macroscopic IPv6 topology (and other) analysis

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overview

- geographic database
- geographic analysis
- IPv6 address space trends

geographic database

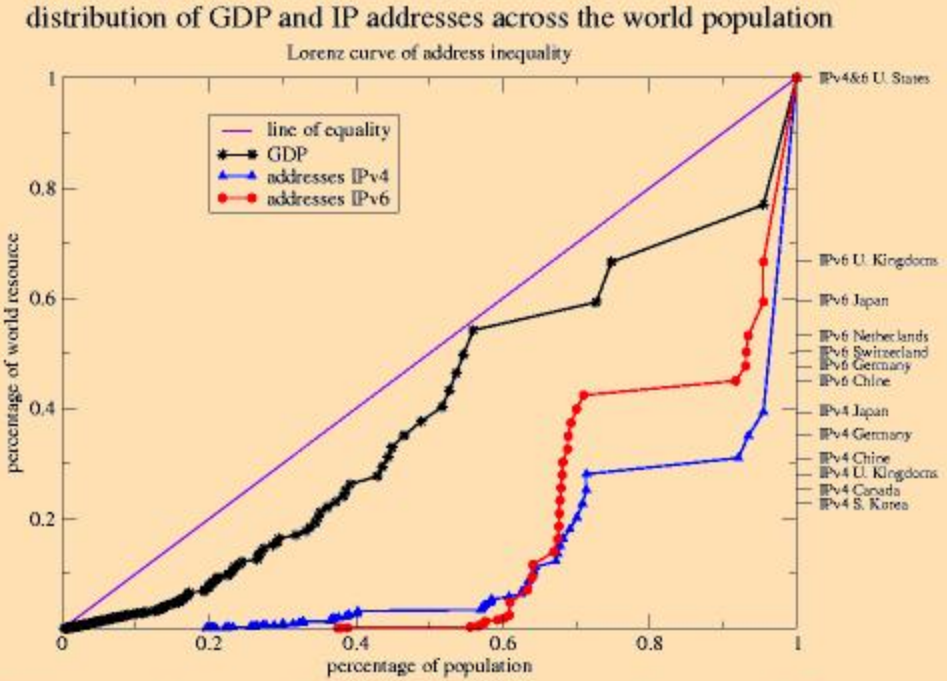
netacuity

- used to use IxMapper from Ixia
- proprietary software from Digital Envoy
- provides geographic mapping for single IP address
- IPv4 only

netgeo

- public query database
- provides geographic mapping for IP and AS allocation
- future
  - move from dynamic single query to weekly full database processing
  - add support for IPv6

geographic analysis



distance from "line of equality" indicates inequality

IPv6 shows greater equality for First World, but cross below IPv4 for greater ineqaulity in the third.

IPv6 address space trends

prefix allocations

- parse whois databases to track rate of address disappearance

prefix announcements

- track rate at which prefixes appear in RouteView's BGP
- size of allocations vs size of annoucements

topological diversity

- dhynamic IPv6 list to cover announced allocations
- track degree to which announced allocations create topological diversity

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