

An analysis of the Internet interconnection density in IPv6 compared to IPv4

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Master Thesis

- Studying again
->Master of Science in Advanced Networking

Finding a Topic

- Problems in my daily life, relevant to a lot of people
- Inspiration from Martin Levy
- An analysis of the Internet interconnection density in IPv6 compared to IPv4

So what is the issue?

- IPv6 latency / speed is not the same as on IPv4
- Because of:
 - MTU, tunnels, hardware, etc.
 - The peering interconnection density in v6
- The amount of interconnection density seems different in v4 and V6 for various reasons:
 - V6 is still in a test phase
 - Just the new sessions get dual stacked
 - Etc...

How to measure and research it...

- Network latency is measured with ping and traceroute
- Lets take a lot of them from a lot of sources in IPv4 and IPv6 to common destinations.
 - > RIPE ATLAS
- Who peers with who and where?
 - > RIS DATA and Routeviews
- I want to see which IX or PNI the traceroute goes over
 - > traceroutes and PeeringDB

Next....

- Collect a lot of data....
- Analyze them
- Figuring out why people are not setting up the same amount of peering sessions in IPv6 as in IPv4
- Quantify the difference
- Ask the networks why and try to figure out how to solve this
- -> Write a Thesis 😊
- Report back to you guys at the next MAT session

Questions and Comments?

- Is this research actually helpful for the community?
- Does anyone else see this as an issue?