

2. Description of Underlying Technical Issue and Why TWG Review Would Inform the Public and Policymakers

Please fully describe the underlying technical issue below and explain how a review by the TWG would inform the public and policymakers regarding the underlying technical issues. Attach additional documents or information as necessary, for example: relevant diagrams, illustrations, reports, studies, specifications, or standards. URLs or links to each of these are helpful as well.

A) Title of the Technical Issue:
ISP Real-time Management of Congestion based on Subscriber Behavior and/or Application
B) Detailed Description of the Technical Issue:
<p>This technical topic focuses on the real-time traffic management practices used by by Internet Service Providers (ISPs) for the purposes of congestion management that are based on subscriber behavior and/or type of application. The analysis and subsequent report will consider practices used to prioritize or deprioritize particular packets, including delaying transmission of certain packets.</p> <p>The analysis of this topic will likely need to distinguish between traffic management “techniques”, defined as a specific function that is offered at a specific layer, and traffic management “practices”, defined as a collection of traffic management techniques used by a specific type of actor, in a specific manner, for a specific purpose. With respect to techniques, the analysis should likely consider where in the network, and at which layer, a traffic management technique is applied, and what type of traffic management functionality is applied. With respect to practices, the analysis should likely consider who decides whether a traffic management practice is applied, and on what basis is it decided to apply a traffic management practice. The analysis and report should also consider both Quality-of-Service (QoS) and Deep Packet Inspection (DPI) techniques, but only in the context of congestion management practices. Further, the analysis and subsequent report will likely need to discuss the extent to which some traffic management practices are narrowly tailored, taking into account network architecture and technology. It will be important to examine the criteria and indicators of congestion that trigger a practice. Other items that should be examined likely could include practices intended to ensure that heavy users do not crowd out others, including temporary limits to bandwidth available to individual end users. The analysis should likely also describe the types of traffic subject to traffic management practices, and the effect on end user’s experiences.</p> <p>The topic will focus on ISP real-time management of congestion based on subscriber behavior and/or type of application. Network management practices used by ISPs for purposes other than congestion management are currently considered outside the scope of this topic and subsequent report. This exclusion should include practices implemented to address security management and practices that block, modify, or redirect traffic. Practices that are not implemented in real-time are also outside the scope, including usage caps and usage charges. Practices that are not based on subscriber behavior and/or type of application are likely outside the scope of this report as well, including techniques implemented in an ISP’s network in a manner that is both user- and application- agnostic.</p>



C) Describe which BITAG Member Categories are affected by this issue (i.e., Applications Providers, Community Representatives, Content Producers, Equipment Manufacturers, Internet Connectivity Providers):

- **Application Providers**
- **Community Representatives**
- **Content Producers**
- **Equipment Manufacturers**
- **Internet Connectivity Providers**

D) Describe why a BITAG Technical Working Group Review of this technical issue would inform policymakers and the public:

Congestion management practices are an important subset of network management practices used ISPs. Policymakers have expressed a great interest in learning about what congestion management practices are used by ISPs and how these practices impact subscribers and application providers. In particular, policymakers are interested in whether ISPs use congestion management practices to prioritize latency-sensitive or safety- and security-related applications, to improve network performance, and/or to prioritize or deprioritize packets for certain content based on commercial interest. Among other things, policymakers are interested in whether these practices are helpful or harmful to consumers.

Policymakers often comment that network architectures and technologies may impact congestion management practices, but are looking for guidance as to how this occurs. Furthermore, an understanding of congestion management practices is crucial in policymaking discussions about reasonable versus unreasonable network management and reasonable versus unreasonable discrimination.

E) What relevant standards or standards bodies are directly implicated or related to this issue:
TBD
F) Please Provide or attach additional diagrams or items that would be helpful to other Technical Working Group Representatives in evaluating the merits of taking up this technical issue for review:
G) Additional items that may be relevant:

3. Identify any Parties on Record as Opposing Your View on the Technical Issue Requested for Review (attach additional page(s) if necessary)

Name of Party	Description of Opposing Position

