



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

The RIPE NCC's View of IPv6 in Sweden

Suzanne Taylor | 11 May 2022 | IPv6 Forum

RIPE NCC



- One of five **Regional Internet Registries** in the world
- Also provide a number of **technical services** and **tools**:
 - K-root
 - RIPE Atlas
 - RIPEstat
 - RIS
- Involved in **public policy** discussions and **Internet governance**

RIPE NCC Internet Country Reports

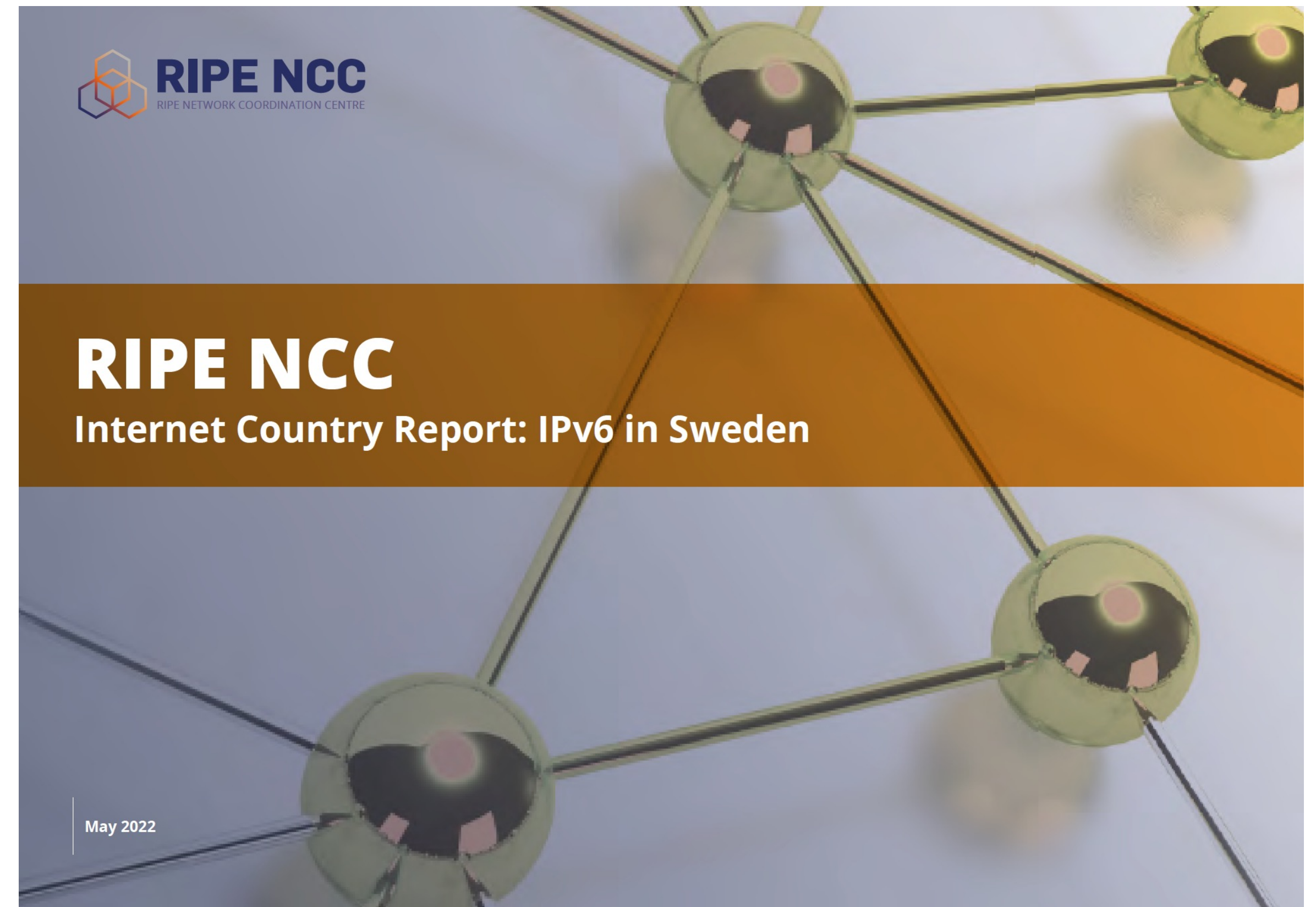


- Showcase RIPE NCC **data** and **measurement platforms**
- Bring value to **local technical communities**
- Support **Internet development** throughout service region
- Inform **public policymaking**

