CENTER FOR DEMOCRACY & TECHNOLOGY

Evolution of Interconnection

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Princeton CITP Global Conference on Internet Interconnection

About CDT

At the Center of Democracy and Technology, we believe in the power of the internet. Whether it' s facilitating entrepreneurial endeavors, providing access to new markets and opportunities, or creating a platform for free speech, the internet empowers, emboldens, and equalizes people around the world.

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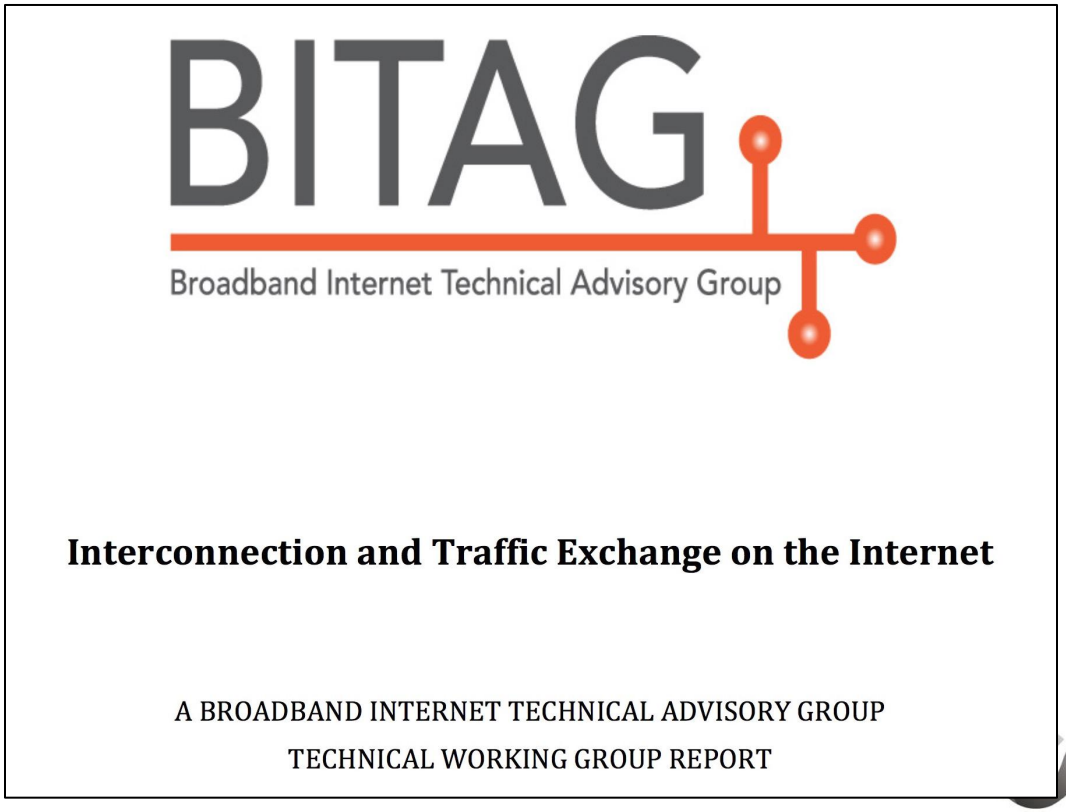
Quick Intro to Interconnection

