

ICANN SSR Update

Save Vocea | PacNOG17 – Samoa | 13 July 2015

Internet Corporation for Assigned Names and Numbers

1

Dedicated to keeping
Internet Secure, Stable
and Interoperable

2

Formed in 1998 as a
not-for-profit public-
benefit cooperation

3

Follows
multistakeholder
model



ICANN

Top Level Domains in the Root (as at 30 June 2015)



Initiatives

1

Universal Acceptance

- Steering Group (UASG) leadership seated and charter established.
- Executive briefing paper produced – includes what “Universal Acceptance-ready” looks like.
- Email address internationalization identified as biggest challenge to achieving success.

2

Internationalized Domain Names

- Arabic and Armenian script communities completed proposals for Label Generation Rules. Currently available for public comment.
- Six scripts added in recent update of Maximal Starting Repertoire
(Armenian, Ethiopic, Khmer, Myanmar, Thaana, Tibetan)

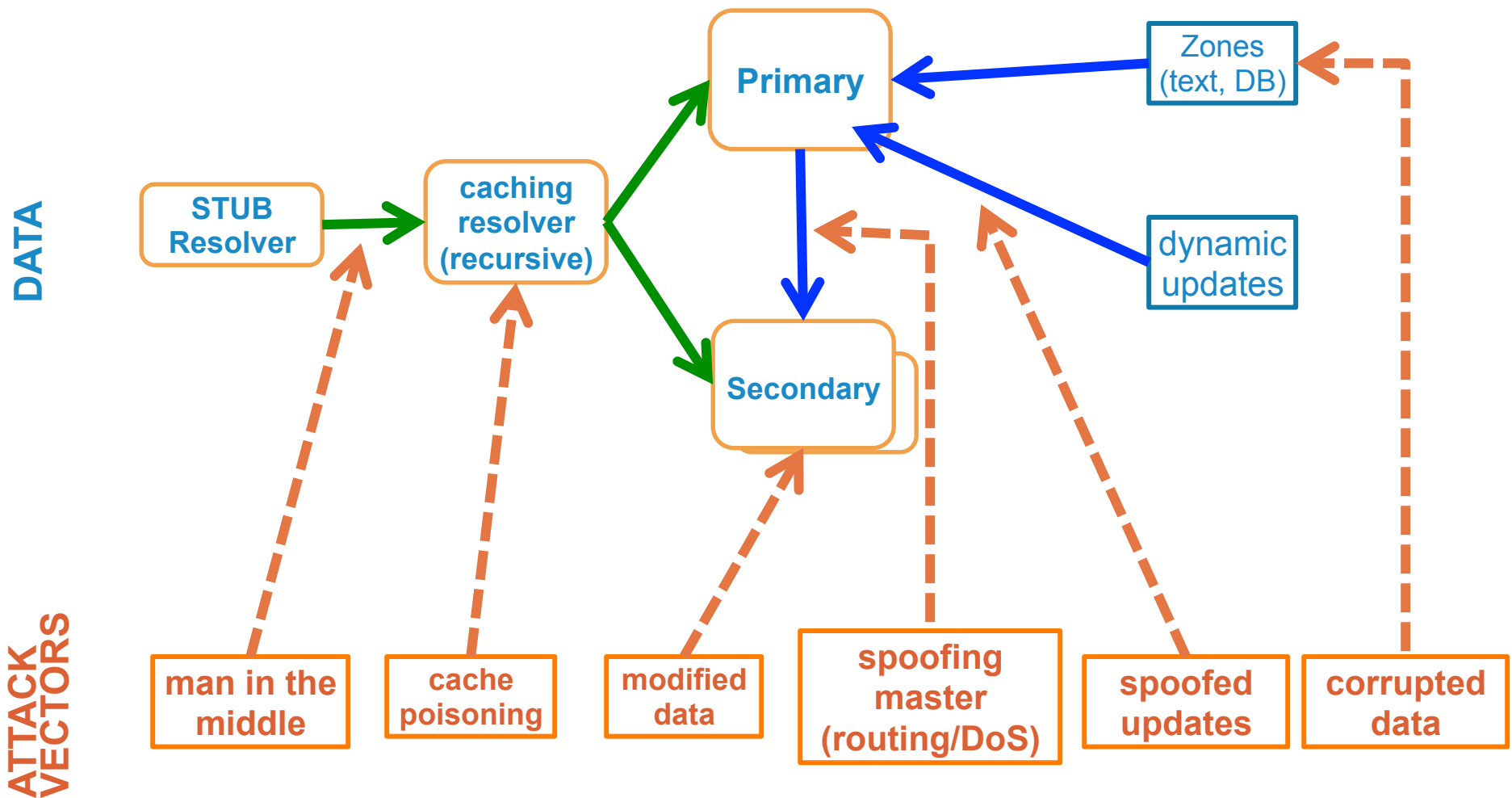


Security, Stability and Resiliency of Unique Identifiers

Challenges against Unique Identifiers

- + Misuse of and attacks against the DNS and global networks challenge overall unique identifier security
 - Affect the broad range of users, individuals, businesses, civil society, governments etc.
- + Security in the context of the Internet's unique identifiers should be addressed through a healthy Internet ecosystem.
 - an Internet that is sustainable or healthy, stable and resilient

Threats against Domain Name System



Making the DNS Secure

- + A computer sends a question to a DNS server, like “where is `www.example.org`?”
- + It receives an answer and assumes that it is correct.
- + There are multiple ways that traffic on the Internet can be intercepted and modified, so that the answer given is false.



Root Servers are a critical
SSR element

ICANN and the L-Root



- + ICANN is the L-Root Operator
