

# Root DNS Update 2018

関谷 勇司

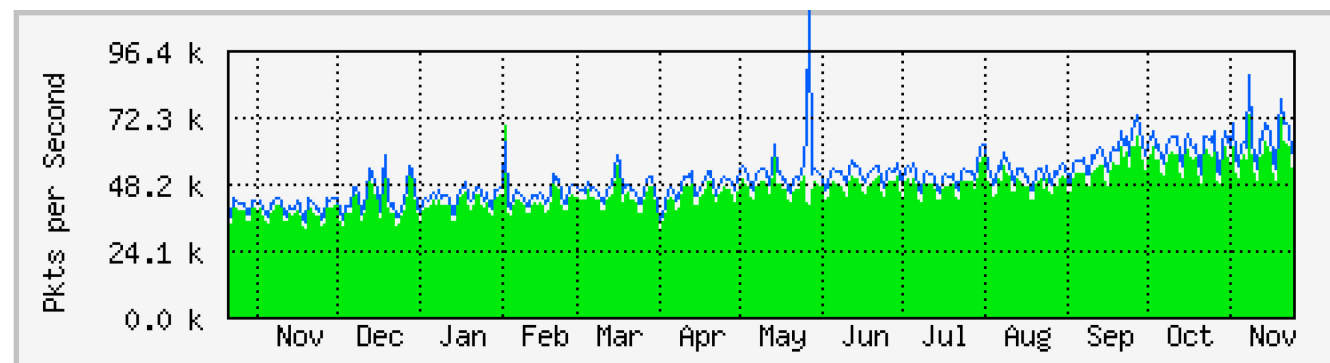
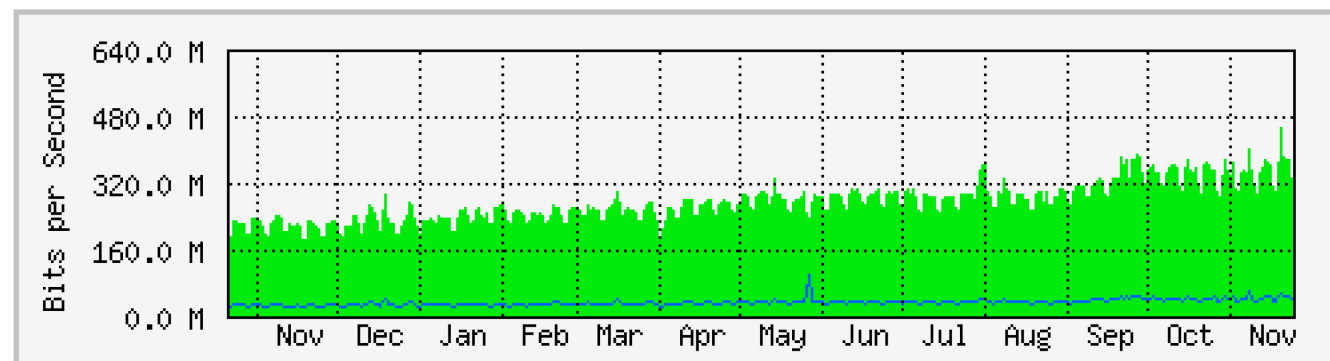
WIDE Project / 東京大学

# M ROOT DNS の動向

- WIDE Project / JPRS の共同運用となっております
- 運用拠点が増えました
  - SJC 拠点
  - SFO 拠点と合わせて米国西海岸に 2拠点となりました
- 現在のところ全部で 9拠点
- 次はどこでしょう？

