



L-root Bulgaria Traffic

Internet Measurement Day - Sofia

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L-root presentation

1. Introduction

- a. Team Introduction
- b. DNS and Root Servers
- c. L-root location and Global presence

2. L-root Asia-Pacific Traffic

- a. Europe Daily DNS L-root Zone Queries
- b. Europe Daily IPv4 vs IPv4 Root Queries
- c. Bulgaria's L-root Traffic

1. Team presentation

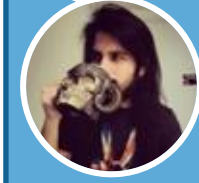
Engineering



Benjamin Farine
Sr Lead Infrastructure Engineer



John Bond
Principal Infrastructure Engineer



Eduardo Corzo
Sr Infrastructure Engineer

Management



John Crain
SVP & CTO



Matt Larson
VP, OCTO

Policy



Sam Eisner
Deputy General
Counsel

Project management



Hilary Jin
Project manager

1.Intro: DNS and Root Servers

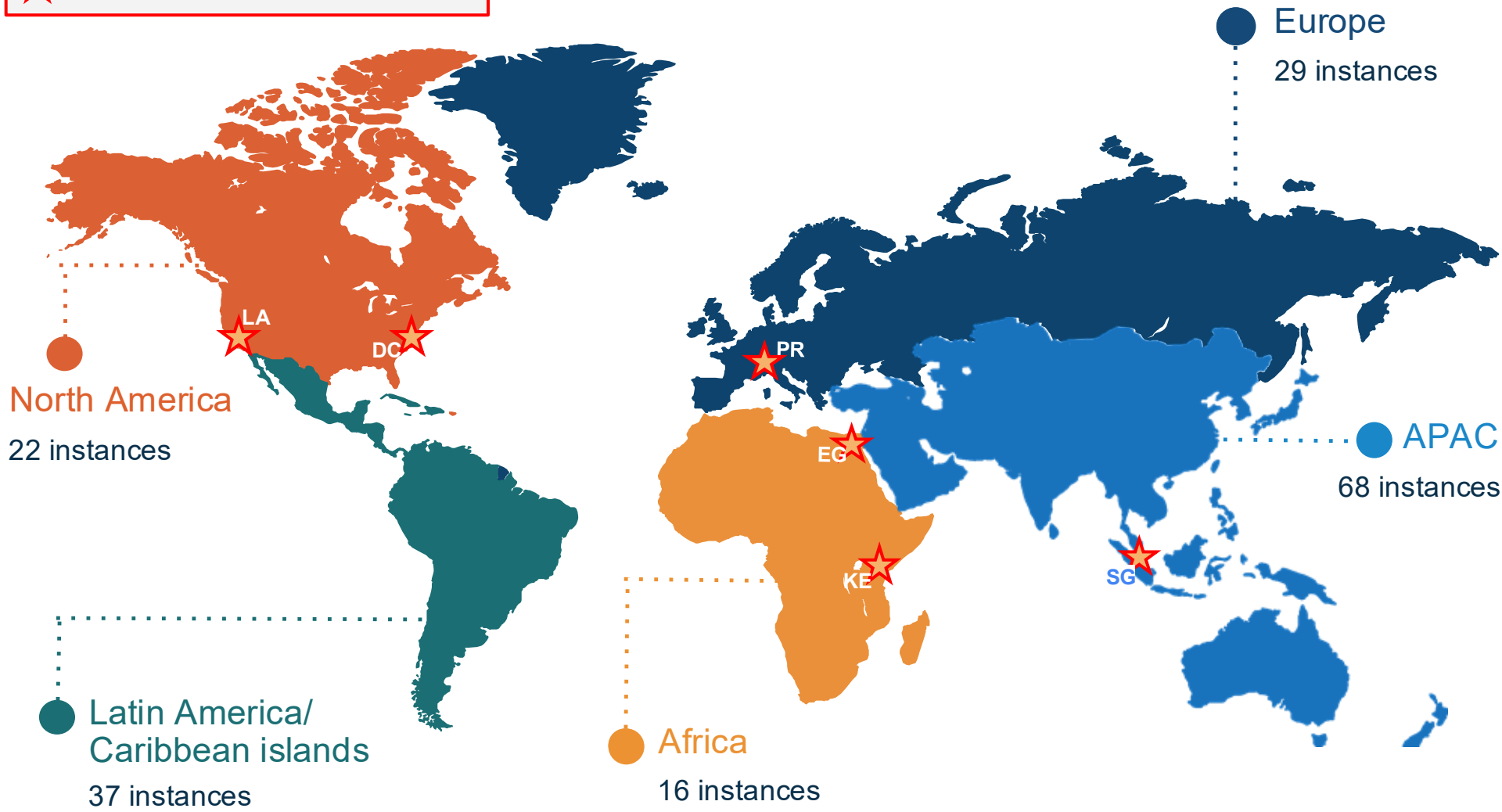
- **DNS: Domain Name System**
 - Critical Internet directory which translates human readable Domain Names into IP addresses and vice versa.
 - Example:
 - *a.nic.bg* → *192.92.129.99*
- **Root Servers**
 - 12 Root Server Operators*
 - They hold the Root Zone Database
 - Root Servers are deployed worldwide by multiple organizations - including ICANN.
- **L-root**
 - ICANN has maintained and operated ONE of the 13 Root Servers since 2002.

