



RIPE NCC
RIPE NETWORK COORDINATION CENTER

Empowering Arab Countries through Internet Measurement Tools and Services

A RECIPE FOR SUCCESS

ABOUT US

- The Réseaux IP Européens Network Coordination Centre (RIPE NCC) is an independent, not-for-profit membership organisation that serves as the Regional Internet Registry (RIR) for Europe, the Middle East, and parts of Central Asia. It is responsible for allocating and registering Internet number resources (IPv4, IPv6, and Autonomous System Numbers) to its members, ensuring the stable and secure operation of the Internet.
- Through its capacity-building and outreach activities, the RIPE NCC supports an open, resilient, and secure Internet for the benefit of all users.
- The RIPE NCC also acts as the secretariat for the RIPE community, which operates through a bottom-up, open, and inclusive decision-making process.



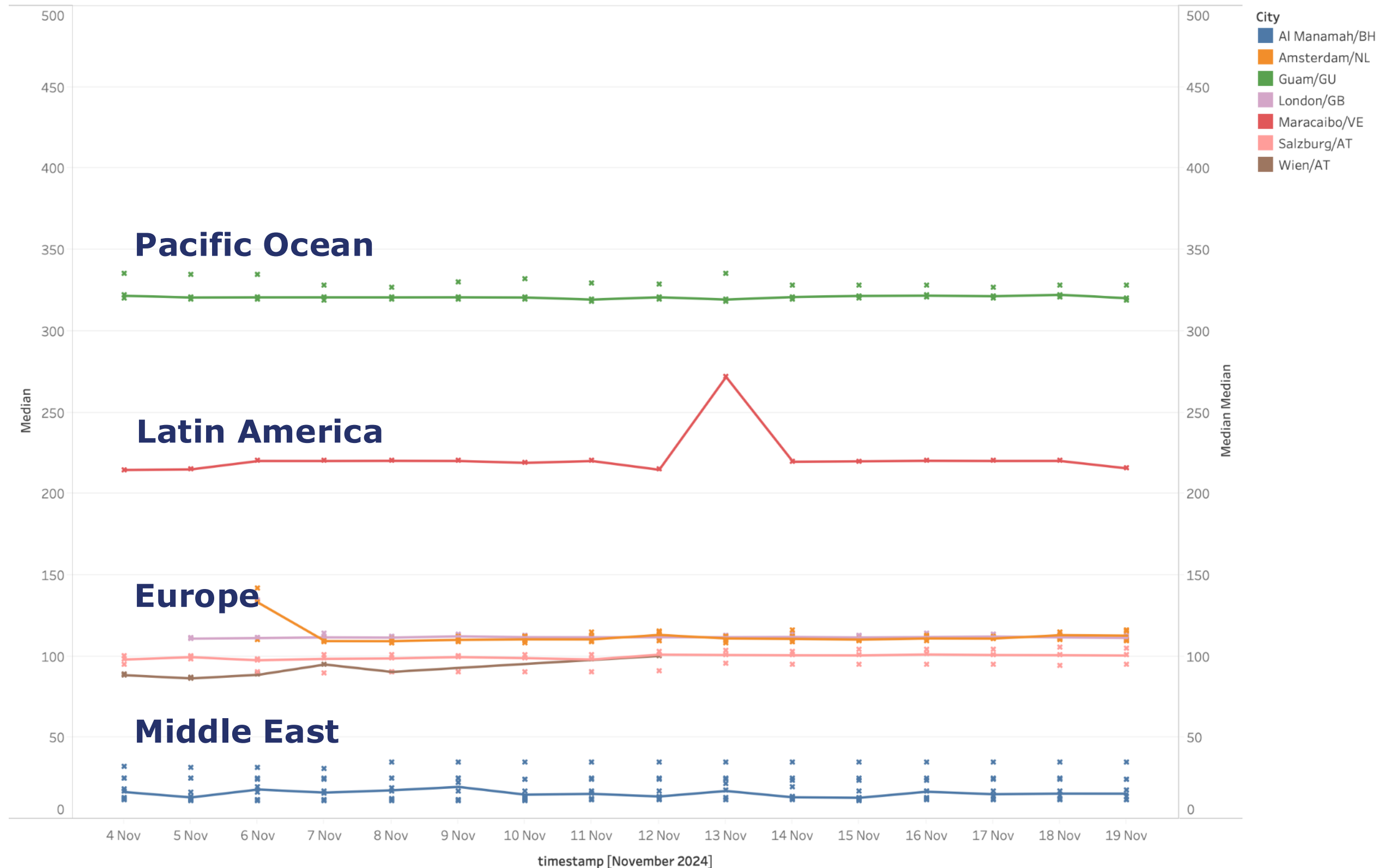


The Problem

Let's Take a Closer Look



AuthDns Median RTT - Saudi Arabia



Hold this thought (RTT)