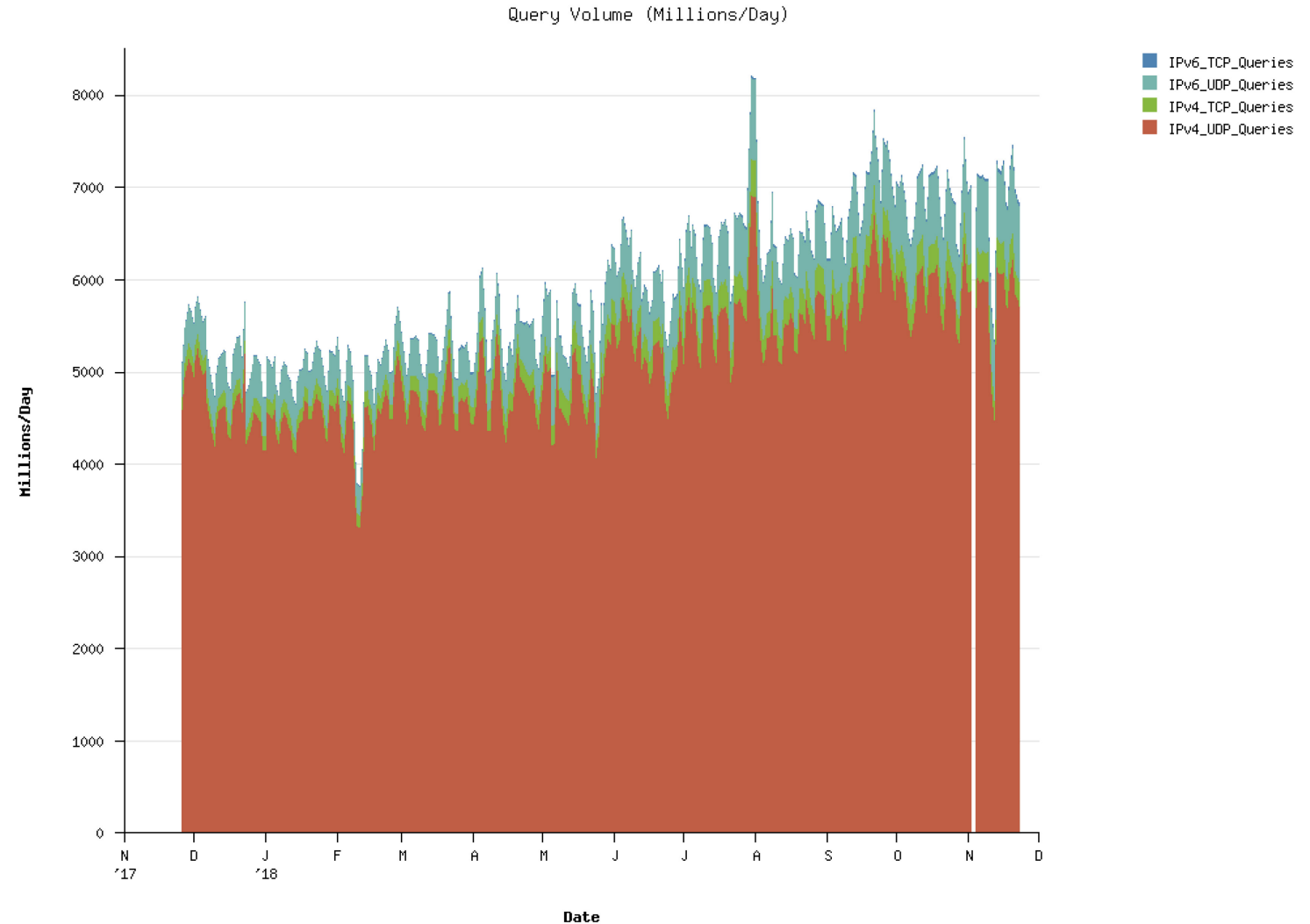
# M ROOT DNS のトラフィック動向

- 増加傾向ですね
  - 拠点増えたから？
