



Federal
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Privacy and Broadband Services

- What's an ISP, anyway?
- “Smart” networks and user data
- How can we minimize data collected?
- How can we protect what's collected?

What's an ISP, anyway?

- Internet Service Provider?
 - are there any anymore?
 - no one seems to want to be one
- So what does “Internet Service” mean?
 - Layer 3 of the protocol stack?
 - Stateless, dumb network
 - Layer 3 plus DNS, email?
- “Smart” networks?
 - Deep packet inspection?
 - How deep?

Making the network “smart”

- Stateless, packet-switched networking
 - ... which makes the network largely a commodity
 - ... so ISPs try to become “smart” networks
- Smart means intrusive
 - Deep packet inspection
 - Broken layering
 - “smart” DNS, integrated with search, etc
 - Cookie injection, tracking
- “Partnerships”
 - Almost always means ad networks

“Smarter” == more data collected

- More state in the network means more data logged
 - Persistent identifiers
 - Connection logs
 - etc.
- Data collection is effectively free
 - Might be useful
 - Cost of storage -> 0
 - Loggers gonna log
- Data gets repurposed after the fact
 - And eventually monetized

The Metadata is the Message

- “Content” (other than email) is generally not stored, but the distinction between content and metadata is blurry
- Location, communities of interest, tracking cookies, web logs, connection logs all reveal quite a bit
 - Data mining techniques becoming very powerful
 - Big network effect to more data
- As Internet becomes more commoditized, ISPs look for ways to monetize this data
- 3rd party doctrine and wiretap laws give only limited protection to metadata

Tech Countermeasures to data collection

- Encryption can do a good job of protecting content
 - Though much data remains unencrypted
- Consumer countermeasures are much less effective against tracking and metadata collection
 - Some data simply must be exposed to network
 - Some tracking & logging techniques bypass encryption
- Things like Tor, etc, are not general solutions
- So consumer basically has no choice here
- Technical protection is essentially not an option
- Policy and regulation have a role here