RIPE NCC Internet Country Report



- IPv6 in Sweden report just published
<https://labs.ripe.net/country-reports/>
- Shorter, more focused version of our country reports



Highlights



- Sweden has an unusually **large amount of IPv4**
- **IPv6 capability** is quite low compared to Europe and rest of world
- **Interconnectivity** is robust over IPv6 and IPv4
- **Domestic traffic** tends to stay local over IPv6; less so over IPv4





Figure 4:
IPv6 capability by network

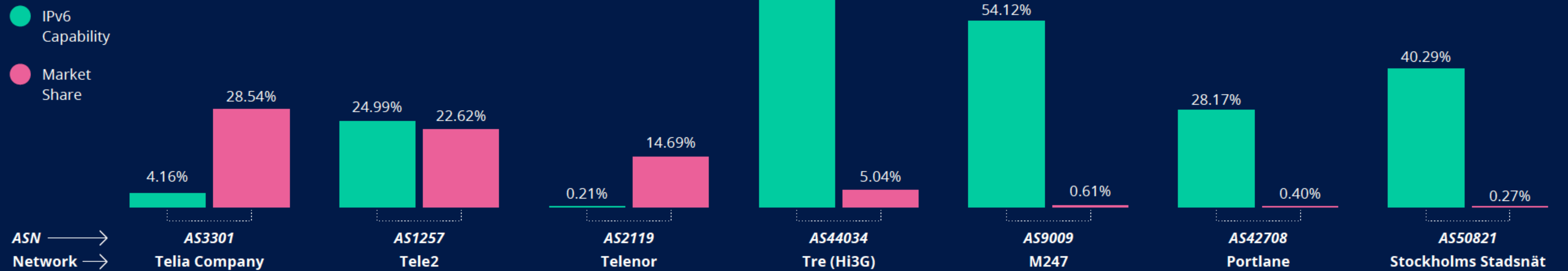




Figure 7:
K-root locations reached from vantage points in Sweden (IPv6)

- City
- Frankfurt/DE
 - Tallinn/EE
 - Amsterdam/NL
 - London/GB
 - Berlin/DE
 - Saint Petersburg/RU
 - Belgrade/RS
 - Vienna/AT

