The Impact of the General Data Protection Regulation on Internet Interconnection

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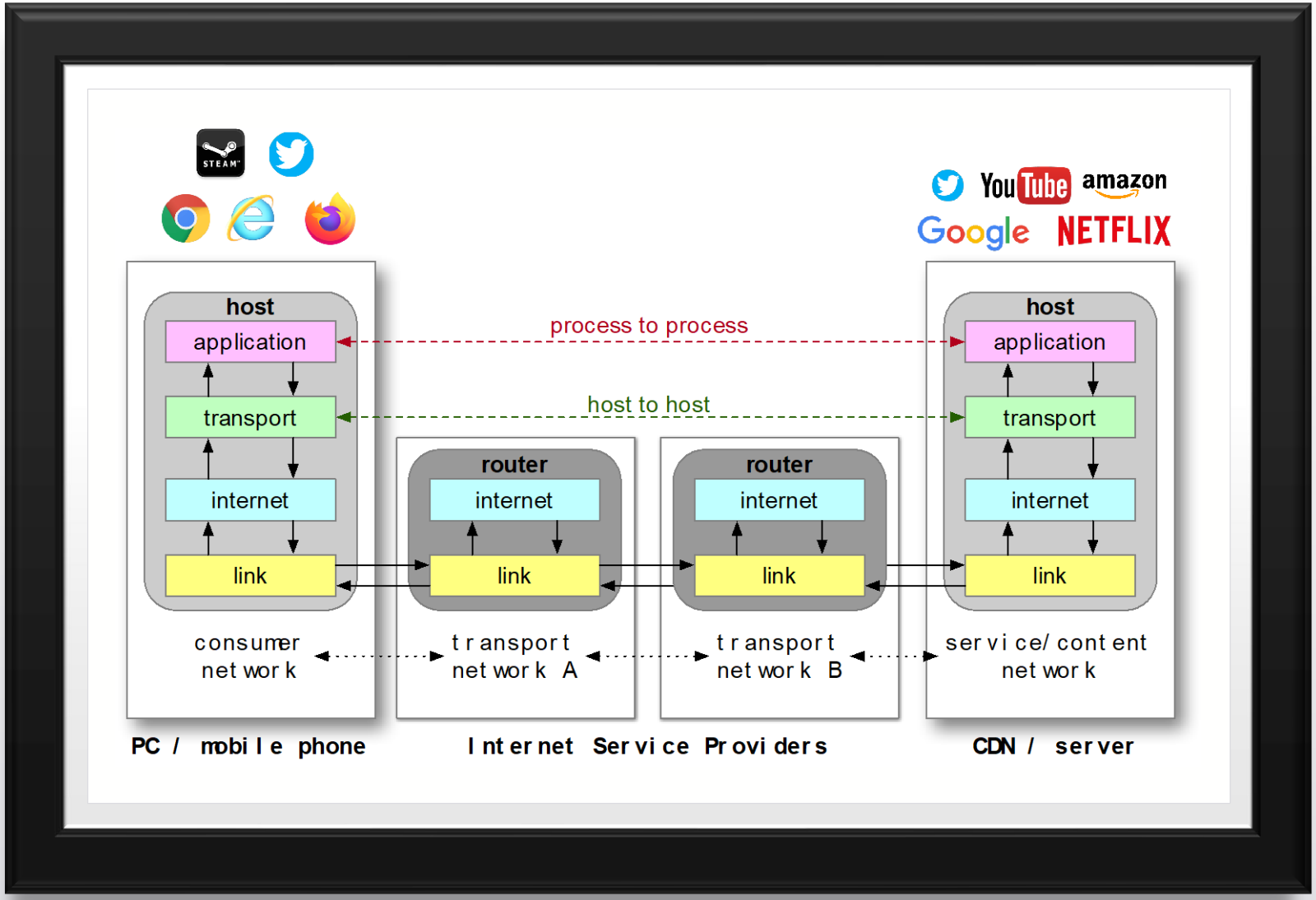
Research question

- How does GDPR affect investment in interconnecting the internet layer? If it does have an effect, which margin of interconnection does it affect?

Why care about GDPR and interconnection?

- GDPR is the most important internet policy initiative in last two decades. Inspiring similar laws in other countries and some US states. Many news articles about GDPR. Large industry interest.
- All but one (limited) study identifies large costs associated w/GDPR at the *application layer.* Nobody has looked at other layers, even though GDPR contains extensive guidance about traffic/storage/etc.

4 Layers of the Internet



What this study does: Examine interconnection

"Difference in differences"

- First diff: Before & after GDPR.
- Second diff: Between networks covered by GDPR & "controls"
  - Control: Networks in developed (OECD) countries who are not covered by GDPR.