When the recursive DNS server's cache doesn't know the answer, here's the basic workflow



1. L-root Locations and Global Presence (June 2026)

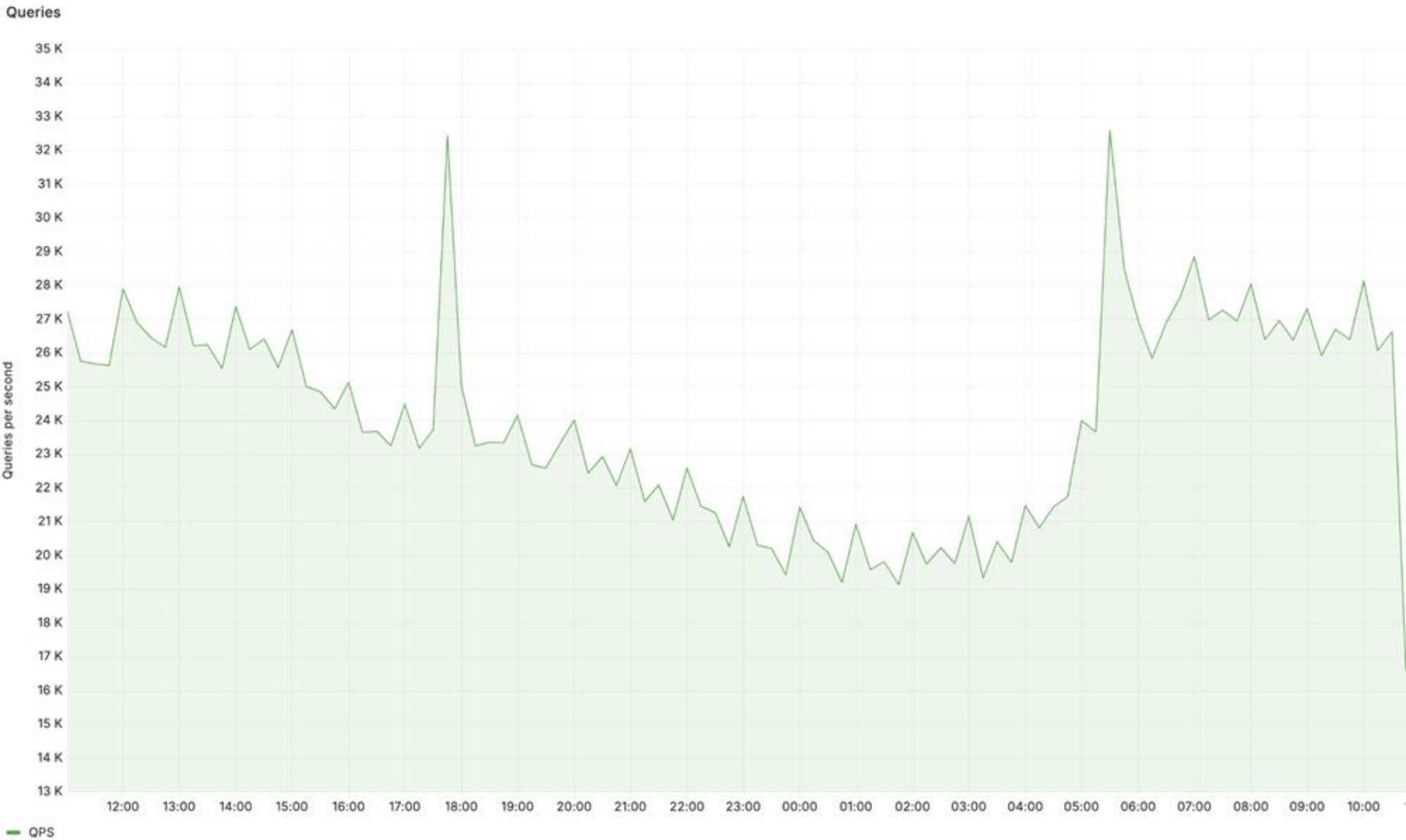
★ L-root cluster managed by ICANN



