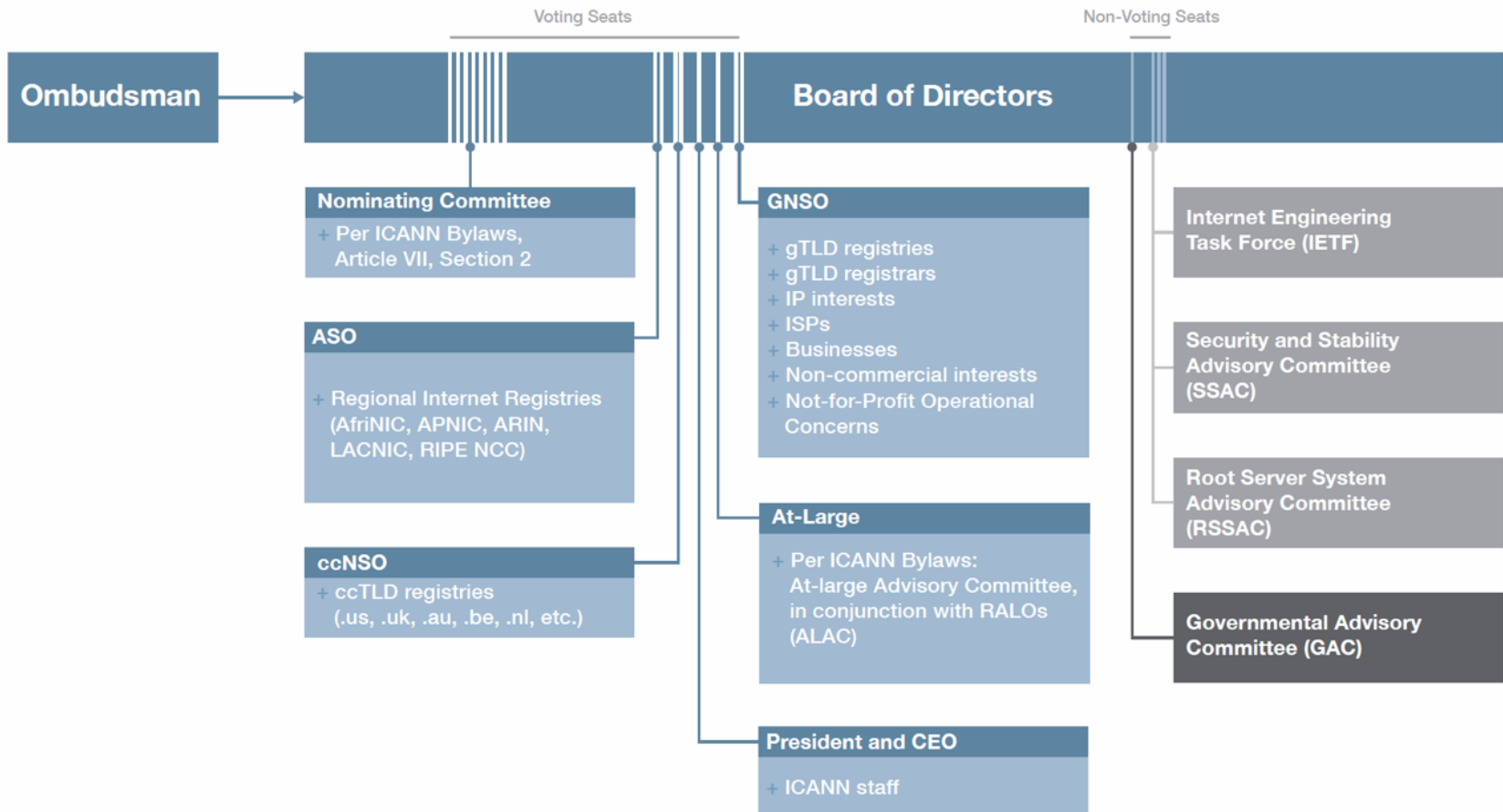# RSSAC Overview

Lars-Johan Liman, RSSAC co-chair