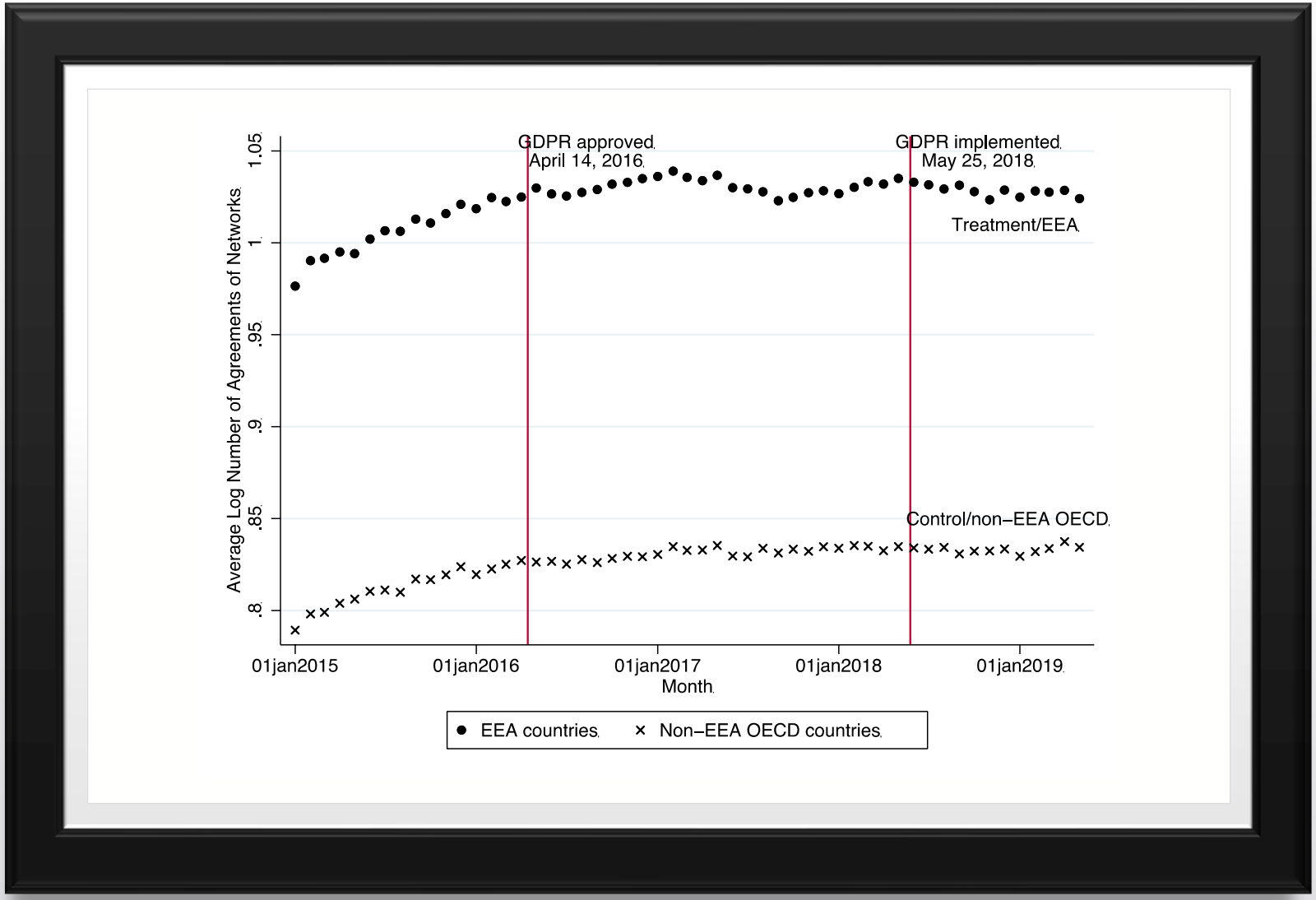
How CAIDA data is used

- AS Relationship dataset: "Extensive" growth of new connections between networks, by types of connections (p2c, p2p)
- IPv4 Prefix Probing traceroutes & Routeviews Prefix-to-AS mappings: "Intensive" growth of IP-to-IP connections within connecting networks
- AS to Organization mapping: Countries of origin of networks

What the study finds

- Observes overall growth in all interconnection. Everywhere.
- Finds no statistically significant change before/after GDPR at any measurable margin in comparison to *controls*.
  - Robust statistical finding at the extensive and intensive margins.
  - Robust statistical finding for any direction of interconnection.
- No evidence of costs from GDPR at the interconnection layer
- Such a finding places limits on any interpretation of what impact GDPR had on the internet.

Growth of Connections, EEA Networks vs Other OECD Networks



Wish list

- Geolocation of Points-of-Presence (PoPs)
- Better classification of networks by their end users
- Actual data flow and flow of payment
- Even better: Actual volume of data flow with origins and destinations, data type, and transaction value