L-root EUROPE Traffic

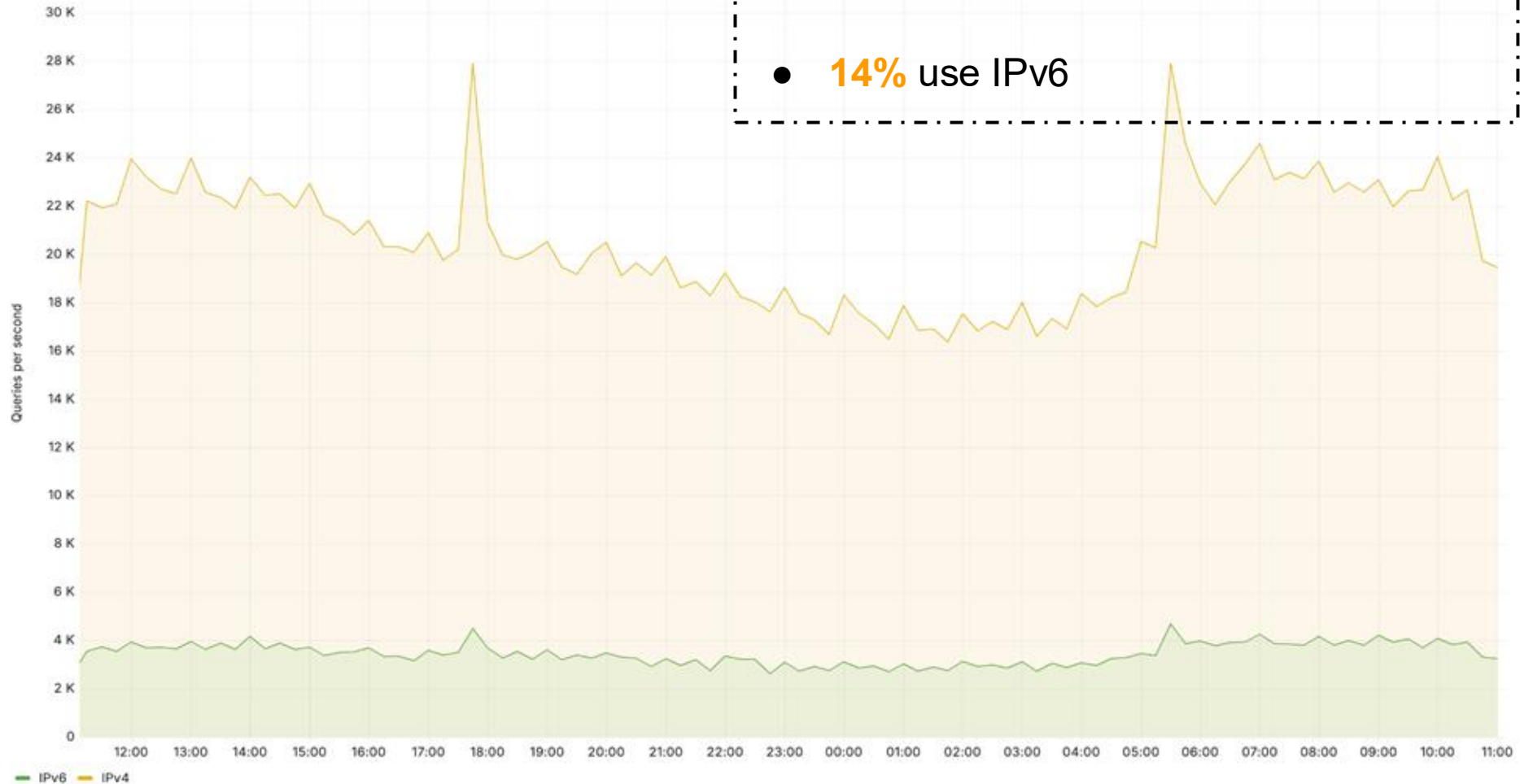
1. Overview of the DNS L-root Europe traffic
 - a. EU Daily L-root Zone Queries
 - b. IPv4 vs IPv6 Queries
2. Bulgaria L-Root Traffic: Where Does It Go?

