Policy Issues in Data Caps and Usage Based Pricing

Open Internet Advisory Committee
Working Group on Economic Impact
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What these slides do

- Provide a summary topics and many controversial arguments.
- The report has considerable substance in it, and sometimes the nuances of a sentence cannot be captured in these slides.
 - For further questions, please read report.

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The topic covered

- Addresses question: What is source of concern with data caps in wireline non-specialized services?
 - Provide definitions and identify concerns.
 - Organize discussion by organizing sub-categories.
 - Identify open questions.
- Report bridges the divide between the vernacular conversation surrounding caps and perspectives from various stakeholders.
 - Perspectives of users, ISPs, Edge-providers.
- Group effort to represent major points of view.

Defining Terms

- Usage Based Pricing: UBP in the Internet context is based on amount of time online and/or volume of data transmitted.
- Data caps: a form of UBP. When the user goes above a cap, the service offered changes.
 - Possibly with one or two warnings, access speed reduction, additional overage charges, suspension or termination of service
- Reports uses the terms "caps", "thresholds", and "UBP" and without implying judgment.
 - Also uses the term "specialized service" without implying anything about where boundary falls.

Report and Order on UBP

- What Order said about Usage Based Pricing (paragraph 72).
 - "Some commenters suggest that open Internet protections would prohibit broadband providers from offering their subscribers different tiers of service or from charging their subscribers based on bandwidth consumed. We are, of course, always concerned about anti-consumer or anticompetitive practices, and we remain so here. However, prohibiting tiered or usage-based pricing and requiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users. It would also foreclose practices that may appropriately align incentives to encourage efficient use of networks. The framework we adopt today does not prevent broadband providers from asking subscribers who use the network less to pay less, and subscribers who use the network more to pay more."
- Why the Order left open many questions.
 - The Order expects that the Internet would continue to evolve in unexpected ways, including in pricing (para 94).

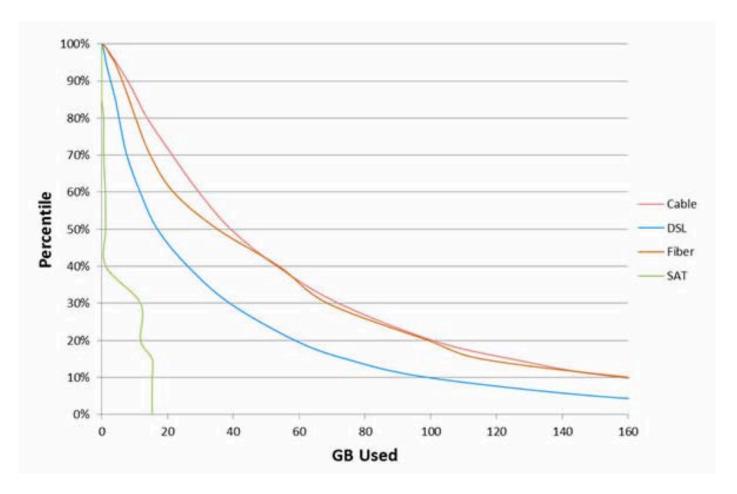
Competition

- Policy issues for data caps and thresholds arise in settings with no or few substitutes.
 - But defining competition requires defining the market
- Concerns about data caps and thresholds tend to focus on "high-end" markets. Which begs the question: Which high end markets are competitive? Hard to define.
 - Moving targets. No simple rules/benchmarks.
- Analysis possible, but need to be cautious against sweeping generalizations.

Caps: The facts

- Two tables, one figure (and much digging).
 - Highest thresholds range between 150/300GB per month.
 - Many firms do not have any caps at all.
 - Many thresholds/caps are part of a system of many-step thresholds, often within one pricing plan or tier.
 - Some ISPs offer many tiers; highest thresholds vary by tiers
 - When an overage charge arises, firms tend to use similar levels (see appendix).
- Difficult to benchmark thresholds against use. Growth.
 - Variance in estimates. Growth rates a moving target.
 - Open q: growing 20%-40%? Some/all users? Which ones?

Distribution of monthly use of data



Source: http://www.fcc.gov/measuring-broadband-america/2013/February#Chart20.

Perception of users

- What do users know and think?
 - Do users have an ability to measure their own data use in real time?
 - Tools? Can users measure usage by application?
 - Can users monitor their use in households with multiple users and multiple devices?
- Temporary or permanent concern?
 - User education is important. Further monitoring necessary.

User control

- Concern: If users do not control own data usage, then caps/thresholds can punish users
 - Issues? Web-embedded videos in ad, automated updates, inefficient software
 - User tools? Ad-blockers, traffic management
- Is this burdensome? To whom? Seems not be a concern for average user yet.
 - Further monitoring needed?

Perception of ISPs

- Thresholds (caps) are part of UBP, which provides a pricing mechanism for matching bandwidth demand with purchase behavior.
 - View consumer options as just as important to the delivery of Internet services as content or technical innovations in those services.
- Lower prices to users with small consumption.
 - But tiered pricing offer more predictability & bill stability than continuous metered pricing.

UBP & price discrimination

- Interpreting UBP as non-linear pricing (or price-discrimination in economic terms).
 - Associates high prices with higher costs and higher willingness to pay.
 - Avoids the potential losses when some users do not buy at all.
- Consistent w/Order, which made clear that light users do not have to subsidize heavy users.
 - Data caps interpreted as one tool in pricing.

Managing network growth

- Do caps/threshold reduce data use?
 - Answer is necessarily speculative. Little data to say
- Typical argument: Develop incentives to increase efficiency or reduce overall use
 - Users: Reduce Bit-torrent run 24-7, HD-security cameras, business servers.
 - Edge-providers: efficiencies in data delivery, develop new technologies.
- What type of data would inform open questions?

Managing Instantaneous Congestion

- Instantaneous congestion management not a stated rationale behind use of tiers or caps.
 - Note: If the largest total users over the month are also the biggest users at peak moments, then a data threshold might shape behavior of largest users and, as by-product, reduce peak usage.
- ISPs do not perceive users asking for peak-load thresholds.
 - A few experiments, but not many.
 - No data to accept/refute theories about how users will react to time-of-day thresholds.

Perception of edge providers

- Concerned that a widely used cap can reduce demand for data-intensive services and reduced entry of new data-intensive firms.
- Reduce commercialization of innovation?
 - Argue that historical improvements in data delivery largely independent of caps.
 - Argue that Canadian experience w/caps hurt user experience and vendor ability to market services.
 - Caps/thresholds may shape small % of ISP's users, but these can be big % of users to edge-provider.
- Little data to accept/refute differing views.

Specialized services and edge providers

- In some settings ISP is integrated into provision of services that substitute for services a user may access over public Internet
 - Thresholds/caps may provide a method for differential treatment of traffic and "favor" certain applications provided by the ISP.
- What is a "level playing field" in this setting?
 - Many aspects of this debate are taken up by the specialized services group. Only worry about competition policy issues in this report. What role do data caps play?
- What is good policy? Much changing in this area.
 - Open question: Should policy be flexible and adaptable? Fixed and predictable?

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Thank you

Thank you for your attention.