

# The Toxic Polluter Internet Business Model

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# Toxic Polluters

- A toxic polluter externalizes some costs of production onto the overall economy
- Typical example is the USD 1 cost of an American “cheeseburger”
  - Actual cost including environment, health: USD 10
- Simple test: if a product or service would not be profitable (or the price would be unattractive) if no costs were externalized

# Internet Toxic Polluters

- In the Internet “commons” we all rely on external networks and external resources
- When these are freely given, no problem
  - Examples: DNS “root” service, IETF protocols
- When these are hidden, some problems
  - Google, Facebook trade “free” service for privacy
  - Skype trades “free” service for call relay
- When these are a public hazard, big problems

# Public Hazards

- ISP's who do not implement BCP 84 "source address validation" on their egress traffic
  - Allows botnets to attack without recourse
- ISP's who do not restrict "outbound SMTP"
  - "I'm a carrier not a policeman"
- ISP's who chop their address space into little pieces for "traffic engineering" purposes
  - Relies on the global routing table

# Address Policy Abuse?

- What if a criminal gang became a RIPE LIR
  - This gets them an initial /18 of IPv4 address space
- What if they abused this for spam, phish, etc
- What if their /18 was then widely blackholed
- What if they came back a month later with a new-looking corporate identity
- What if RIPE had no means to see that it was the same gang with a new company name?

# Domain Policy Abuse

- How does “the public” benefit from...
  - Whois privacy?
  - Domain tasting – three days to pay or drop?
  - Domain creation in under one minute?
  - New “.BRAND” generic top level domains?
- Note: we know what the public’s **costs** are!
- These costs have been **externalized**

# Leasing IP Space to Spammers

- What if an enterprise has a /20 of PI space
- What if they're not using three /23's of this
- What if a spammer offers to lease those /23's
  - Via a GRE tunnel not by actual “hosting”
- What if these /23's are then widely blackholed
- Results:
  - The spammer can move on to new “partners”
  - The world permanently loses that address space

# Conclusion

- Grazing a herd of cattle in “the commons” is bad for everybody, and not everyone can do it
- The Internet allows for unlimited creativity in new business models, including toxic polluting
- We need a new way to think about and talk about individual self-interest in “commons”
- Let’s work on this here and now.