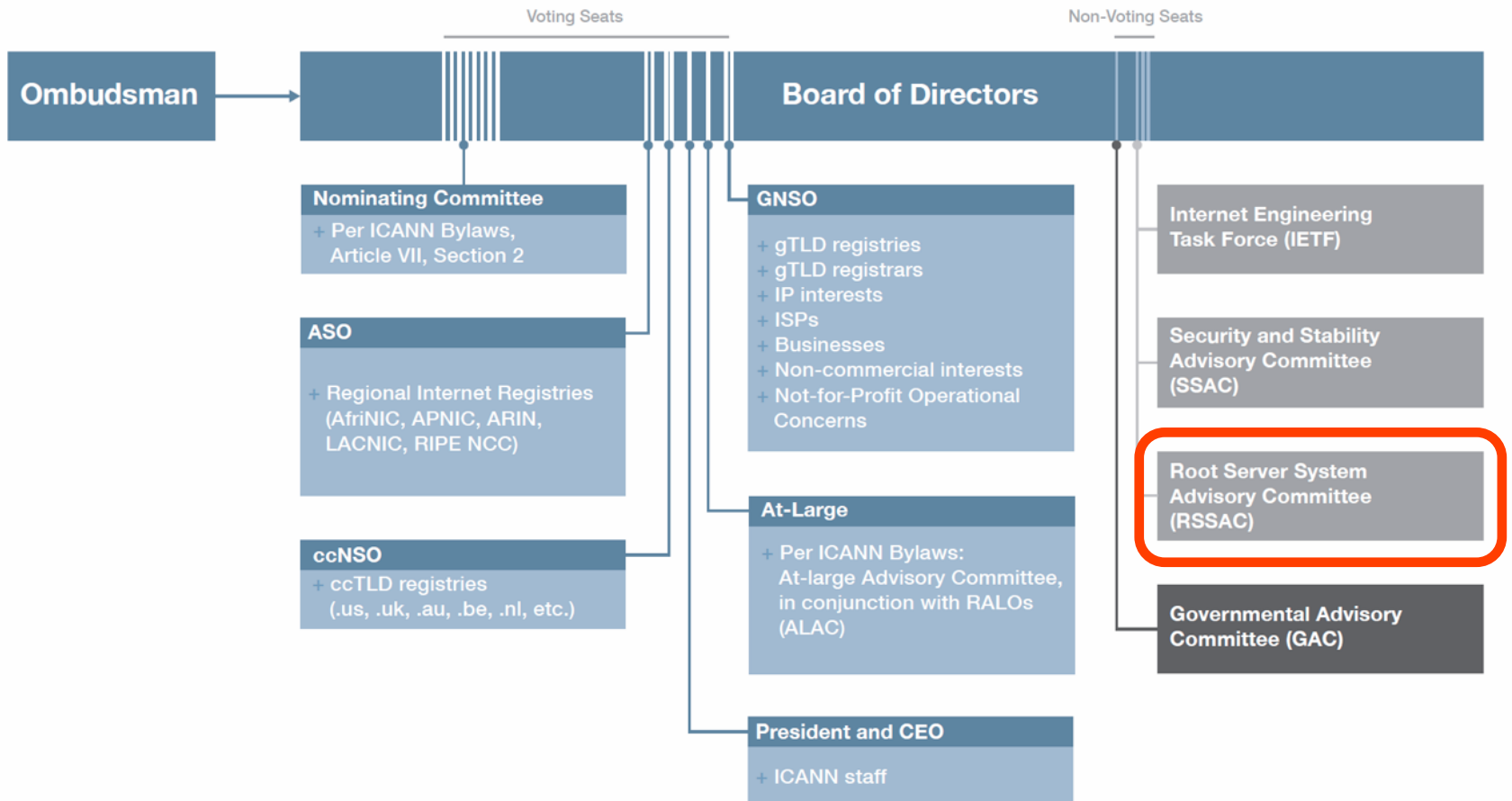Senior Systems Specialist, Netnod,
I-root
<liman@netnod.se>

What is RSSAC?