- Minimum round-trip
time (ms)
- 10
 - 20
 - 30
 - 40

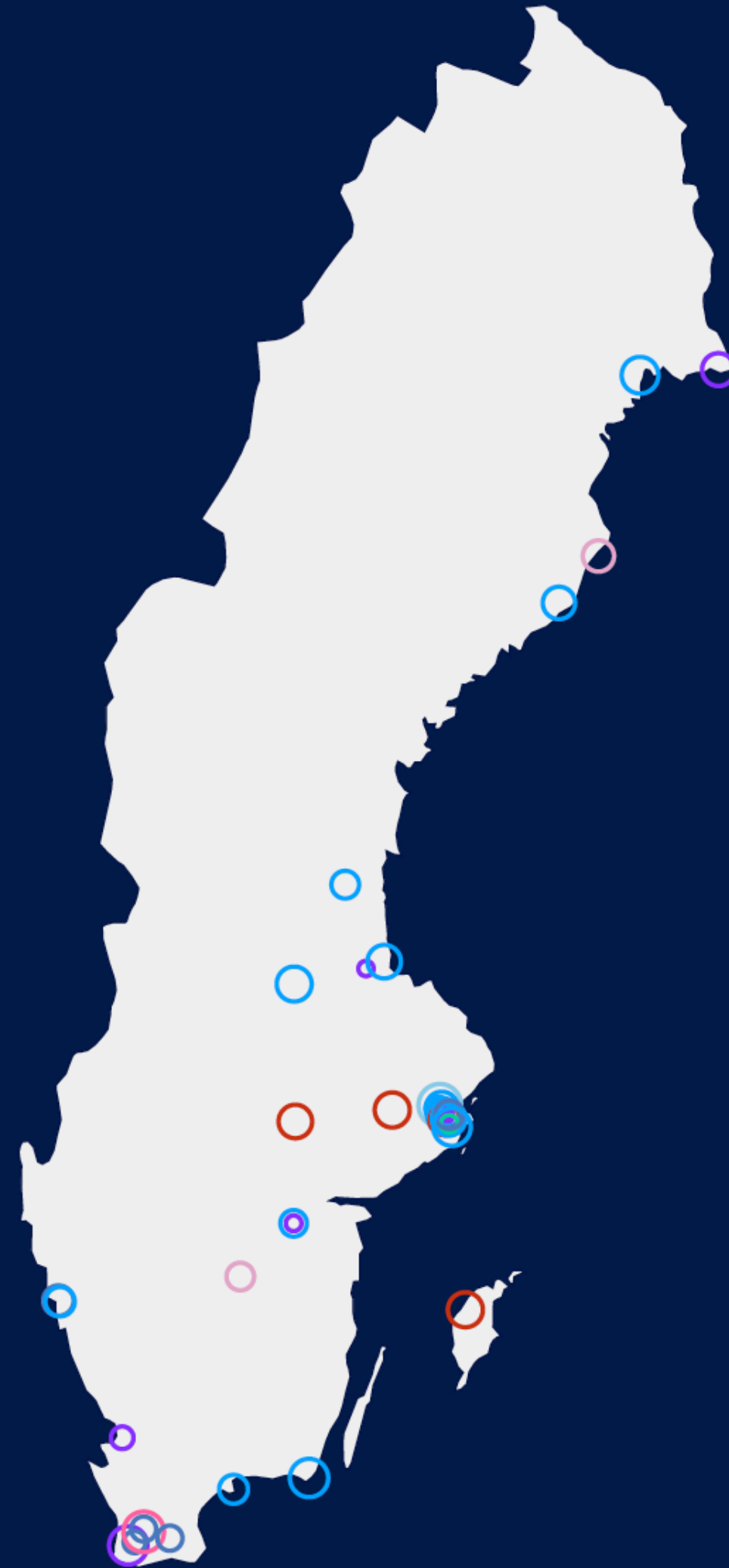




Figure 5:
Connectivity between networks in Sweden (IPv6)

