DNSSEC Activities in Africa
ICANN DNSSEC ROADSHOW

DNSSEC WORKSHOP
Durban, 07/17/2013

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Why DNSSEC

• Good security is multi-layered
  – Multiple defense rings in physical secured systems
  – Multiple ‘layers’ in the networking world

• DNS infrastructure
  – Providing DNSSEC to raise the barrier for DNS based attacks
  – Provides a security ‘ring’ around many systems and applications
Benefits to End-Users

• Users who validate will not see answers from the DNS that fail validation
• might increase helpdesk load, but the alternative is infected computers, stolen bank details, etc
• Ongoing work to improve SSL security using DNSSEC-signed certificates
• IETF “dane” working group
Benefits to Content Providers

• Reduce the risk that your content is being intercepted by unknown third parties
• for end-users that validate, at least
• Demonstrate technical proficiency and security awareness
DNSSEC Adoption ccTLDs and gTLDs

http://www.ohmo.to/dnssec/maps/ 07/09/2013
African DNSSEC Roadshow

Encourage and improve DNSSEC deployment in AFRICA

• Assess current status of DNSSEC deployment on the continent and in selected countries

• Visit country to highlight on going DNSSEC deployments if any, and train ccTLD managers and ISPs on DNSSEC deployment strategies and techniques.
  • http://www.africanncommunity.org/index.php/projects
# African DNSSEC Roadshow (Cont’d)

**ICANN AFRICAN DNSSEC ROADSHOW**

**SEEN AT 2013/07/09 00:00:01**

Script runs every day at midnight. For any questions/comments, contact aalain@trstech.net

## SUMMARY

<table>
<thead>
<tr>
<th>Root zone signed: 2010/07/15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AFRINIC managed reverse DNS zones</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IPV4</th>
<th>IPV6</th>
<th>Date of first DNSKEY Record</th>
<th>Date of first DS Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.in-addr.arpa.</td>
<td>0.c.2.ip6.arpa.</td>
<td>2012/04/01</td>
<td>2012/04/22</td>
</tr>
<tr>
<td>196.in-addr.arpa.</td>
<td>3.4.1.0.0.2.ip6.arpa.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>197.in-addr.arpa.</td>
<td>2.4.1.0.0.2.ip6.arpa.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102.in-addr.arpa.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105.in-addr.arpa.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>154.in-addr.arpa.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CCTLD</th>
<th>COUNTRIES</th>
<th>FLAG</th>
<th>INFO</th>
<th>KEY-ID</th>
<th>ALGORITHM</th>
<th>Date of first DNSKEY Records</th>
<th>Date of first DS Records</th>
</tr>
</thead>
</table>

[http://dnssec-africa.org](http://dnssec-africa.org)
Africa DNSSEC Roadshow (Cont’d)

DNSSEC survey

• Assess your registry readiness to deploy DNSSEC, to determine where do you stand and what can be done to help and make it happen
  – Respondents role?
  – Registry model?
  – Registry/Registrars relationship?
  – EPP?
  – DNS anycasted, zone secret, zone transfer security?
  – Reasons for non adoption of DNSSEC?
  – Deployment timelines?
Respondents

.ci  http://www.nic.ci/
.ng  http://www.nira.org.ng/
.ke  http://www.kenic.or.ke/
.tn  http://whois.ati.tn/
.za  http://www.zadna.org.za/
.sn  http://www.nic.sn/
na  http://www.na-nic.com.na/
Bj  http://www.nic.bj/

Total 8
Respondents Role

Total respondents: 8
Registry Model

- 2R(Registry-Registrant) (A1)
- 3R(Registry-Registrar-Registrant) (A2)
- Other
- No answer

Thick or Thin

- Thick (A1)
- Thin (A2)
- Other
- No answer
Registrars relationship

Number of registrars

Your Registry system offers hosted registrar interfaces?

- Yes (Y)
- No (N)
- No answer
Do you use EPP for the Registry-Registrar relationship?

- Yes (Y): 4
- No (N): 4
- No answer: 0
**DNS**

Are the DNS services for your CCTLD zone Anycasted?

- Yes (Y): 3
- No (N): 5
- No answer: 0

Is your zone content secret?

- Yes (Y): 4
- No (N): 4
- No answer: 0
Master/Slaves zone transfer authentication

- TSIG (A1): 4
- SIG0 (A2): 3
- Out-of-Band secure zone transfer (A3): 1
- Other: 0
- No answer: 0
What are the main reasons of the non adoption of DNSSEC by your CCTLD?

- Lack of knowledge and local expertise (SQ002)
- Lack of community interest (SQ003)
- Non-DNSSEC aware DNS servers (SQ004)
- HSM/Hardware security module in your registrar
- Cryptography policy/law issue in your registry
- Operations not ready (services)
- Other
What is your timeline for DNSSEC ADOPTION? Count

- Immediate (A1)
- 3 months (A2)
- 6 months (A3)
- 12 months (A4)
- > 12 months (A5)
- Whenever possible (A6)
- We have no interest in ever deploying DNSSEC (A7)
- No answer

DNSSEC (Cont’d)
Survey Results

3 types of situation

• No issue, just time to do it
• Deployed. Lack of Community interest
• Not ready, need help: Registry operations, risks analysis, technical expertise.....
Action Plan

• “No issue, just time to do it “
  • Send us your roadmap or tell us how to help

• “Deployed. Lack of Community interest”
  • Lets figure how to increase local community interest: Awareness event?

• Not ready, need help: Registry operations, risks analysis, technical expertise,…
  • Send DNSSEC experts for 3 days event
  • Awareness, protocol detail and deployment, direct assistance
  • .ke (done), .ng(next week), .bj (July), .ci (September)…..
  • .tn had an ICANN/NSRC DNSSEC training in April. Follow up

05/30/10
So the Panel discussions,

DNSSEC Activities in Africa

What would help to promote DNSSEC deployment? What are the challenges you have faced when you deployed DNSSEC?

9:15-11:00am (Break 10:15-10:30) ISPs, Registries, and Registrars
Panelists

- Wilson Abigaba, Computer Frontiers/.ug
- Simon Balthazar, TZNIC
- Mouhamet Diop, Kheweul Senegal
- Mark Elkins, DNS/ZACR
- Alex Corenthin and Khoudia Gueya Sy, .SN/Senegal
- Toilem Godwin and Anthony Wambugu, KeNIC
- Eberhard Lisse, .na/Namibia
- Vika Mpisane, ZADNA
- Nii Narku Quayno, .gh registry, SAHARA.NET, AfNOG
Discussions (9:35 – 10:15)

Registries/Registrars perspectives: Max 5mn per speaker

- Have you deployed DNSSEC at your Registry,
- How many sub-domains are signed and built Chain of trust
- What are the challenges?
- What are doing about?

- Does your Registrar system support DS
- How many registrants with DS do you have
- Challenges/opportunities

Questions/Comments from the audience
Discussions (10:30 – 11:00)

ISPs/End users perspectives : Mark: 5mn

- What since your have enabled DNSSEC validation on your recursive/caching NS?
- What are the challenges?
- What are doing about?

DNSSEC in the RDNS: AFRINIC experience : 5mn

- What since AFRINIC has signed its managed in-addr.arpa/ip6.arpa. Zones and allow DS in?
- What are the challenges?
- What are doing about?

Questions from The Audience