RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Measuring Internet Performance in Schools with RIPE Atlas

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The Problem

- Schools depend on the Internet (learning, exams, cloud apps)
- Complaints like “it’s slow” are common
- ISPs, ministries, and schools need evidence, not guesses

What Is RIPE Atlas?

RIPE Atlas

A global network of probes measuring the Internet in real time

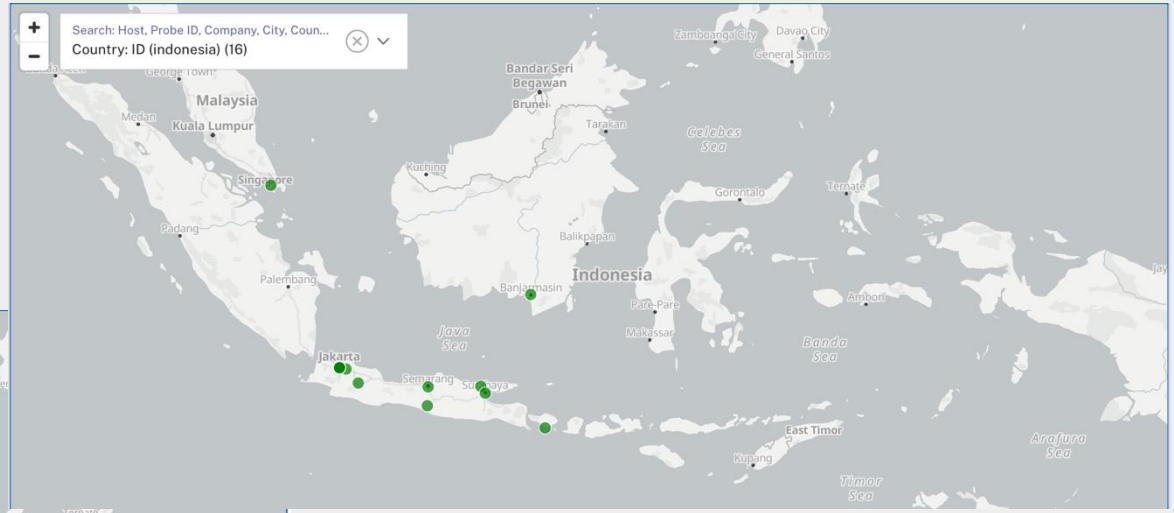
14.000+ probes connected

900+ anchors deployed

35,000+ daily measurements on average (both user-defined and built-in)