- 他の Root DNS は？



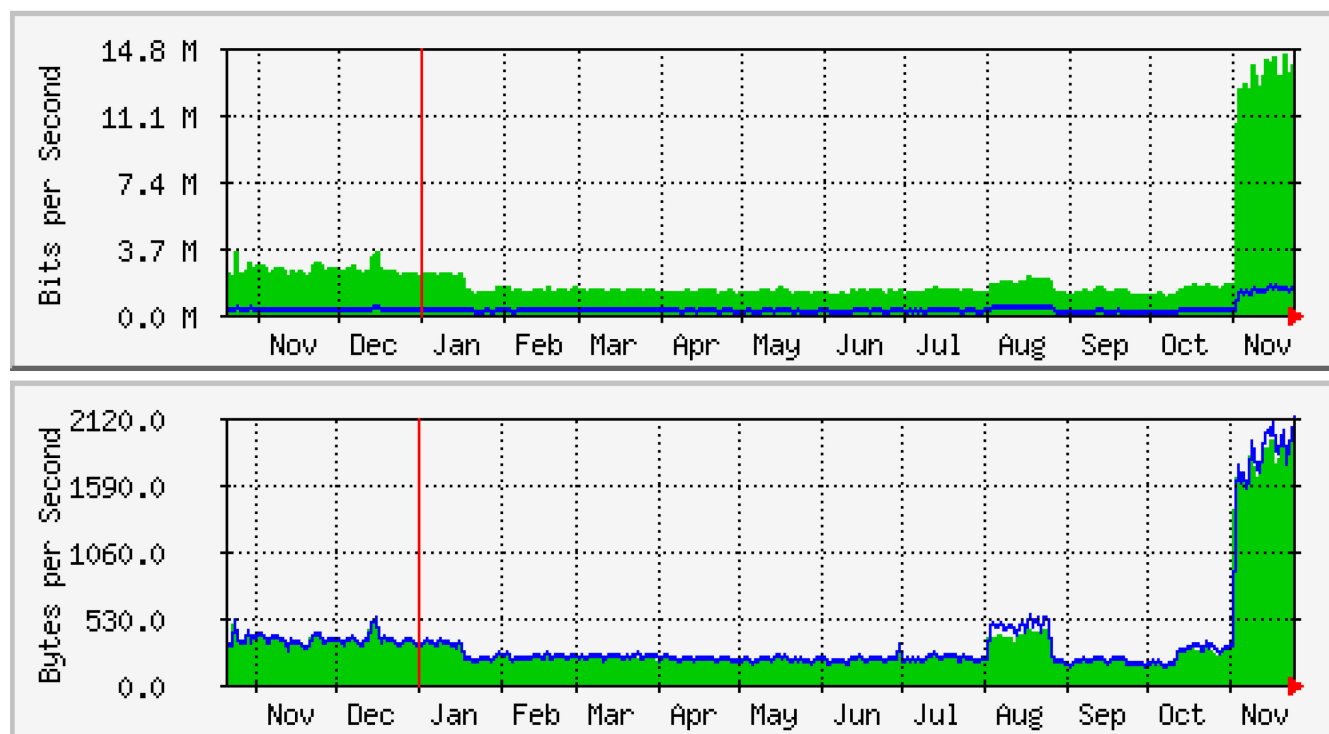
# 例えば J ROOT (Verisign)

