FCCN

Fundação para a Computação Científica Nacional

Foundation for National Scientific Computing

DNSSEC @ .pt

37th ICANN Meeting

Nairobi, Kenya – 7 to 12 of March 20101

Pedro Veiga

Agenda

- Objectives

- Initiatives and Support

- Developments on .pt

- Next Steps

![FCCN logo - Fundação para a Computação Científica Nacional - Foundation for National Scientific Computing]

- FCCN is
  - The manager of the Portuguese Research and Education Network
  - The manager of .PT
  - The operator of the GigaPIX

- We try
  - To deploy the most recent internet related technologies inside the country
  - Be a driver for innovation

- However

    – I'll talk about this at the end ☺

- .PT started 1991

- Registrars – 2000
- IPv6 in domain registrations – Apr/2003
- ISO9000 - 2005
- IDNs –Jan/2005
- EPP – 2008, trials
- Today 300k .PT domains registered

- DNSSEC ...

Provide a more secure DNS service helping the Portuguese Internet Community with the DNSSEC adoption and usage

Goals

- Offer a better and more trustful service

- Promote DNSSEC implementations

- Share knowledge and experience

- Provide deployment documentation

- Support technicians developing DNSSEC implementations

- Apply bests practices concerning to security and data protection

Initiatives and Support

- Tested several implementations since 2006

- Conferences, meetings and workshops for registrars

- Theoretical and technical documentation

- Press releases, flyers and online news

- Motivate organizations on the NREN and ISPs to adopt DNSSEC

- Try to convince banks, judicial and government entities

Testebed (2009):

- Signed domain – dnssec.pt

- Free registration under *dnssec.pt* for testing purposes

- Requests and questions at dev@dnssec.pt and info@dnssec.pt respectively

- All information available in Portuguese and English at:

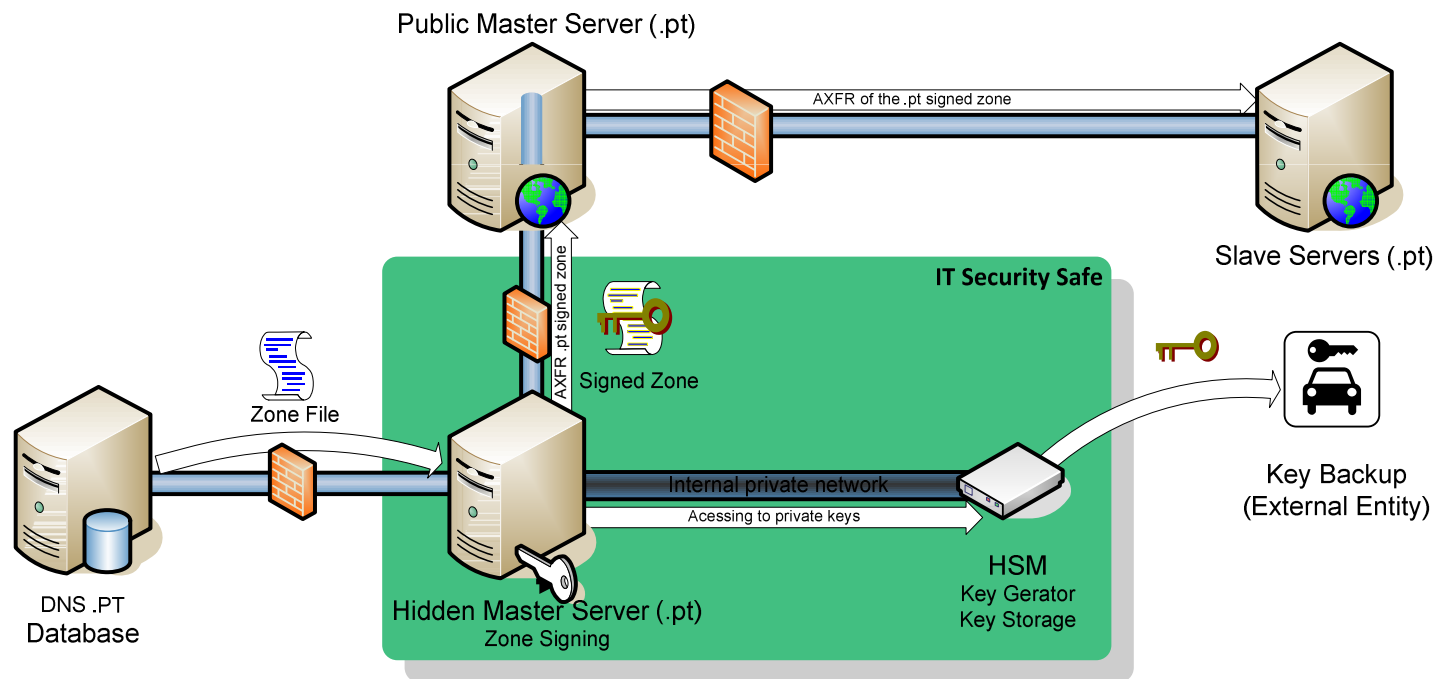 http://www.dnssec.pt

Directed to .pt Registrars:

- DNSSEC .pt Surveys

- DNSSEC Workshops

- Public Information Session: EPP and DNSSEC in .pt

- Support Technical documentation

- Direct access to DNSSEC mailing-lists and technical contact

DNSSEC Policy and Procedures Declaration:

- Document of reference to evaluate the level of confidence which the DNSSEC of the .pt conveys to the various intervening entities

- Participants and their respective scopes of responsibility

- Procedures and operational schemes, regarding the implementation of DNSSEC by .pt

- Management and storage of .pt zone keys

Installed infrastructure model with high level security, stability and performance:

Public Master Server (.pt)

AXFR of the .pt signed zone

Slave Servers (.pt)

IT Security Safe

AXFR .pt signed zone

Signed Zone

Zone File

Internal private network

Acessing to private keys

Key Backup
(External Entity)

DNS .PT
Database

Hidden Master Server (.pt)
Zone Signing

HSM
Key Gerator
Key Storage

- Hidden primary server runs BIND 9.7.0
  - Version compatible with the Hardware Security Module (HSM)
    - AEP Networks Keyper Professional Model 9720 version 1.8
    - PKCS#11 used to send signed zone to Primary Server

- Primary server runs BIND 9.6.1-P1

- NSEC3 opt out

Developments on .pt

Signed and in production since 4th of January 2010:

– We already have 24 domains signed under .pt

- DNSSEC Integration with the EPP system

- Automating the update of RRs (Dynamic Updates)

- Improve the knowledge of the ccTLD .pt team concerning to DNSSEC

- Continuing to host DNSSEC Workshops

- Participate in meetings and "spread the word" about DNSSEC@.pt

- Enhance of our system in regard to DNSSEC

- Bandwidth
  - Not a problem because we run the GigaPIX and the Research and Education Network (connections @10Gbps)
- Hardware updates
  - Not only for DNSSEC

- Portugal in a Seismic area
  - Replicas in Porto

- However

  – I'll talk about this now ☹

- Operation of the Primary Nameservers for
  - Angola - .AO
    - Online system operated from Angola

  - Cape Verde - .CV
    - Primary now moving to Cape Verde

Obrigado