- + L-Root nodes keep Internet traffic local and resolve queries faster
- + Make it easier to isolate attacks
- + Reduce congestion on international bandwidth
- + Redundancy and load balancing with multiple instances

L-Root presence



Countries with root-servers in Oceania

1. Australia
2. Fiji
3. French Polynesia (Tahiti)
4. Guam
5. New Caledonia
6. New Zealand
7. Papua New Guinea
8. Solomon Islands
9. Vanuatu

L-Root Server Deployment in Solomon Islands.



In February 2013, the Solomon Islands Internet infrastructure received a boost with the deployment of a new instance of the L-root server that will improve the security and resiliency of Internet access in the country. This initiative was coordinated through the Internet Corporation for Assigned Names and Numbers (ICANN) in partnership with Solomon Telekom (the Internet Service Provider and dot SB Manager) to host this piece of critical Internet infrastructure. Mr. Savenaca Vocea, Vice President for Stakeholder Engagement for Australasia and Pacific Islands at ICANN added that “We at ICANN are delighted to be partnering with Solomon Telekom to add another critical piece of Internet infrastructure to enhance stability, resiliency and operability of the Internet in the Solomon’s” Mr. Loyley Ngira, Chief Executive of Our Telekom, says “It is a privilege to be selected by the prestigious organization ICANN to host this facility. Installation and deployment was a success and Our Telekom IP engineers welcomed the opportunity to be involved, gaining valuable knowledge in the process. Mobile and Internet Technology is changing in Solomon Islands and all over the world. Our Telekom embraces change and with our recently upgraded Mobile and Internet Platforms we welcome this deployment as timely and a boost to our Internet infrastructure in preparation for the undersea fibre optic cable deployment being carried out by Solomons Oceanic Cable Company SOCC.