http://www.bitag.org/report-interconnection-traffic-exchange.php



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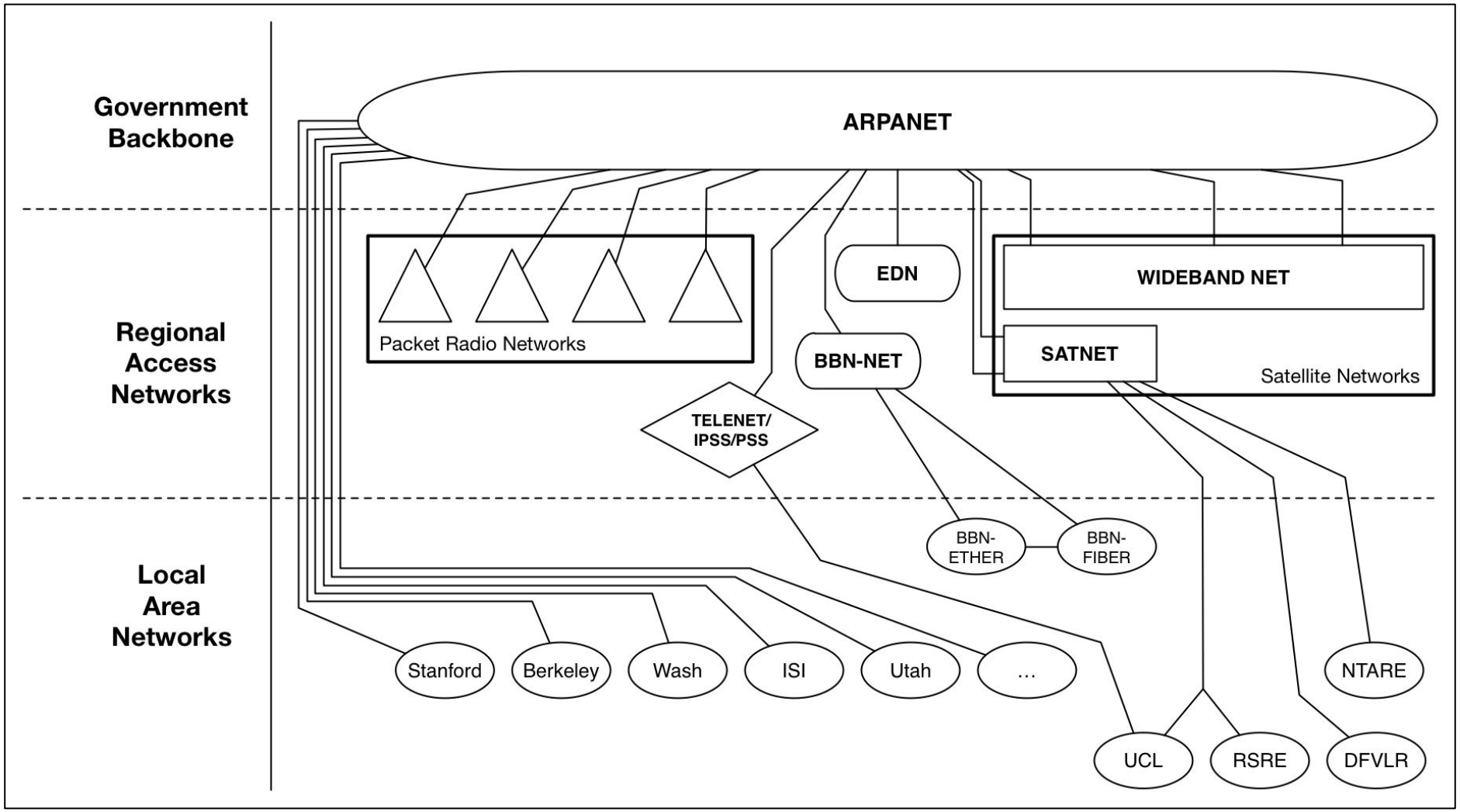