- 増えてますね

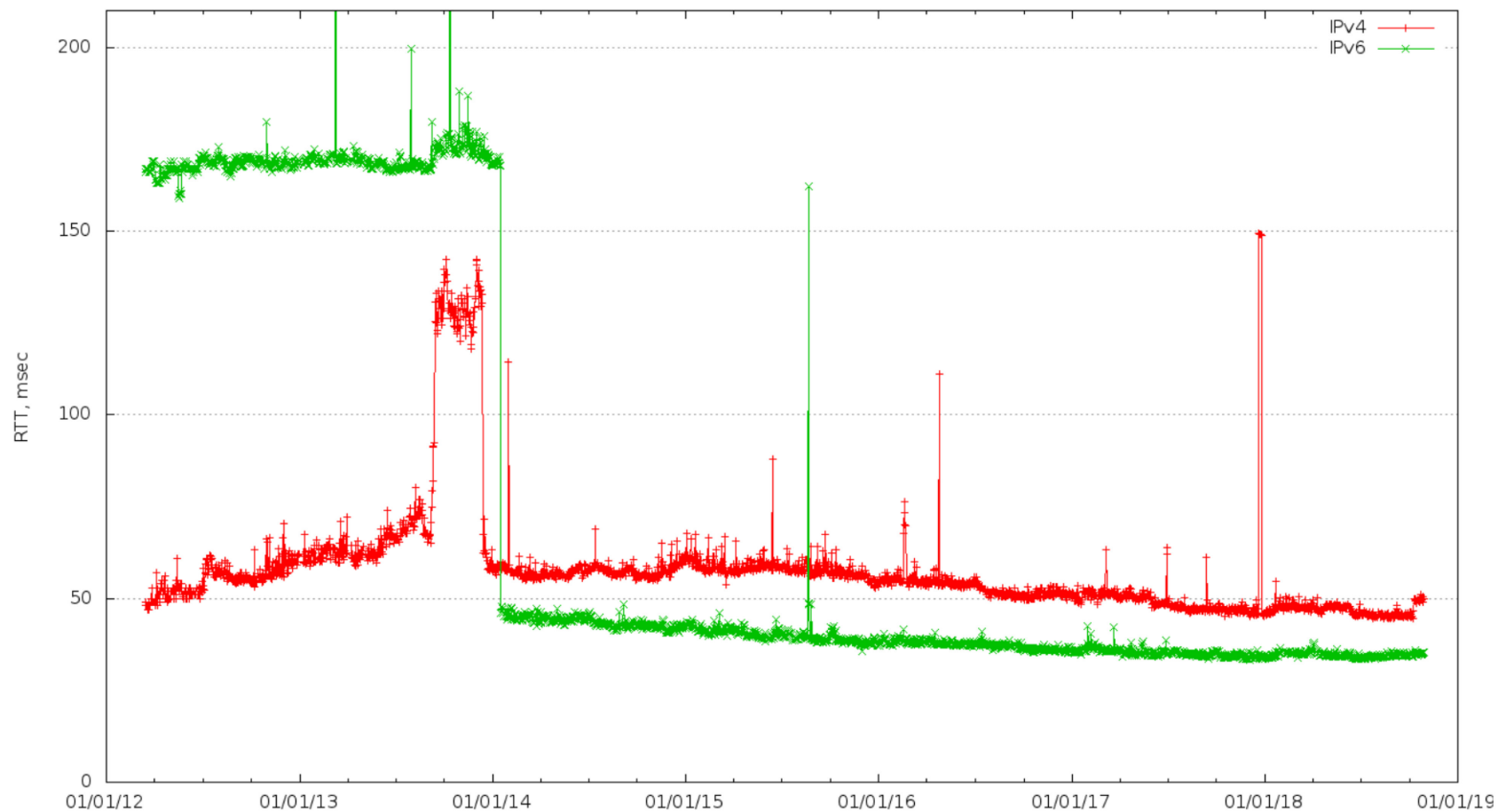


# ソウル拠点

- 一気にトラフィック増えました
- トランジット増やしました
- 一部 NO-EXPORT やめました

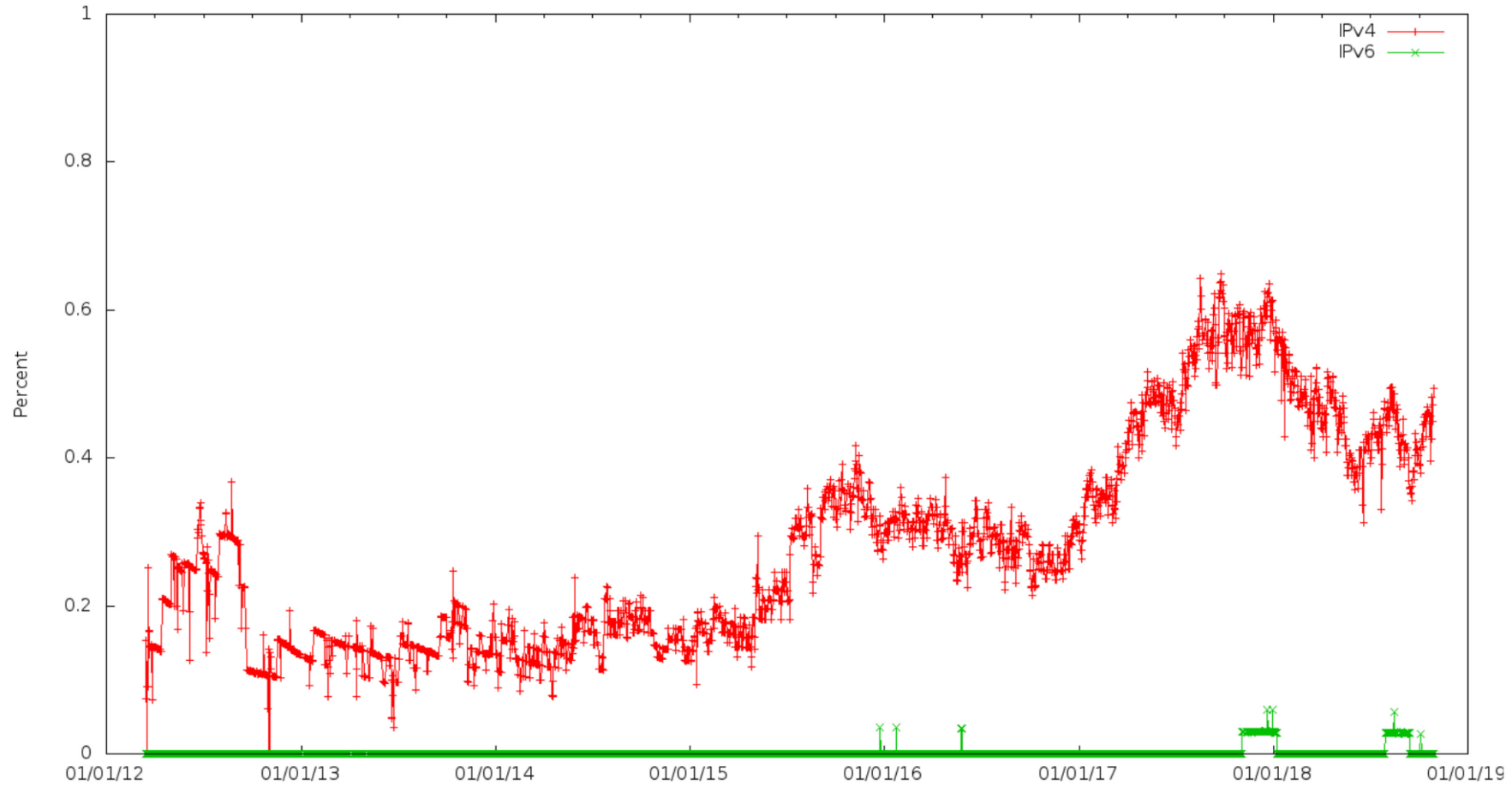


# RTT (median) Value of M ROOT



by RIPE Atlas

# Interception of M ROOT



by RIPE Atlas

## 2018年のできごと

- (ROOT DNS に関して) そんなに大きな事件は無かったように思います
  - 大規模 DDoS も無く
  - 大きな話題は KSK Key Rollover くらい？
  - この後説明します
- ここ数年の話題としては
  - 鍵更新に関するクエリの変化
  - クエリサイズ増大による TCP クエリ増加
  - DNS cookie どうする？
  - 大規模 DDoS の防ぎ方
  - Operational Requirements (RFC7720)
  - RSSAC も多くの文章を出しています



# ROOT DNS に関する情報

- Root DNS Operators
  - <http://www.root-servers.org/>
- Root Server System Advisory Committee
  - <https://www.icann.org/groups/rssac>
- RIPE Atlas
  - <https://atlas.ripe.net/>
- dnsmon
  - <https://atlas.ripe.net/dnsmon/>