Responding to the bad –
Where does DNSSEC fit in

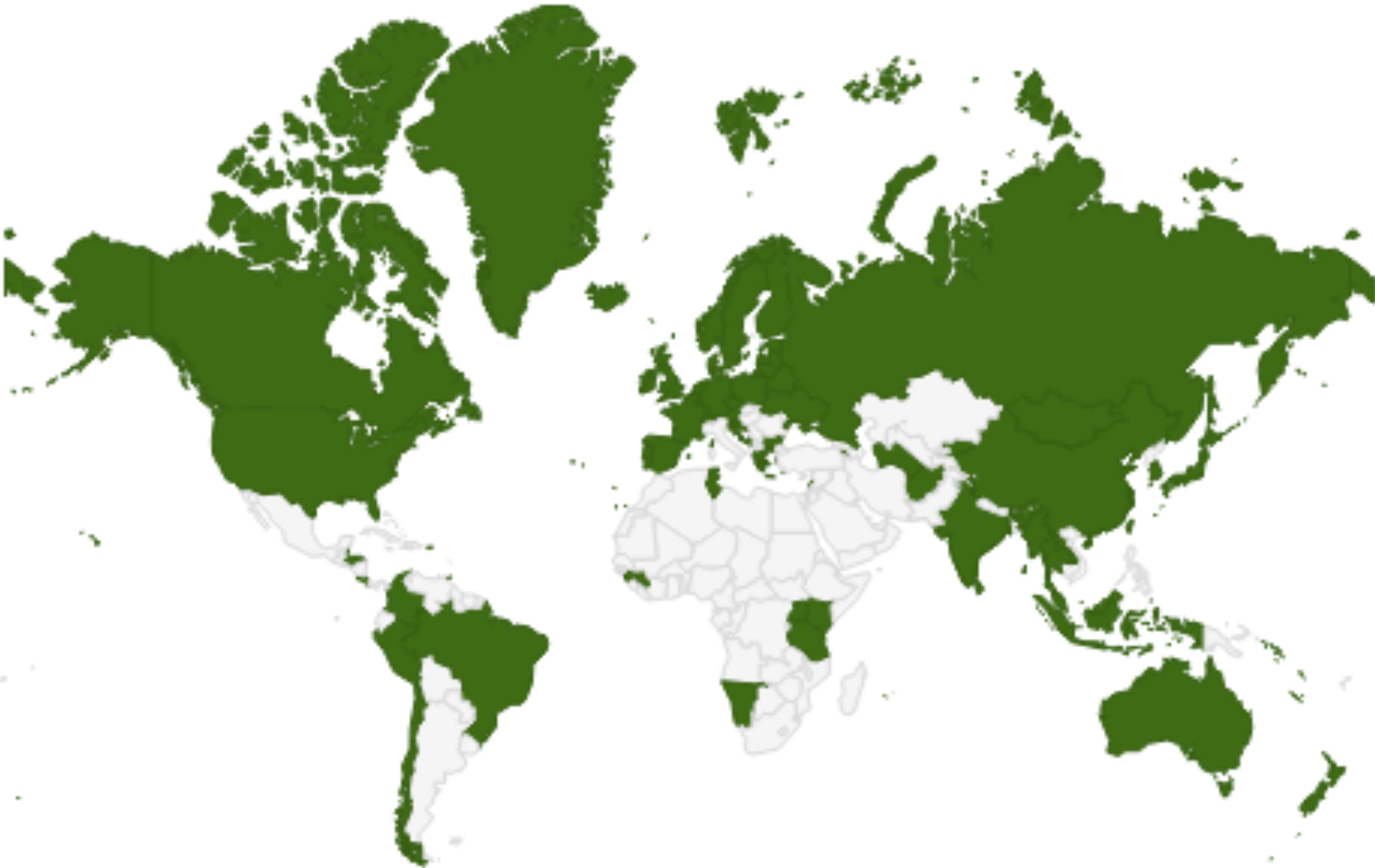
DNSSEC protects DNS data

- + CPU and bandwidth advances make legacy DNS vulnerable to MITM attacks
- + DNS Security Extensions (DNSSEC) introduces digital signatures into DNS to cryptographically protect contents
- + With DNSSEC fully deployed a business can be sure a customer gets un-modified data (and visa versa)

ICANN strongly supports DNSSEC

- + Cyber security is becoming a greater concern to enterprises, government, and end users. DNSSEC is a key tool and differentiator.
- + DNSSEC is the biggest security upgrade to Internet infrastructure in over 20 years. It is a platform for new security applications (for those that see the opportunity).
- + DNSSEC infrastructure deployment has been brisk but requires expertise. Getting ahead of the curve is a competitive advantage.

DNSSEC supported ccTLD Map





IPv6 and SSR

ICANN Supports IPv6

+ Evolving Internet

- + Mobile Internet, IoT, Smart Nations etc.
- + Promoting the awareness of IPv6 and Security
- + Capacity building with community

+ Be aware

- + When you are running IPv6 the device is accessible via IPv6
- + Interface, Routing filters and firewall rules already present in IPv4 **must** be replicated for IPv6