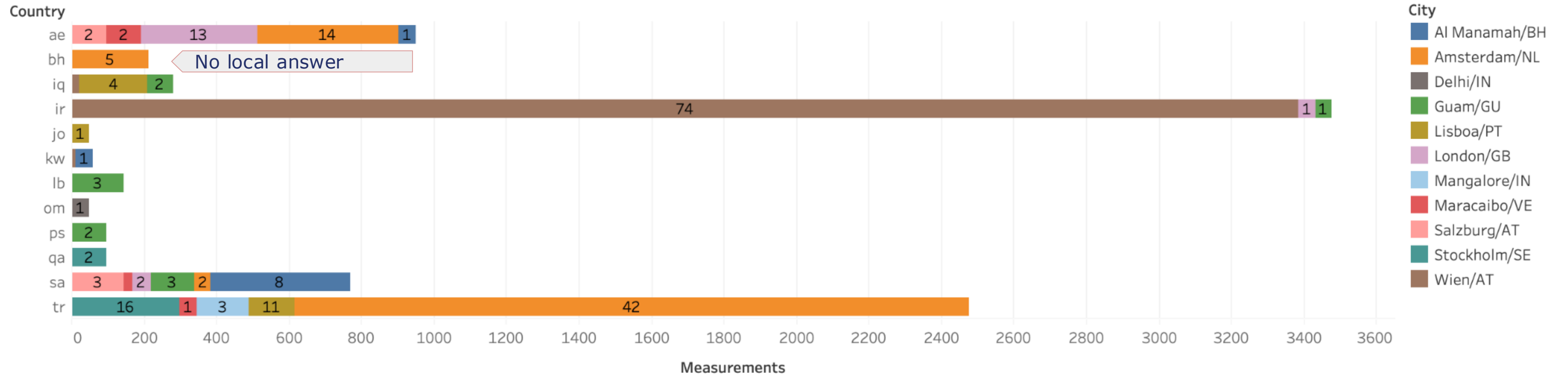
All RTTs are measured *from* Atlas probes in the Middle East

- Middle East (BH) <50 ms
- European Countries +/- 100 ms
- Latin America (VE) +/- 200 ms
- Pacific Ocean (GU) >300 ms

The further it gets the answer from, the higher the latency.



AuthDns by Country - 2024-11-19



World Detour

- 10 probes got answer via **Guam**, a Pacific island
- 5 from **India**
- 4 got answer from Latin America, **Venezuela**
- 168 probes got answer from **Western Europe**

Minimum RTT

- 11 probes give >300ms result
- 89 >100ms
- 39 within 50 ms

Bahrain AuthDNS node

- 11 out of 187 probes answered by Bahrain AuthDNS node
- MinRTT <60ms
- This AuthDNS node is hosted by STC (Saudi Telecom Group), some probes in SA got response from Bahrain node



The Solution

Empowering Arab Countries through RIPE NCC Internet Measurement Tools and Services

RIPE Atlas Installation

The World's Largest Internet Measurement Platform
Our platform is comprised of a network of probes that span the globe, measuring internet connectivity and performance.

Peering with RIS (Routing Information System)

Access the most current data on network topology, traffic patterns, and possible interruptions. RIS allows you to make informed decisions, detect and alleviate potential security threats, and enhance overall network resilience.

K-Root Installation

Host K-root and help Improving Local DNS Resolution by Contributing to the Global Domain Name System (DNS) Infrastructure.

Hosting AuthDNS

Serve your local internet community by hosting Authoritative DNS servers for faster and more reliable domain lookups



How you can help

- **With extremely low coverage in many countries, we need:**
 - More topological diversity
 - More diversity in network & locations



Summary

- **Problem:** Slow DNS response times frustrate internet users
- **Cause:** High latency due to inefficient routing, with traffic often travelling not locally
- **Solution:**
 - Keep DNS traffic local by hosting more AuthDNS
 - Host more RIPE Atlas in diverse locations to provide real real-time view
 - Use RIS data (and peer with RIS) to help mutually detect BGP hijacks or misconfiguration across networks
- **Benefit:** Local DNS reduces latency, boosts digital economy, improves user experience, and enhances security by reducing path lengths and hijack risks.
- **Tools:** Use RIPE Atlas to measure DNS latency and assess route inefficiencies.
- **Deployment:** Target countries to improve local DNS infrastructure include ALL Arab Countries
- **Call for action.**

THANK YOU!