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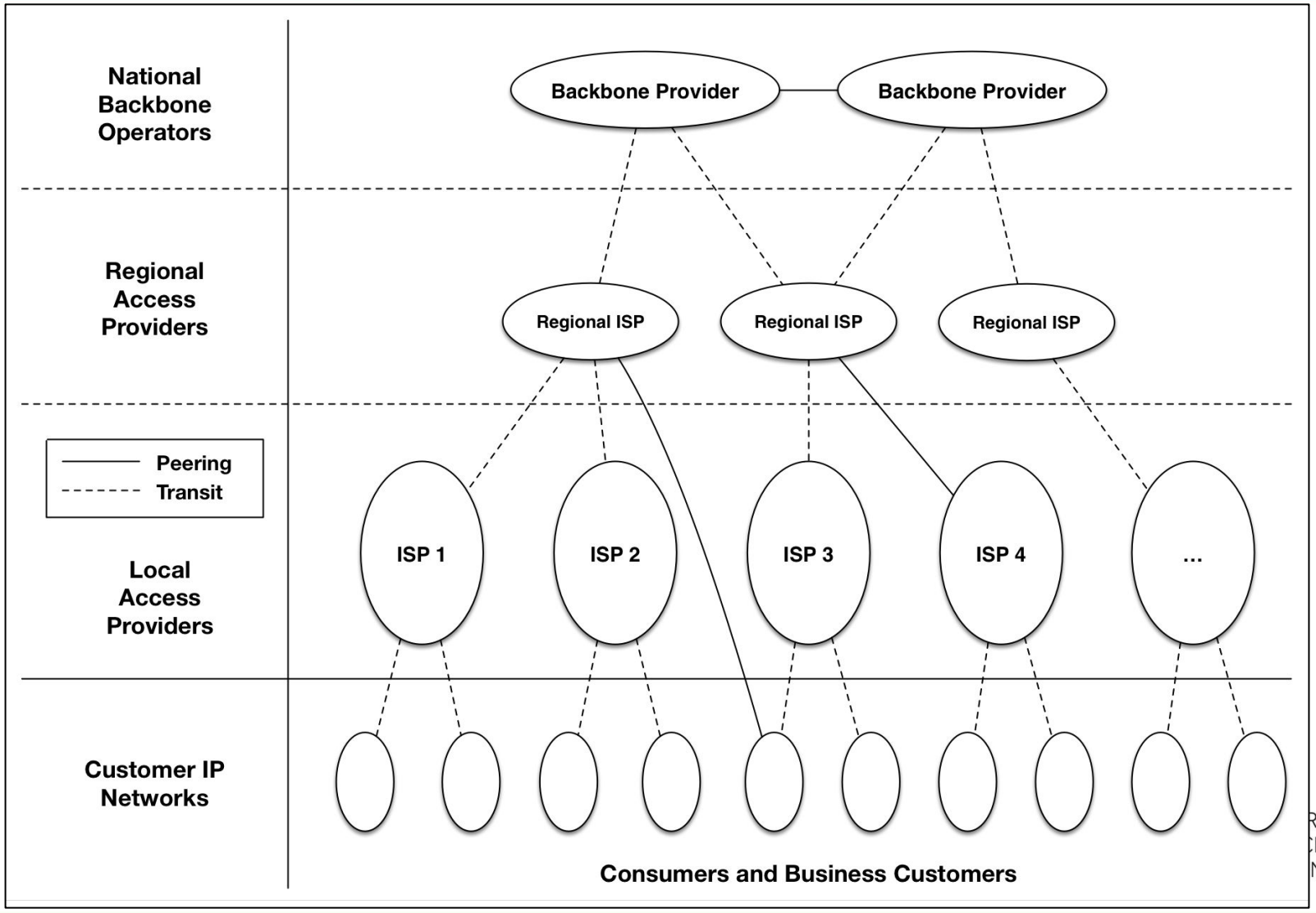

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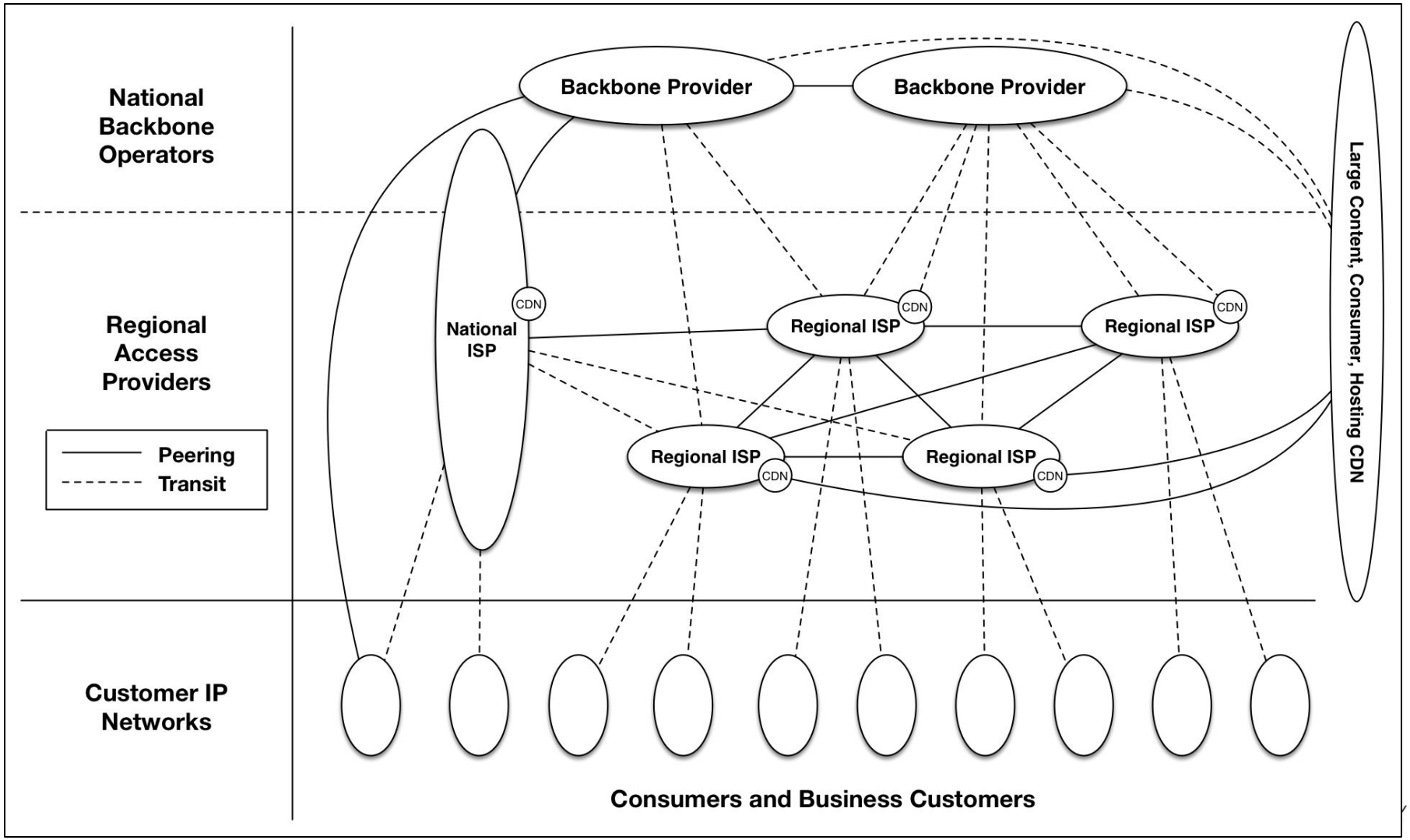

