



DOMAIN REGISTRY

Internet Identity For All

DNSSEC - .my Implementation Plan

By Yong Yaw Eng

Sr. Application, Database & Security Engineer

Technology & Innovation Dept.

28th June 2010

Agenda

- .my DOMAIN REGISTRY Implementation Plan
- .my DNSSEC Public Trial: Results and Findings
- What's Next?

.my DOMAIN REGISTRY Implementation Plan

.my DNSSEC Implementation Plan

Phase 1

- Closed Test Bed (31st Mar – 31st Oct 2009)
- Awareness Programs – targeted to Government Agencies / ISPs / Banks

Phase 2

- Public Trial (29th Dec 2009 – 30th April 2010)
- Prepare stakeholders (ISPs and DNS Administrator) to adopt DNSSEC

Phase 3

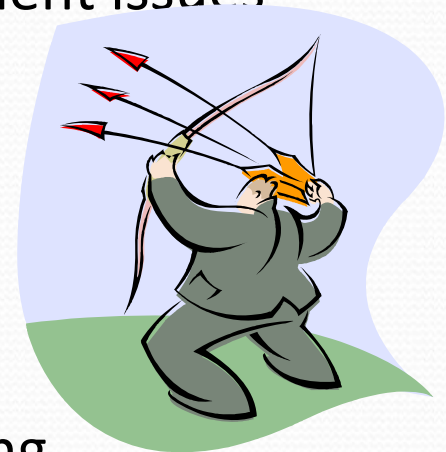
- Production (Q4 2010)

.my DNSSEC Public Trial: Results & Findings

.my DNSSEC Public Trial

Objectives:

- Creating a platform that prepares for DNSSEC deployment in Malaysia and anticipating DNSSEC potential deployment issues on DNS authoritative and cache servers;
- Gauging the acceptance and adoption of the DNSSEC technology by potential users; and
- Getting potential stakeholders such as domain hosting providers to sign their zones (authoritative servers) and preparing ISPs for eventual enablement of DNSSEC at their cache servers.



Strategy for .my DNSSEC Public Trial

Target Participants:

- ISPs
- Zone Administrators
- Public in general who are interested in DNSSEC

Methods used to reach these targeted participants:

1.Meetings:

- i. ISPs: A total of 8 ISPs attended the meeting.
- ii. Resellers
- iii. Bank Negara Malaysia (BNM) the Central Bank of Malaysia
- BNM was supportive and arranged 2 additional meetings with BNM IT team and a major bank in Malaysia

2.Email to all .my domain owners.

Results of .my DNSSEC Public Trial

Statistical Result:

- Number of participants: 74 (including 2 ISPs)
- Total number of domain name registered: 158
- Total number of domain name signed: 27 (17.1%)

Findings, Observation & Conclusion of .my DNSSEC Public Trial

Potential Stakeholders Participation

1. Public

- a. Many are interested in a free public trial of domain name, though only a few truly understands what is required
- b. Emails sent out to all .my DOMAIN REGISTRY customers were effective in generating interest in DNSSEC.

2. ISPs

- a. Only 2 ISPs out of 9 that we have contacted voluntarily participate in the Public Trial.
- b. Some ISP raised concern that the recursive server may have higher load once they have enabled DNSSEC.

Findings, Observation & Conclusion of .my DNSSEC Public Trial (cont')

3. Resellers

- a. Introduced myDNSSEC to Resellers in conjunction with a meeting between .my DOMAIN REGISTRY, Resellers and the regulator on IPv6.
- b. None of the resellers participated.

4. Banks

- a. Bank Negara Malaysia staffs (Technology Risk Specialised Unit) are receptive of such technology, but will not impose on banks.
- b. BNM have been supportive by setting up meetings with BNM IT staff and a major bank.
- c. Obstacles: Use propriety DNS systems; and perceived as not urgent.

Findings, Observation & Conclusion of .my DNSSEC Public Trial (cont')

Technical difficulties:

1. For those who manage to sign their zone, zone signing doesn't seem to be a problem.
2. Most participants that signed their zone did it without any advice / consultation from .my DOMAIN REGISTRY and was done quite immediately.
3. There were those who are interested to know more about DNSSEC but since they do not control their own zone files and limited DNS knowledge there were very little that they can do with the Public Trial.

Findings, Observation & Conclusion of .my DNSSEC Public Trial (cont')

Potential deployment issues:

1. Maintenance and monitoring of DNSSEC keys in a systematic manner is crucial in ensuring that the keys are always rolled-over and signature would not expiry.
2. Once the signature expires, the validation (done by cache servers or end-user application) would not be able to validate the DNSSEC data.

Findings, Observation & Conclusion of .my DNSSEC Public Trial (cont')

Conclusion for .my DNSSEC Public Trial:

1. General public acceptance is low because:
 - a. Lack of awareness and education on DNS technology
 - b. Not able to control own zone file (usually handled by Hosting Providers)
 - c. Reluctant as it is still perceived as not urgent
2. ISPs need more persuasion to support DNSSEC
3. BNM is supportive generally. But up to banks to adopt the technology.
4. DNSSEC is not an issue for those who are able to handle own zone file.

What's Next?

Towards Production in Q4

1. Refined and prepare for production environment the back-end processes to handle zone signing and management of keys
 - a. Uses NSEC3 with opt-out
 - b. Key management: Custom scripts that uses ZKT
2. Completion of the Front-end application & thorough testing
3. Work together with the ISP that host .my secondary DNS servers to support DNSSEC in both the secondary DNS and the recursive server.
4. Continuous effort in education and encouragement to adopt DNSSEC

Thank You!



tni@domainregistry.my
<http://rnd.domainregistry.my>