

Measuring World IPv6 Day

Emile Aben
emile.aben@ripe.net

UKNOF 19



RIPE NCC Measurement Plans

- Main effort:
 - IPv6 Eye-chart
 - TTM monitoring of World IPv6 Day participants
- Bonus:
 - 6to4 relative performance
- Make available information to participants near-realtime
- Provide a World IPv6 Day dashboard

IPv6 Eye-chart

- Single webpage for end users to check IPv6 connectivity before and during World IPv6 day
- Fetch content from WIPv6 participants, and from already dual-stacked websites (RIRs, others)
- Measure to multiple real targets
- Goal: Bring down 'dual-stack brokenness'

IPv6 Eye-chart: all OK

- If everything OK before World IPv6 day:



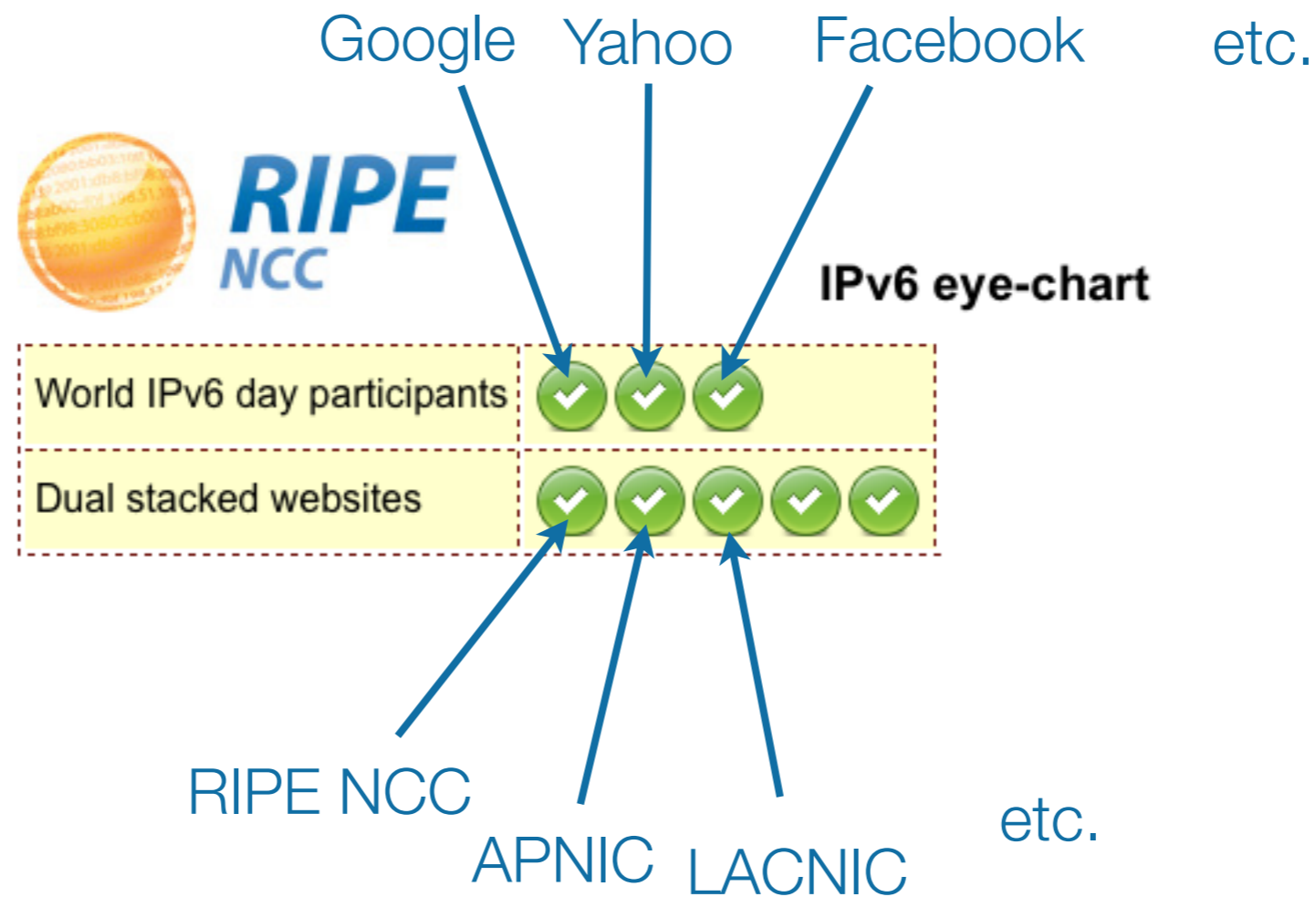
RIPE
NCC

IPv6 eye-chart

World IPv6 day participants	✓ ✓ ✓
Dual stacked websites	✓ ✓ ✓ ✓ ✓

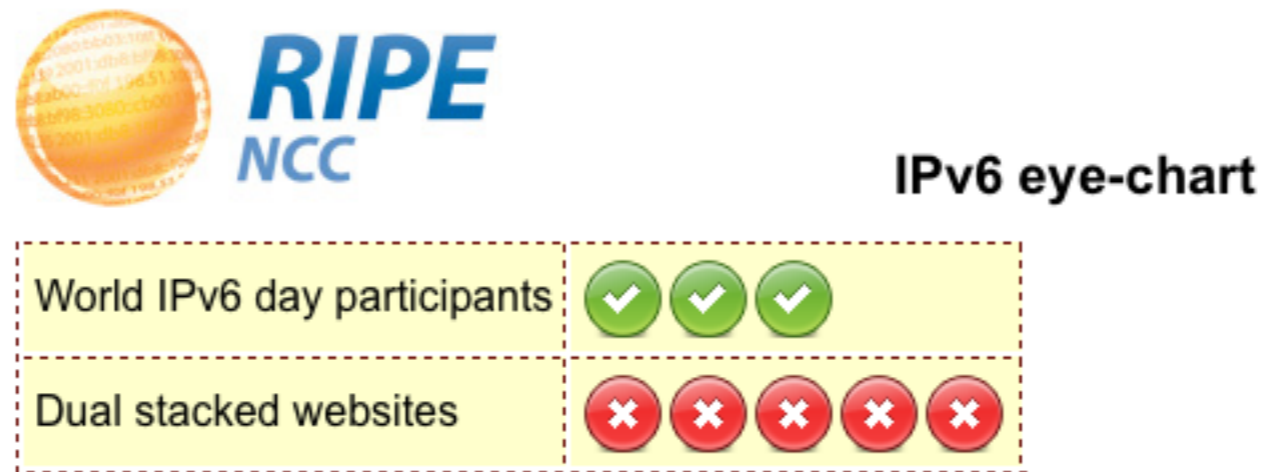
IPv6 Eye-chart: all OK

- If everything OK before World IPv6 day:



IPv6 Eye-chart: Not OK

- Host with 'problematic' IPv6. Before World IPv6:



- Please fix!

IPv6 Eye-chart: Not OK, on World IPv6 day

- If not fixed, on World IPv6 day this will become:



TTM Measurements

- TTM: Test Traffic Measurement service
 - Infrastructure of 100+ machines distributed worldwide
 - 40+ are IPv6 enabled
 - High-precision measurements
- Distributed World IPv6 day measurements:
 - Are participating sites AAAA-ed
 - Ping and ping6
 - Fetch content over A and AAAA
 - Traceroute and traceroute6

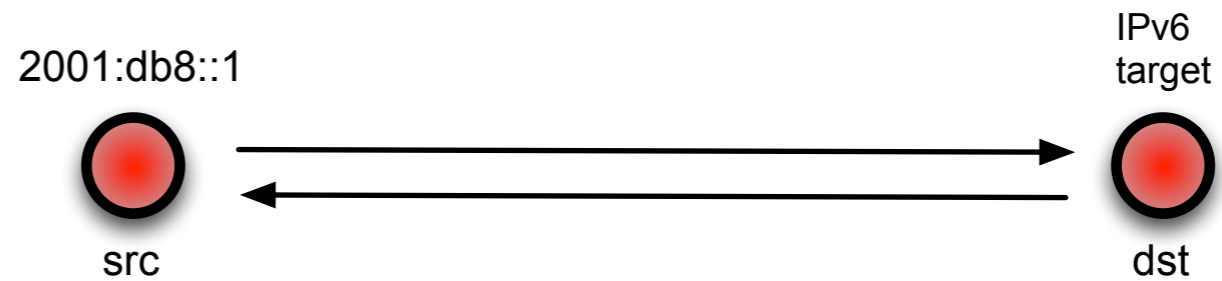


6to4 Relative Performance (Bonus)

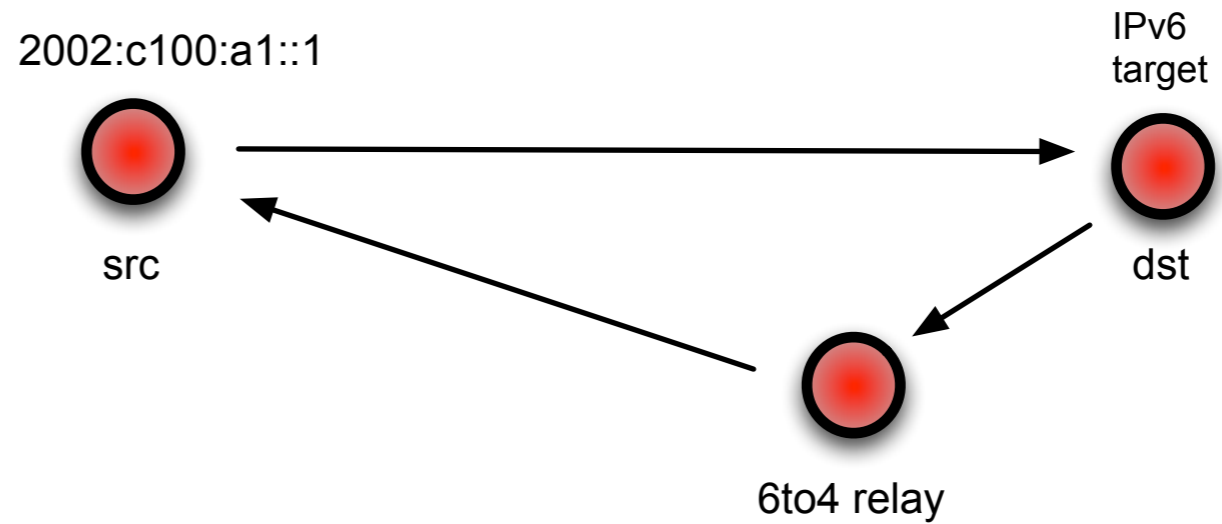
- 6to4 is a concern for IPv4 to IPv6 transition
 - See <http://labs.ripe.net/Members/emileaben/6to4-how-bad-is-it-really>
 - Some worries that 6to4 relays may not cope with load during World IPv6 day
 - ... but don't disable your 6to4 relays just yet!
- Cooperate with University of Applied Sciences, Amsterdam to measure performance of 6to4 relays in return paths.

6to4 Relative Delay Measurement

Native IPv6



6to4



Conclusion

- Hopefully it will be a very boring World IPv6 day, measurement-wise
- These are current plans, subject to change
- Keep an eye out on <http://labs.ripe.net> for the latest on measuring World IPv6 day