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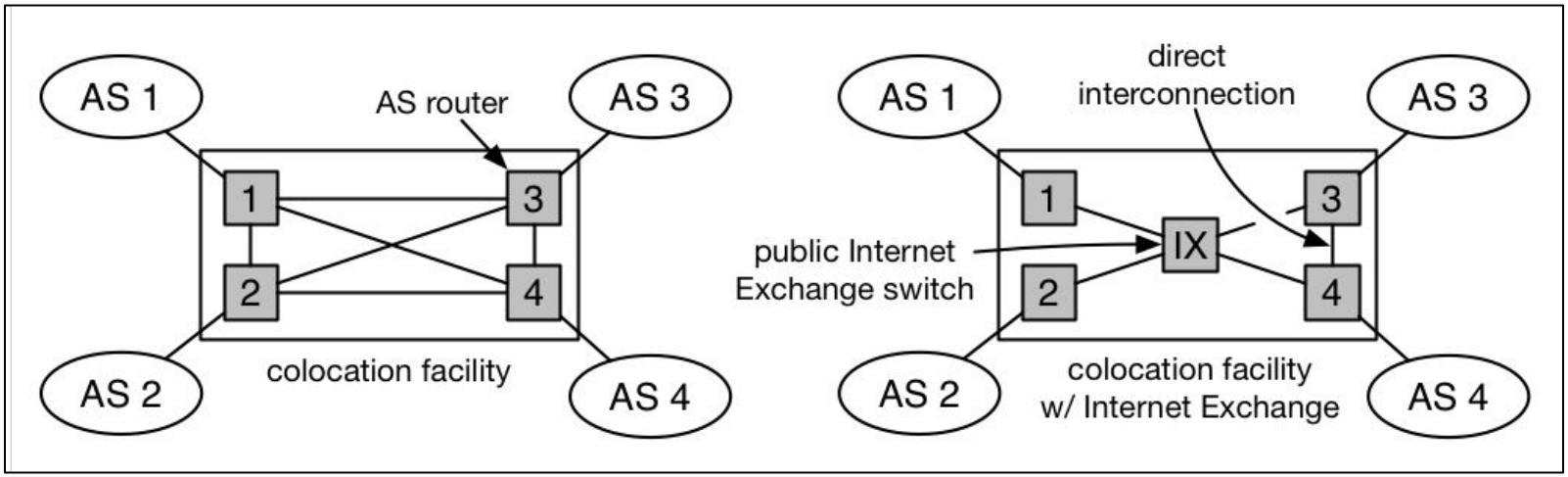

