** Implementation startup announced during ICANN 45 (.CO):
  - *Deployment like .US and .BIZ models*
- **March 1<sup>st</sup>, 2.011:** “.CO ready for DNSSEC” (Press Release)
- Policies:
  - *KSK’s (2.048) rolled over **annually** and ZSK’s (1.024) **monthly***
  - *Signatures generated with RSA/SHA-256 (algorithm/hash), refreshed **monthly***
  - *NSEC / NSEC3*
  - *No restrictions on transfers*
  - *WHOIS.CO indicates if domain name is signed (or not)*
  - **No certification required from Registrars (DS records submit via EPP update)**
- **2.013 – 2.014:** EPP implementation update
  - *Migration from secDNS-1.0 ([RFC-4310](#)) to **secDNS-1.1** ([RFC-5910](#))*
- Related information and news:
  - **<http://www.go.co/company/global-responsibility/dnssec>**



# DNSSEC in .CO Awareness Strategy (1)

- **CO-DNS** virtual community
  - *Active from “DNS Tech and Sec” local events (2.011 – 2.013)*
    - Events held by the .CO ccTLD and supported by LACTLD, LACNIC, ICANN, ISOC, Government (ITC Ministry) and private sector
    - Attendees: ISP’s, Registrars, LEA’s, Hosting Providers
  - *“DNS Technology” and “Stability, Security and Resiliency (SSR)” crowdsourcing topics*
  - *Be a member!*
    - <http://CO-dns.COInternet.com.CO>
- .CO Blog:
  - [“DNSSEC in the .CO Zone”](#)



# DNSSEC in .CO

## Awareness Strategy (2)

- Working with Government for including DNS Security requirements in IT related RFP's and contracts
  - *Goal: update contacts and sign MIL.CO's and GOV.CO's*
- Plans to work with national academic network (RENATA) for signing the EDU.CO's of their members
  - *Major universities and research centers*
- Supporting local ISP's to provide (a) DNS recursive resolution and (b) domain name signing service for their DNS zone customers.
- Plans to work on DNS awareness and training initiatives with National Banking Association (showing interest in “.BANK”)



# DNSSEC in .CO Status (1)



- February 2.012 (before ICANN # 43 at .CR)
  - **59** domain names signed (DUM = **1.2M**)
- March 2.013 (before ICANN # 46 at .CN)
  - **139** domain names signed (DUM = **1.5M**)
- October 31, 2.013 (before ICANN # 48 at .AR)
  - **197** domain names signed (DUM = **1.6M**)
- May 31, 2.015 (before ICANN # 53 at .AR)
  - **150** domain names signed (DUM = **1.8M**)



## DNSSEC in .CO Status (2)



- When “signed .CO’ers” asked about DNSSEC:
  - *“Registrar provides me the service (added-value)”*
  - *“It’s a DNS security matter/issue”*
  - *“My website was compromised / hacked before ...”*
  - *When they refer other people to DNSSEC*
    - “What’s that”?
- **No Registrants signed by themselves without Registrar’s promotion of the product / service.**

# DNSSEC in .CO Challenges (1)



- Strong community and knowledge transfer interaction between relevant actors (Registry, ISP's, CERT's, Academy, Government and Private sector) regarding DNS tech and SSR issues
  - *ISP's and local Registrars interest and knowledge take time, but is raising*
  - *Public and Private sector IT projects RFP's and contracts **must** include DNSSEC / DANE and DNS-SSR best practices*
- Knowledge related with "domain names industry" is increasing
- Internet security awareness and proceedings (growing)
  - *Eight (8) Colombian CERT's in FIRST.ORG community*
  - *National public policy on Cyber-Defense and Cyber-Security*



# DNSSEC in .CO Challenges (2)



- Combined with “**DNSCrypt**” and latest BIND features:
  - *DNSSEC **adoption** may grow so that people can have more confidence in and understanding of the entire DNS tech infrastructure*
- As IPv6 is relevant for Internet infrastructure, DNSSEC and DANE are required for Internet Stability, Security and Resilience (SSR).



¡Thank you!