# rssac web

2018年11月29日



## Resources

- ▶ [About ICANN](#)
- ▶ [Board](#)
- ▶ [Accountability](#)
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- ▼ [Groups](#)
  - ▼ [RSSAC](#)
    - [Charter](#)
  - ▶ [SSAC](#)
  - [GAC](#)
  - [At-Large](#)
  - [ASO](#)
  - [ccNSO](#)
  - [GNSO](#)
  - ▶ [Technical Liaison Group](#)
  - ▶ [NomCom](#)
    - [Customer Standing Committee](#)
    - [Root Zone Evaluation Review Committee \(RZERC\)](#)
- [Business](#)
- [Civil Society](#)
- ▶ [Complaints Office](#)
- ▶ [Contractual Compliance](#)
- ▶ [Registrars](#)
- ▶ [Registry Operators](#)
- ▶ [Domain Name Registrants](#)
- [GDD Metrics](#)
- ▶ [Identifier Systems Security, Stability and Resiliency \(OCTO IS-SSR\)](#)
- ▶ [ccTLDs](#)
- ▶ [Internationalized Domain Names](#)

## Root Server System Advisory Committee

The Root Server System Advisory Committee (RSSAC) advises the ICANN Board and community on matters relating to the operation, administration, security, and integrity of the root server system, as outlined in its [charter from the ICANN Bylaws](#).

The RSSAC consists of representatives from the organizations responsible for operating global root name service. On [18 July 2013](#), the ICANN Board approved the initial membership and leadership of the RSSAC, with new representatives also appointed on [26 June 2014](#).

Root Server Operator	Representative	Alternate	Term Expires
Cogent	Paul Vixie	Brad Belanger	31 December 2020
ICANN	Matt Larson	Terry Manderson	31 December 2021
Internet Systems Consortium	Fred Baker (Co-Chair)	Jeff Osborn	31 December 2021
NASA	Keith Bluestein	Tom Miglin	31 December 2019
Netnod	Lars-Johan Liman	Patrik Fältström	31 December 2021
RIPE Network Coordination Centre	Daniel Karrenberg	Kaveh Ranjbar	31 December 2020
University of Maryland	Karl Reuss	Gerry Sneeringer	31 December 2019
University of Southern California	Wes Hardaker	Suzanne Woolf	31 December 2020
US Army Research Laboratory	Howard Kash	Kenneth Renard	31 December 2019
US Department of Defense	Kevin Wright	Ryan Stephenson	31 December 2019
Verisign, Inc.	Brad Verd (Co-Chair)	Matt Weinberg	31 December 2021
WIDE Project	Jun Murai	Hiro Hotta	31 December 2020

The RSSAC also consists of representatives of the organizations responsible for the maintenance of the authoritative root zone as non-voting members. Liaisons from external organizations and groups also participate as non-voting members.

<a href="#">IANA Functions Operator</a>	Naela Sarras (PTI)
<a href="#">Root Zone Maintainer</a>	Duane Wessels (Verisign)
Liaison from the Internet Architecture Board	Daniel Migault
Liaison from the SSAC	Russ Mundy
Liaison to the ICANN Board of Directors	Kaveh Ranjbar
Liaison to the Customer Standing Committee	Lars-Johan Liman
Liaison to the Root Zone Evolution Review Committee	Brad Verd

## Meetings

The RSSAC holds periodic teleconferences and meets in person at IETF meetings and ICANN meetings. Minutes from meetings of the previous RSSAC and the current RSSAC (where available) can be viewed [here](#).



zone: . (root)

From: 2018-11-26 23:00

To: 2018-11-27 10:40 UTC



dnsmon で見  
えるもの



# ROOT DNS は

- 名前解決の起点を担うインフラです
  - 課金を伴うような商用サービスではありません
  - ボランティアベースで運用されています
  - 各運用組織が資源と人材を出しています
  - 攻撃したりしないですね
- M ROOT は WIDE Project と JPRS の共同運用です
  - 覚えておいて頂けると幸いです