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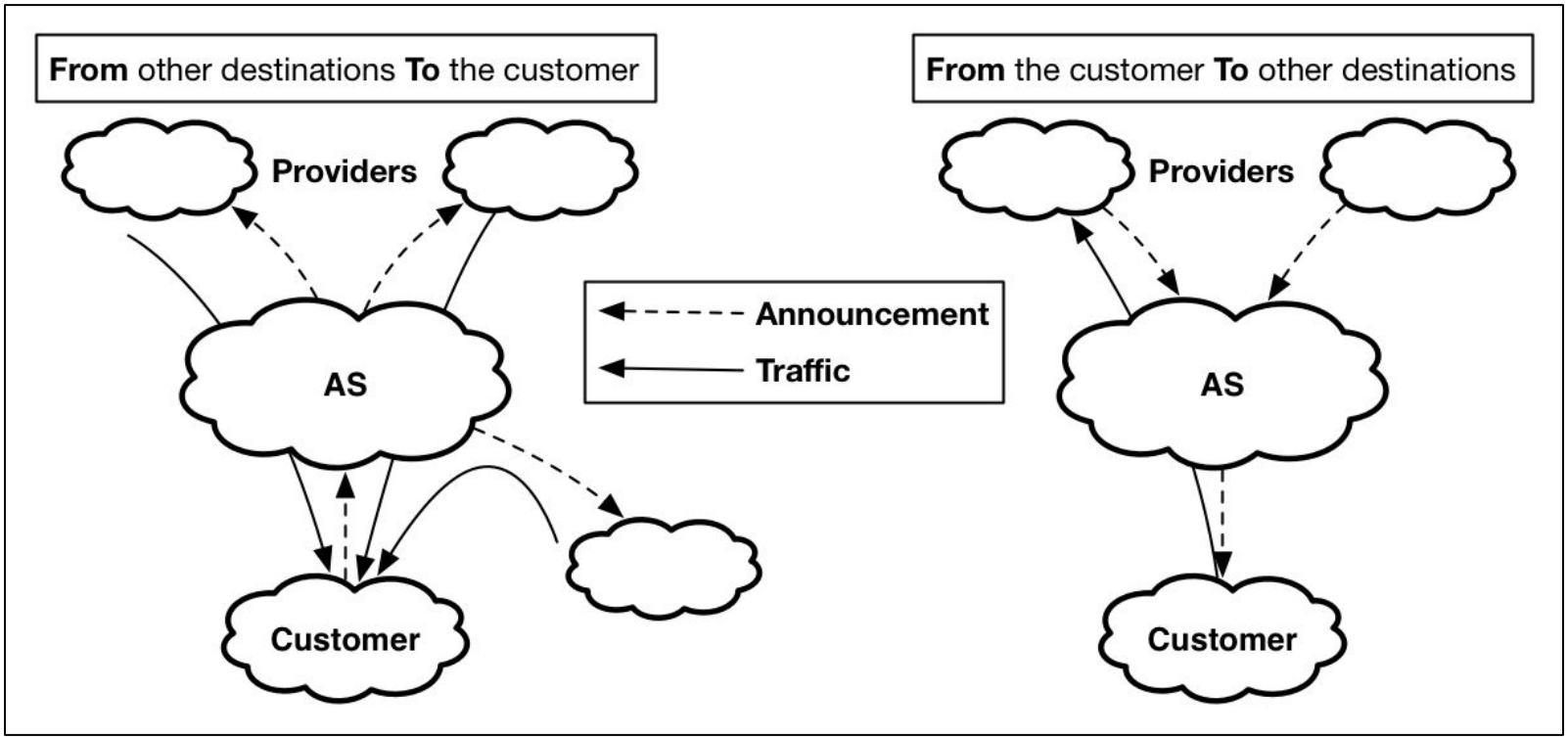