Where are the Probes in Indonesia

RIPE Atlas probe



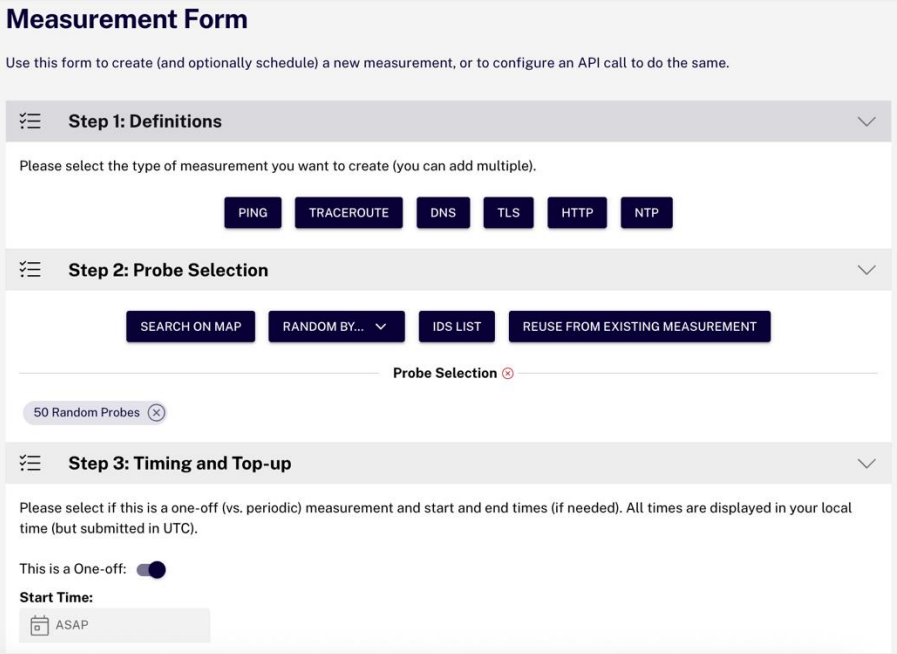
RIPE Atlas anchor

How RIPE Atlas Works

- Small devices called probes

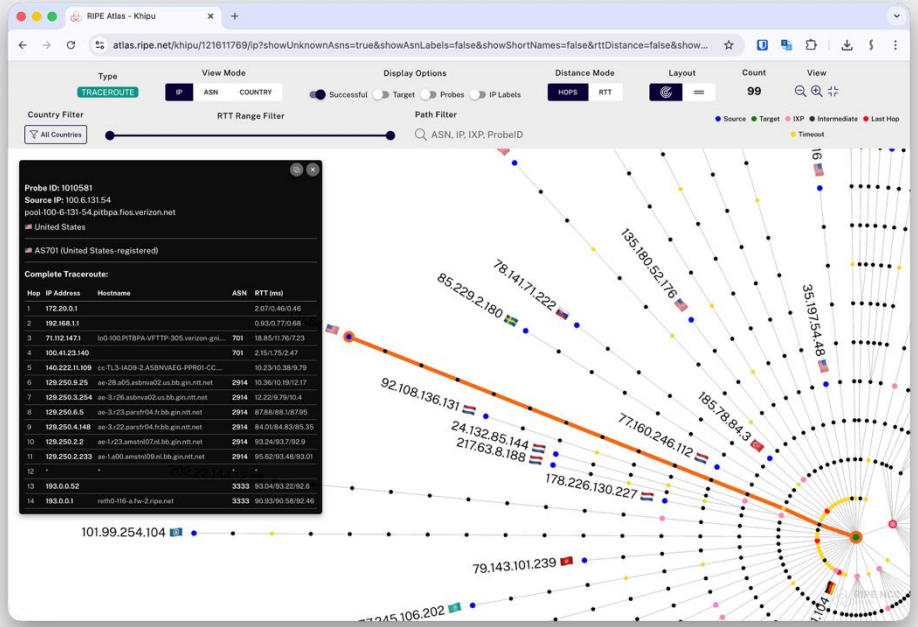
  Probes run tests like:
  - Ping (latency)
  - Traceroute (path)
  - DNS checks

- Results are public and transparent



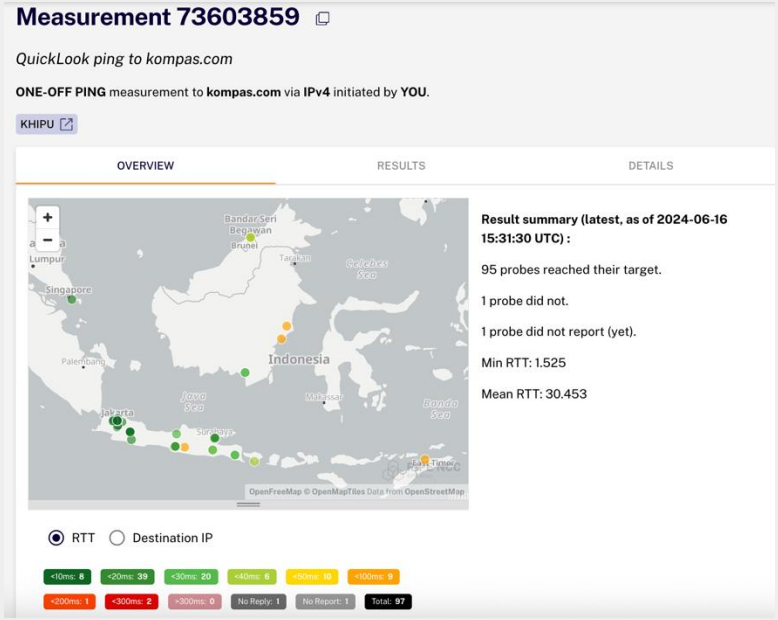
Why RIPE Atlas Is Useful for Schools

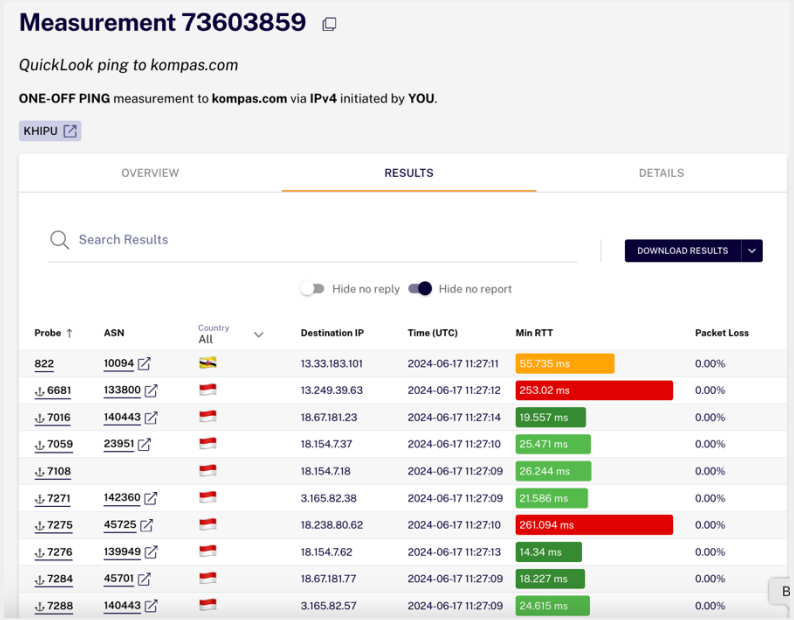
- Measure latency, packet loss, reachability
- Compare school Internet vs other places
- Show problems are inside or outside the school network



Example Use Cases

- Is video learning affected by high latency?
- Does DNS fail during school hours?
- Is rural school Internet worse than nearby towns?