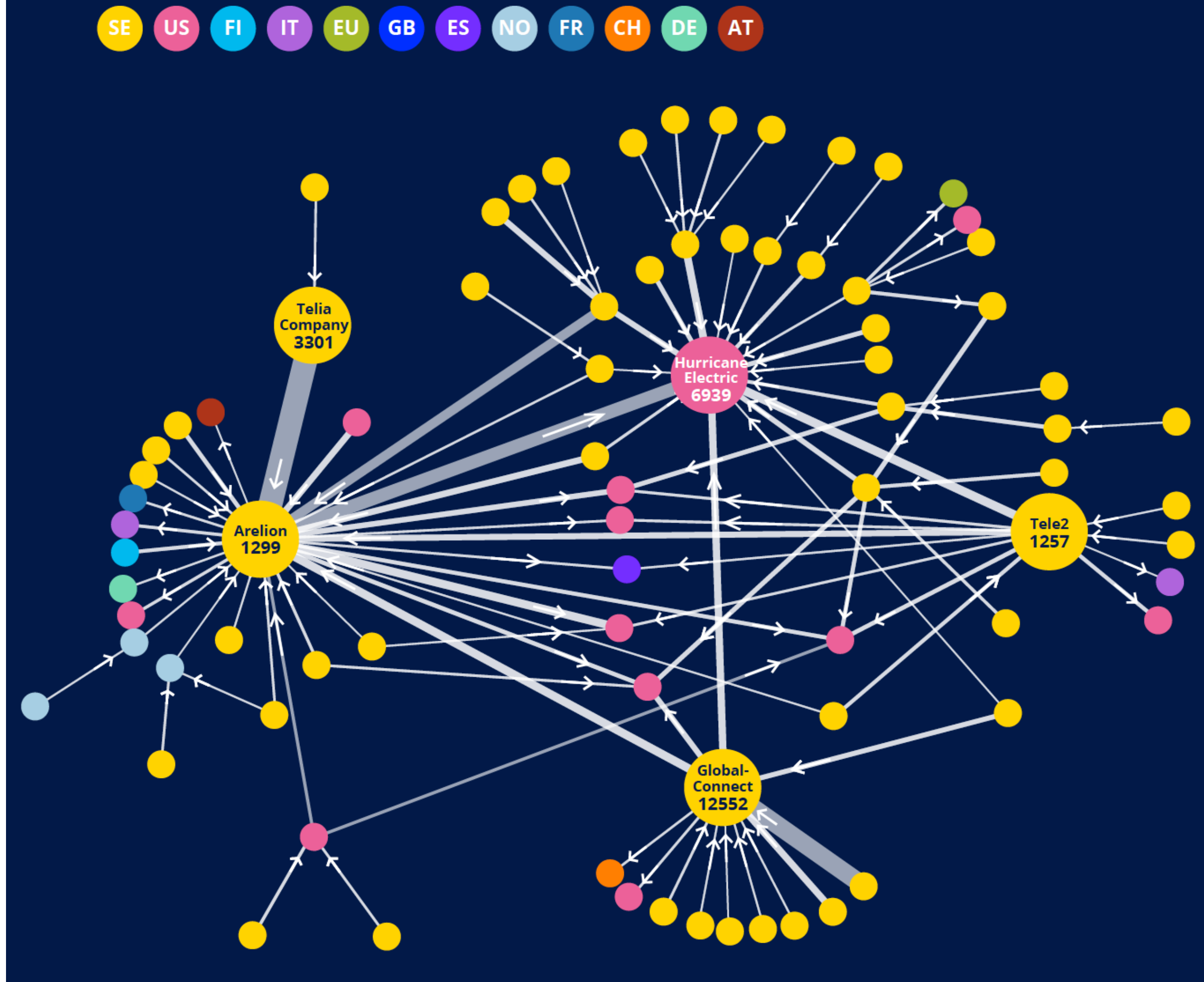




Figure 8:
Paths between domestic traffic (IPv6)

- Probe location
- Intermediate point in path



The need for IPv6



- **IPv6 is needed** for future growth
 - IPv4 run-out and cost on the secondary market
 - Emerging technology like 5G, IoT, smart cities...
 - Healthy market competition
- **Governments, regulators, ISPs, IXPs, NOGs** all have a role
- **“Stimulate where you can; regulate where you must”**

A few parting thoughts...



- Please share the report if it's interesting
- These reports are always evolving - tell us what you want!
- This data is available to use

<https://labs.ripe.net>

RIPE NCC training



- The RIPE NCC offers online IPv6 training:
 - Two RIPE NCC Academy courses on IPv6
 - Eight webinars on IPv6
 - RIPE NCC::Educa event on IPv6
- And in-person training:
 - Three IPv6 training courses

<https://www.ripe.net/support/training>

RIPE NCC training



- RIPE NCC **Certified Professionals**
 - Online certification program
 - Includes live webinars with RIPE NCC trainers, access to online learning material, and certification after passing the exam
- Pilot program for government
 - Specifically caters to government staff
 - Goal is to support the transition to IPv6
 - First test run underway with Dutch government

Other resources



- **RIPE Meetings:**
 - IPv6 Working Group
 - Many past presentations on IPv6
- **A few articles:**
 - *The Irrationality of Deploying IPv6*
<https://circleid.com/posts/20210803-the-irrationality-of-deploying-ipv6>
 - *Should Europe mandate IPv6 to accelerate adoption?*
<https://www.itproportal.com/features/should-europe-mandate-ipv6-to-accelerate-adoption/>
 - *Another year of the transition to IPv6*
<https://blog.apnic.net/2022/02/21/another-year-of-the-transition-to-ipv6/>



Questions



staylor@ripe.net