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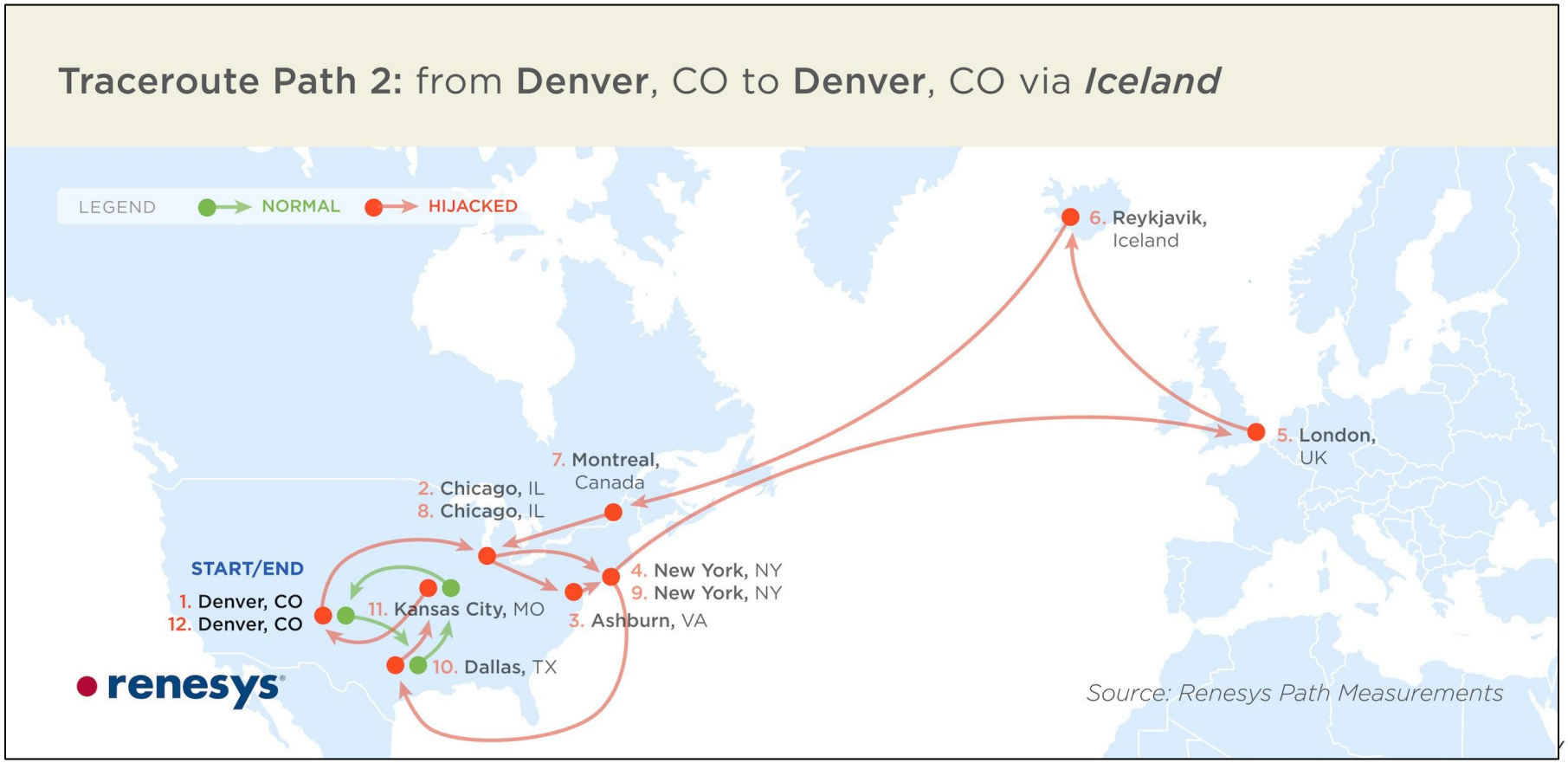
Surveillance and Trans-national Data flows

- Traffic crosses national borders; can have serious implications
- E.g., US FISA 702 is used to collect data in bulk on the wire as long as one end of the communication is foreign ("upstream").
  - Routes that cross national boundaries ensure one end foreign
  - Quite aggressive surveillance/intelligence collection can occur
  - Adversarial route announcements can attack this quite precisely with granular flows over short periods of time.
  - No warrant required, full-take content and metadata
- Realistic threat?
  - e.g., http://research.dyn.com/2013/11/mitm-internet-hijacking/