+ Securing IPv6 is important



Registration of Identifiers and SSR

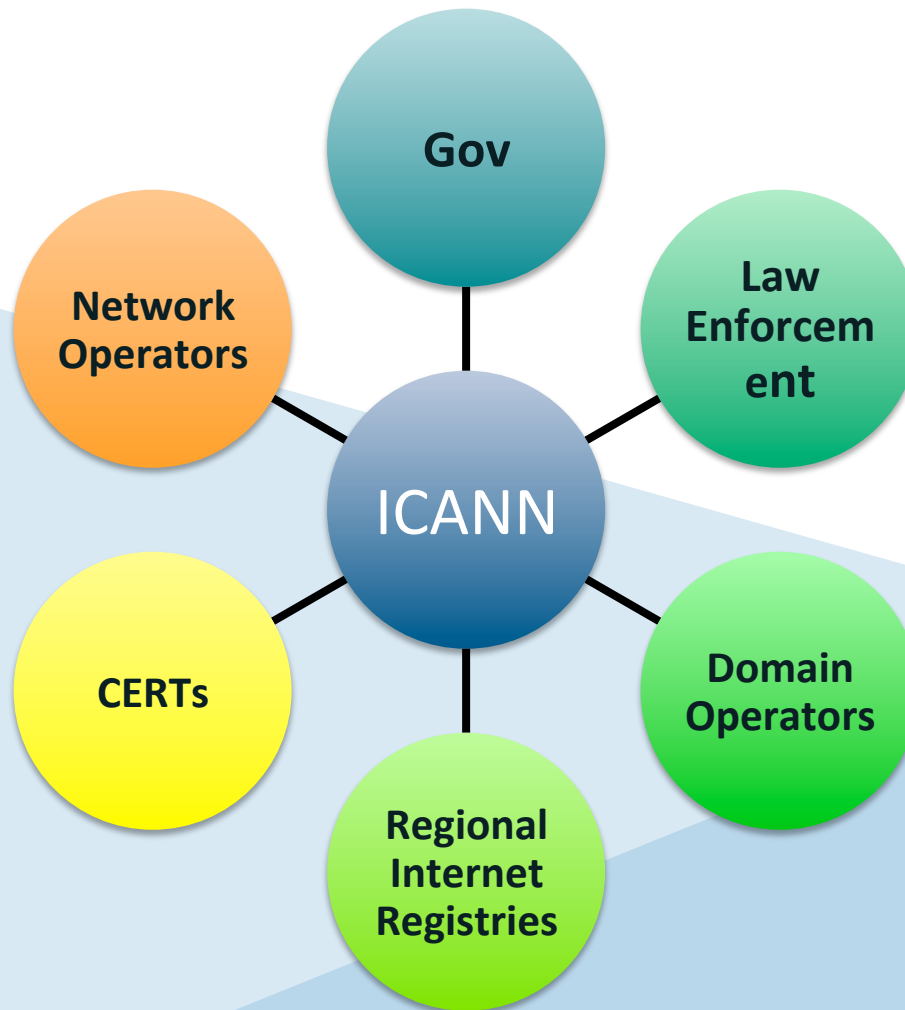
WHOIS is important for SSR

- + Registration Data Directory Service
 - Database containing records of information
- + Verification of records
 - Sponsoring Registrar
 - Domain Name Servers
 - Domain Status
 - Creation/Expiry Dates
 - Point of Contacts
 - DNSSEC Data



SSR Engagement

The Internet – our “Network of Networks”



Threat Awareness and Response

Trust-based Collaboration

Capability Building

Identifier SSR Analytics

SSR Capability Building

Capability Building

SSR Training

- Security
- DNS Operations
- Abuse/Misuse

Knowledge Transfer

- Europol
- Interpol
- RIRs

+ Training and Outreach

– Security, operations, DNS/DNSSEC deployment training

- for TLD registry operators
- Network Operators / ISPs
- Enterprises, Corporates etc.

– Information gathering to identify Internet Identifier Systems abuse/misuse and Investigation Techniques

- Law Enforcement Agencies
- CERTs
- Internet Investigators etc.

SSR Engagement in the Pacific

- + Engaging with Governments, LEA's and ccTLDs
 - + Pacific SSR Roadshow
 - TO, KI, FJ (Apr 2015)
 - + DNSSEC Workshop
 - VU (Nov 2014)
- + Technical and Operational Forums
 - + Sponsorship funding, trainer resources etc.
 - + PacNOG Conferences

APAC Hub

- ⦿ Established August 2013:
 - ⦿ 24 staff
- ⦿ Functions:
 - ⦿ Global Stakeholder Engagement; Contractual Compliance; Registrar/Registry Services; SSR Engagement; Legal; Comms; Ops, Finance, HR
 - ⦿ Customer Service Channel -24/5



Engage with ICANN



Thank You and Questions

Email:

save.vocea@icann.org

champika.wijayatunga@icann.org

ICANN Website: icann.org



twitter.com/icann



[gplus.to/icann](https://plus.google.com/icann)



facebook.com/icannorg



weibo.com/ICANNorg



linkedin.com/company/icann



flickr.com/photos/icann



youtube.com/user/icannnews



slideshare.net/icannpresentations