

Open Internet Advisory Committee Specialized services subgroup

Fourth OIAC meeting

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Chicago, IL

Charter

- In the Open Internet R&O (and in the NPRM that proceeded it), the FCC introduced the concept of “specialized services”. We are asked to:
 - Clarify and agree on the meaning of this term.
 - Review and advise on the criteria that define it.
 - Offer advice on the issues that might be of concern to the FCC as IP-based specialized services become more common.

Our task (1)

- Our working definition of specialized services was derived from a reading of the R&O.
- Our task should be to decide if these are good criteria.
- Our proposed approach is to use case studies.
 - Abstract argument may not be effective.
 - Specific cases may be better suited to test the criteria.

Example case studies

- IPTV Settop boxes
- Home Security monitoring, sensor net, IOT
- Home medical monitoring
- Access for management of critical infrastructure
- MetroE/Managed VPN services to the home (company pays)
- 3rd party purchasing of services for their customers (e.g. games—see Eve Online discussion)

Candidate criteria

- These criteria are *not* what the FCC proposed; these are what have emerged based on our discussion of case studies.
 1. Reach (an original FCC criterion)
 2. Capacity isolation (does the use of the specialized service impinge on the Internet service?)
 3. How is the service paid for?

Our task (2)

- Advise the FCC as to when the overall offering of specialized services and public Internet raises competitive concerns.

The concern

- Specialized services, sharing the underlying access capacity, could compete with the Internet for capacity to the point that material classes of Internet applications are not viable.
 - Also called the “dirt road” future for the Information highway.
- This issue does not relate to any specific specialized service, but the overall character of the innovative space.
 - Are there competitive concerns that arise from the way the underlying capacity is managed?
- Must monitor and measure that providers manage capacity and service levels provided to the consumer.
 - Current efforts include Measure Broadband America and Form 477.

How to think about this?

- One approach: define how much Internet is “enough”.
 - A very difficult problem, made more difficult by the change in the definition over time.
- Another approach: compare what can be done using a specialized service vs. the public Internet.
 - Does not imply the two must be equivalent.
 - Potentially makes the discussion more complex, since a specialized service may have enhanced QoS, not just raw capacity.

QoE, not QoS

- The committee considered whether this specific objective implies the need for the FCC to measure any new parameters.
 - So far, we conclude that current measurements cover the right technical parameters.
- The question is not “how fast”, but what is “good enough”
 - We conclude that this relates to user-facing quality of experience.

Two defs from CSTB

- Broadband Definition 1. Local access link performance should not be the limiting factor in a user's capability for running today's applications.
- Broadband Definition 2. Broadband services should provide sufficient performance—and wide enough penetration of services reaching that performance level—to encourage the development of new applications.

An approach

- Pick a basket of current and leading-edge applications.
- Measure QoE, and derive a mapping between QoE and technical QoS parameters.
- Report a blended QoE score as a measure of “good enough”.
 - Use existing technical measures as a basis to derive QoE score.