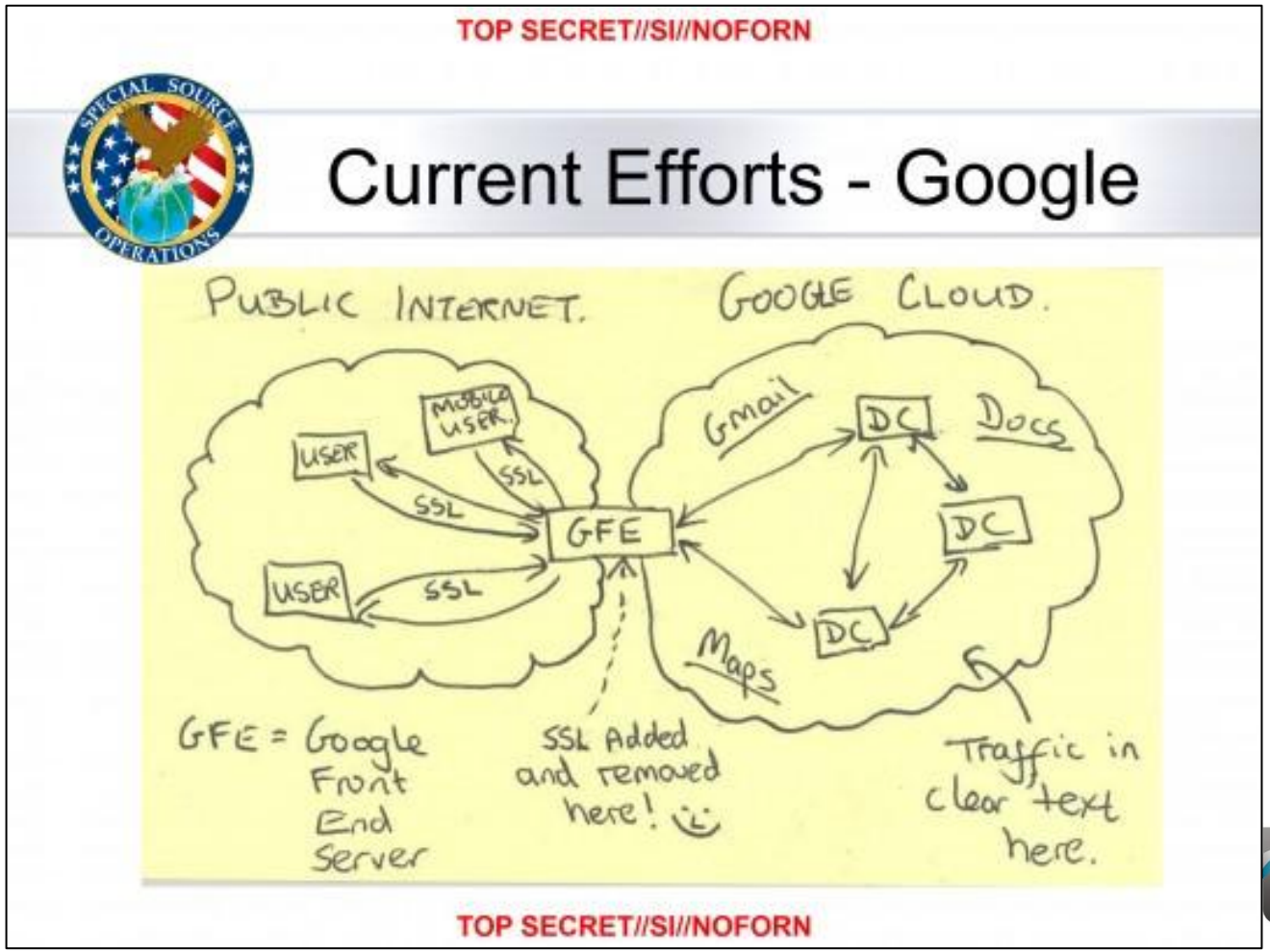
Surveillance and Trans-national Data flows



Surveillance and Trans-national Data flows

- Your inter-AS or inter-datacenter infrastructure may be owned!
- Especially on non-US soil via Exec. Order 12333
- Oct. 2013 Snowden Revelation, a/k/a MUSCULAR:
  - Gellman, Soltani (WaPo): "NSA infiltrates links to Yahoo, Google data centers worldwide"
    - "the NSA and the GCHQ are copying entire data flows across fiber-optic cables that carry information among the data centers of the Silicon Valley giants."
  - NSA has positions within major tech company data centers
  - This MUSCULAR program used to collect social graph metadata as well as full-take content (text, audio, video)
    - Has been used to collect all phone calls into 4 countries

MUSCULAR



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THANK YOU | CDT.ORG