- The role of the Root Server System Advisory Committee ("RSSAC") is to advise the ICANN community and Board on matters relating to the operation, administration, security, and integrity of the Internet's Root Server System.

- (This is a very narrow scope!)

RSSAC is here …

RSSAC is here ...

RSSAC participates

- ... as one of the advisory committees (ACs) in various ICANN related fora, e.g.,
  - NTIA stewardship transition
  - ICANN accountability discussions
  - General multi-stakeholder discussions
  - ICANN Board of Directors
  - ICANN Nominating Committee

RSSAC organization

- RSSAC – composed of
  - Appointed representatives of the root server operators.
  - Alternates to these.
  - Liaisons.
- RSSAC Caucus
  - Body of volunteer subject matter experts.
  - Appointed by RSSAC

RSSAC procedures

- Selects and keeps track of work items.
- Appoints work parties from the Caucus.
- Takes formal action on work party results.

RSSAC procedures

- Appoints and accepts liaisons.

- Elects two RSSAC co-chairs (staggered).

- Creates processes and procedures.

- Documented in RSSAC-000
  https://www.icann.org/resources/pages/rssac-publications-2014-05-12-en

RSSAC co-chairs

Prof. Jun Murai
WIDE project
M-root

Lars-Johan Liman, M.Sc.
Netnod
I-root

RSSAC Members

- Brad Verd, Versisign (A/J)
- Bill Manning, USC, (B)
- Paul Vixie, Cogent, (C)
- Tripti Sinha, UMD (D)
- Kevin Jones, NASA (E)
- Jim Martin*, ISC (F)
- Jim Cassell, US DoD (G)
- Howard Kash, US Army Research Lab (H)

- Lars-Johan Liman, Netnod, (I) [co-chair]
- Daniel Karrenberg, RIPE NCC (K)
- John Crain, ICANN (L)
- Jun Murai, WIDE (M) [co-chair]

* To be confirmed by the Board

Alternates

- Members can have alternates
- Alternates vote if primary not present
- Participates in meetings to stay informed

RSSAC Liaisons

- Elsie Gerich   ICANN IANA Department (IANA Functions Operator)
- Duane Wessels Verisign (Root Zone Maintainer)
- US DoC NTIA   (IANA Functions Administrator)
- Marc Blanchet (IAB Liaison)
- Russ Mundy   (ICANN SSAC Liaison)
- Suzanne Woolf (ICANN Board Liaison)

https://www.icann.org/resources/pages/rssac-4c-2012-02-25-en

Caucus: Purpose

- Pool of experts who produce documents
  - Expertise, critical mass, broad spectrum
- Transparency of who does the work
  - Who, what expertise, which other hats
- Framework for getting work done
  - Results, leaders, deadlines

Caucus: Members

- All members of RSSAC + others appointed by RSSAC
- Public statements of interest
- Public credit for individual work

Caucus: Details

- Clearly scoped work items
- Designated document leaders
- Result oriented
- Include dissenting opinions

RSSAC Caucus Membership Committee

Tripti Sinha

Member, RSSAC Caucus Membership Committee

AVP and Deputy CIO, University of Maryland / D-Root

Who are we?

- Kaveh Ranjbar [Chair], Paul Vixie, Tripti Sinha
- Appointed by the RSSAC as the RSSAC Caucus Membership Committee
- The committee is composed of three individuals, at least one of whom is a member of the RSSAC. The committee is appointed by the RSSAC. Each member of this committee serves a term of one year.

What we do/did

- Bootstrap the RSSAC Caucus by contacting interested parties
  - We contacted members of the old RSSAC mailing list with an invitation to join
  - Also sent an invitation to 7 DNS related mailing lists, including IETF DNS lists, DNS OARC and RIPE DNS Working Group
- Maintain a continuous stream of new members to the RSSAC Caucus and manage its membership
- Regularly update the RSSAC about RSSAC Caucus membership requests and the status of applications

How do we select RSSAC Caucus members?

- Monitor requests coming to rssac-membership@icann.org
- We go through Statements Of Interest from candidates and then recommend candidates with related background and willingness to contribute to the RSSAC Caucus to the RSSAC for official appointment.
- We inform candidates about the outcome of their expression of interest in joining the RSSAC Caucus.

