New Generic Top-Level Domains: Root Scaling Issues

New York/London City

July 2009

ICANN DNS Root Scaling Study

SSAC
Security and Stability Advisory Committee

RSSAC
Root Server System Advisory Committee

ICANN Staff
Root Zone Expansion

- New resource records for DNSSEC
- Internationalized Top-level Domain Names
- New address records and glue for IPv6
- New gTLDs

- http://www.dnssec-deployment.org
- https://ns.iana.org/dnssec/root.zone.signed

- Internationalized Top-level Domain Names
  - http://www.icann.org/en/topics/idn

- New address records and glue for IPv6

- New gTLDs
Root Scaling Study

- Requested by ICANN Board
- Study team assembled early May 2009
  - Lyman Chapin (lead)
  - Jaap Akkerhuis, Glenn Kowack, Patrik Fältström, Lars-Johan Liman, Bill Manning
- Announcement and public comments
- Draft report 31 August 2009
  - public review and comment prior to ICANN annual meeting in late October 2009

How will root zone expansion affect the operation of the root server system?

- Model-based analysis of root zone scaling issues
  - Compile a description of the complete root server system
    - Provisioning side (update) and query side (lookup)
    - Technical infrastructure and operational procedures
  - Model the relationships among different parts of the system
    - How does changing something in one part affect each other part?
    - Goal is quantitative model (as timeframe of study allows)
- Factual/analytical tool for resolving concerns about root server system security and stability as the root grows
THANK YOU