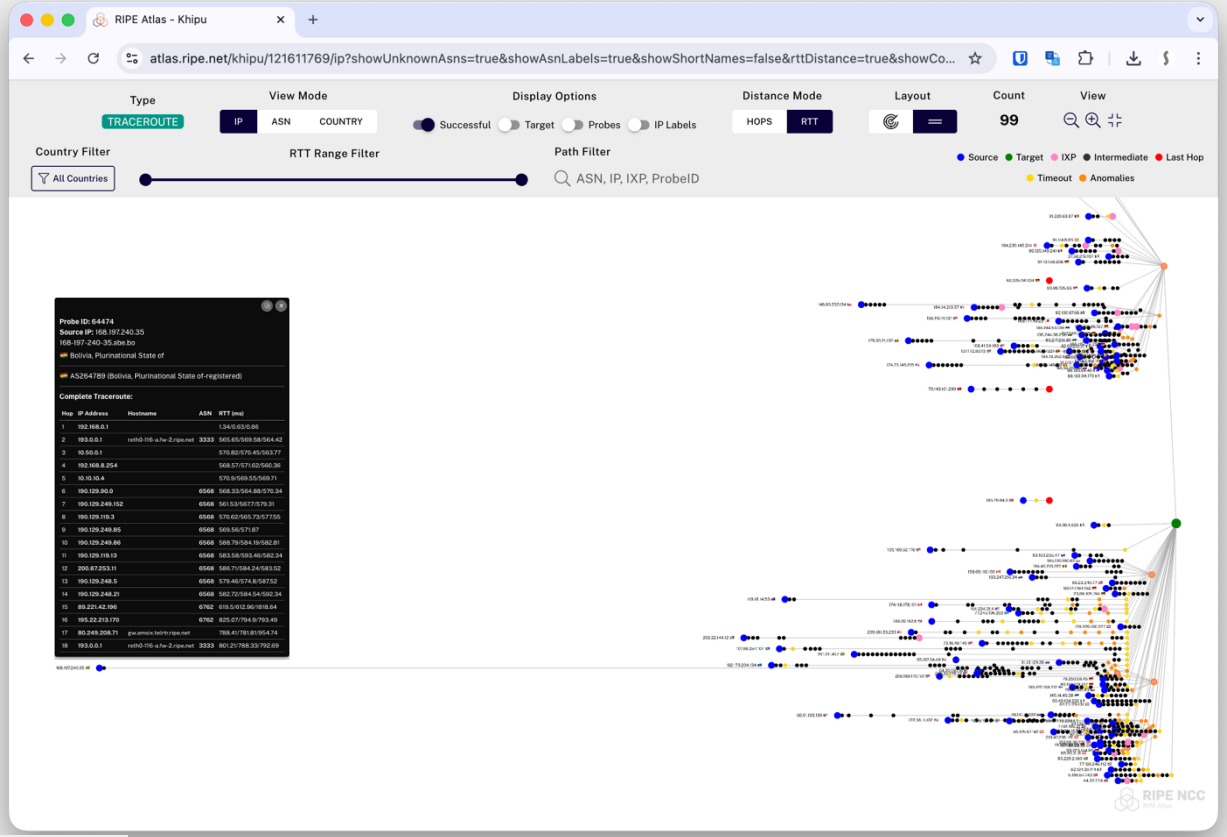




Khipu Key Features

Distance Modes (IP View)

- Hops
- **RTT**



How to Get Started

1. Create a RIPE Atlas account: https://access.ripe.net/registration
2. Use the web interface (no coding needed), API call or CLI tool

3. Redeem voucher: **ISOC2026RIPEATLAS**

4. Run measurements

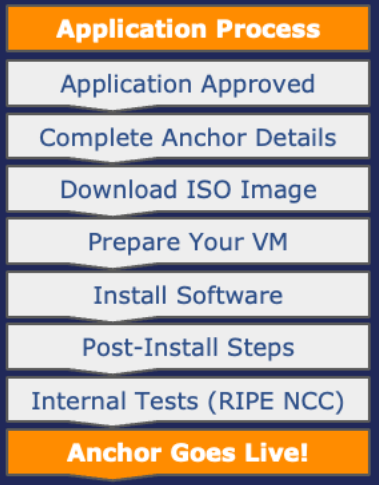
5. Host a SW probe at your school

Hosting a RIPE Atlas Anchor - Technical Overview

Network Requirements

- Public **IPv4 and IPv6** addresses (native, not tunneled)
- **Gateways** must be in the same subnet as the IPs (IPv6 link-local also allowed)
- **Static IPs**, unfiltered (no firewall blocking Atlas traffic)
- Up to **10 Mbit/s bandwidth** (actual usage is lower)

RIPE Atlas Anchors generate many built-in measurements (pings, traceroutes, DNS) that help in outage analysis



Questions & Comments ?

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