When do we meet?

- We meet every other month to go through pending RSSAC caucus membership requests and forward approved candidate lists to the RSSAC immediately after the meeting
  - If there is someone who is willing to contribute to an ongoing work item in the RSSAC caucus we will expedite their membership request by having a special committee meeting

More information

- To join the RSSAC Caucus please send your statement of interest to: rssac-membership@icann.org

- RSSAC will issue regular calls for joining the RSSAC Caucus

- RSSAC periodically reviews the composition of the RSSAC Caucus

- For more information please read the RSSAC Caucus Document:
  - https://www.icann.org/resources/pages/rssac-caucus-2014-05-06-en

Ongoing work

- Two work active work parties:
  - Service Expectations of Root Servers.
    - In tandem with IAB document draft-iab-rfc2870bis.
  - Root Server System Measurements.

RSSAC-001

Service Expectations of Root Servers

Joe Abley and Terry Manderson

ICANN 51, Los Angeles, October 2014

In the beginning…

- … there was no written guidance for the operation of root servers.
  - a simpler, more gentle time
- Then there was RFC 2870

Root Name Server Operational Requirements

Status of this Memo

Copyright Notice

Abstract

   As the internet becomes increasingly critical to the world's social
   and economic infrastructure, attention has rightly focused on the
   correct, safe, reliable, and secure operation of the internet
   infrastructure itself. The root domain name servers are seen as a
   crucial part of that technical infrastructure. The primary focus of
   this document is to provide guidelines for operation of the root name
   servers. Other major zone server operators (gTLDs, ccTLDs, major
   zones) may also find it useful. These guidelines are intended to
   meet the perceived societal needs without overly prescribing
   technical details.

Skip Forward 14 Years

- Root Server Operators found new ways to increase their capacity and availability
- e.g. anycast distribution of root servers
- New requirements emerged
  - e.g. IPv6
- Some of the guidance presented in RFC 2870 did not age well, despite the collective expertise involved in drafting it

IETF 83

- At the RSSAC meeting held at IETF 83, work started to align various attempts to update RFC 2870

  - describe the base, technical and protocol requirements of the root server system in the RFC series, replacing RFC 2870

  - describe a service level commitment to relying parties in an RSSAC document

RSSAC Restructure

- In the two years between IETF 83 and ICANN 51, RSSAC underwent a significant restructure
  - with the restructure now substantially complete, work has recommenced and progress has been made

RSSAC-001

- The intended audience of the document is the technical and operational DNS community

- The expectation is that individual Root Server Operators will confirm that their infrastructure is being operated along the lines described

- Contains eighteen individual statements, with clarifying commentary, that together form a set of expectations that users of the Root Server System should hold

Categories

- Infrastructure
- Service Accuracy
- Service Availability
- Service Capacity
- Operational Security

- Diversity of Implementation
- Monitoring and Measurement
- Communication
- Public Documentation