1.a EU Daily DNS L-root Zone Queries



1.b EU Daily IPv4 vs IPv6 Root DNS Queries

Queries by IP version



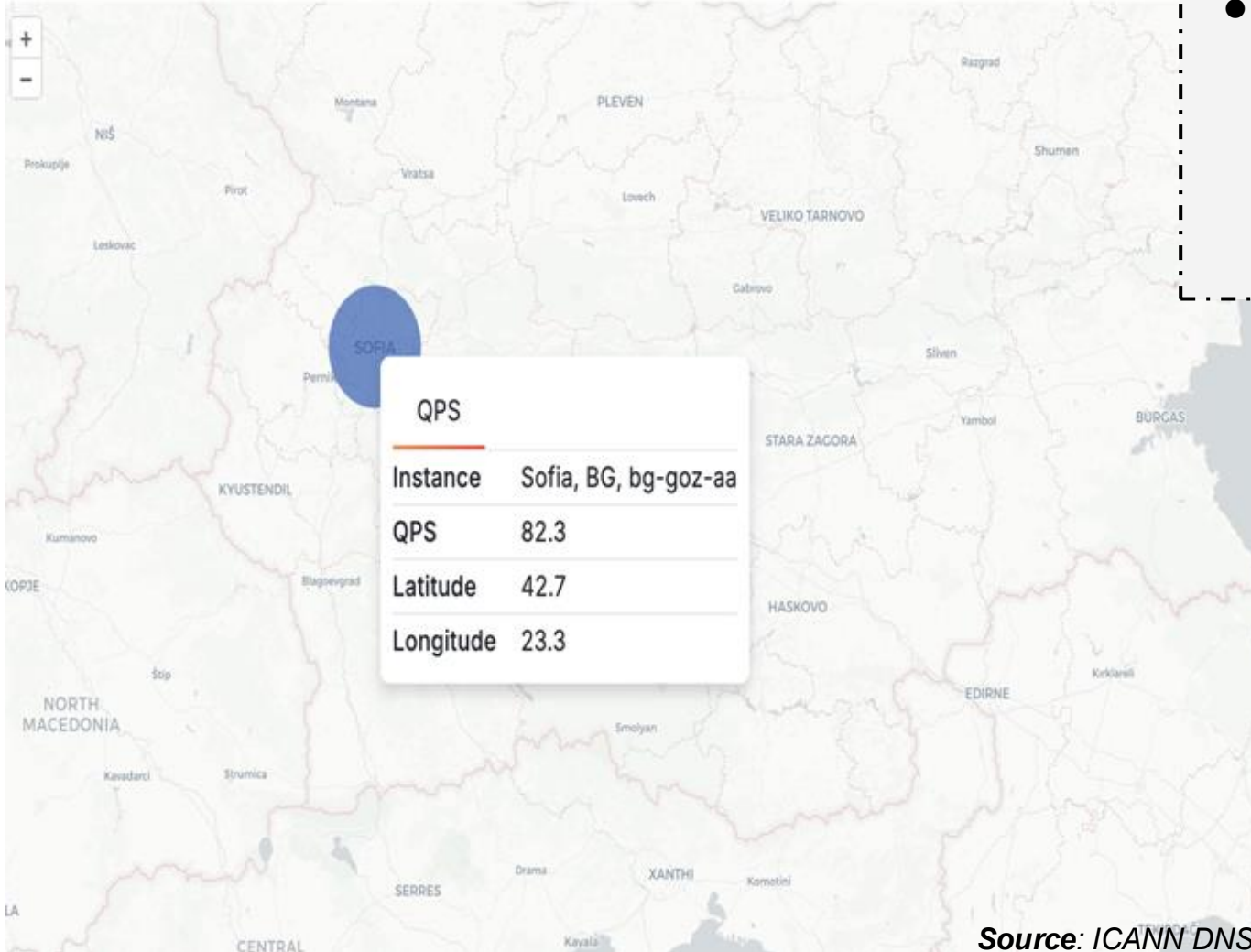
- 86% of Root DNS queries use IPv4
- 14% use IPv6

*QPS = Queries Per Second

Source: ICANN DNS-STATS <https://stats.dns.icann.org>

2. Bulgaria's L-root Traffic: Where Does It Go?

Instances serving queries from country Bulgaria



- **99%** of Tajikistan's Root DNS traffic is served by our L-root single node at Sofia (bg-goz)

Source: ICANN DNS-STATS <https://stats.dns.icann.org>

Conclusion

1. **At present**, we only have **1 L-root instance** deployed in **Bulgaria(Sofia)**.
2. **7 root server instances** (D, E, F, I, J, K, and L) are deployed in **Sofia**, while no additional instances are currently deployed in the rest of the country.
3. It is **important** to note that **most of the Bulgaria traffic is currently served by our L-root single node in Sofia**.
4. Going forward, we will work closely with the **ICANN OCTO team** and **Global Stakeholder team** to



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