Status Update

- draft-iab-2870bis-01
  - IETF-wide last-call has completed
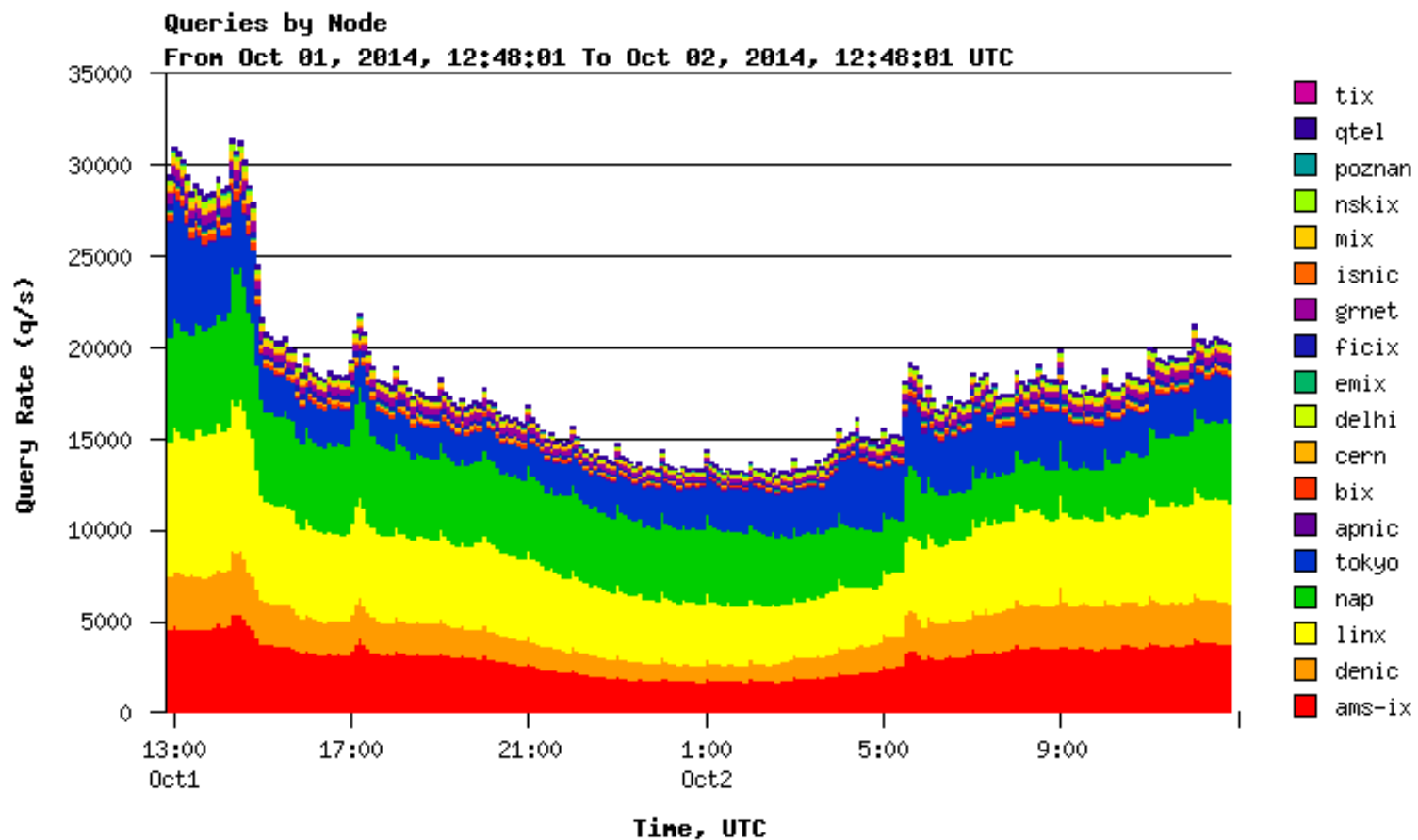 - document being held pending coordinated publication of RSSAC-001

Status Update

- The most recent draft of RSSAC-001 has seen little modification during its path through the RSSAC caucus
  - to be expected, since it had the benefit of significant review and reconstruction before the RSSAC restructure
- Currently in last-call, some relatively minor edits anticipated
- Expected to be sent to the RSSAC exec with a recommendation to publish next week

RSSAC-002

- The latency in the distribution system
- The size of the overall root zone
- The number of queries
- The query and response size distribution
- The RCODE distribution
- The number of sources seen

K-root Query Load

Queries by Node
From Oct 01, 2014, 12:48:01 To Oct 02, 2014, 12:48:01 UTC

Legend (top to bottom): tix, qtel, poznan, nskix, mix, isnic, grnet, ficix, emix, delhi, cern, bix, apnic, tokyo, nap, linx, denic, ams-ix

Y-axis: Query Rate (q/s) — 0, 5000, 10000, 15000, 20000, 25000, 30000, 35000

X-axis: Time, UTC — 13:00 Oct1, 17:00, 21:00, 1:00 Oct2, 5:00, 9:00

Root Server info

Questions?
Comments?