Rawafed LIBYA

Telecommunication & Technology

Network Management Policy

I. Overview

Eutelsat's network (the "Network") is a shared and best effort Network; at any given time, subscribers within a given geographic area must share available network capacity. Eutelsat aims to provide each subscriber with a "fair share" of that capacity, while providing all subscribers with a high-quality online experience

To achieve these goals, Eutelsat employs Network management practices designed to prevent any subscriber from placing a disproportionate demand on Network resources. Certain of these practices are used only when the Network is congested; others are used more generally.

Traffic levels on the Network are usually below a congestion point that would have a significant impact on the Subscriber experience. Eutelsat has designed its Network carefully to achieve this result. At Other times, however, simultaneous transmissions from multiple subscribers may result in a total demand for capacity exceeding that available on the Network, resulting in congestion ("Congestion"). During these times, Eutelsat's Congestion management practices, as further described in part II below, will be applied first to the Service Accounts having already used more than 50% of the volume of traffic included in their Consumption Profile (with the exception of the Service Class "Tooway Extra 2014", which is regulated by a specific policy further described in part III below), striving to treat traffic in a manner that minimizes adverse impacts on the Subscriber experience while preventing a subscriber from exceeding his or her "fair share" of available capacity.

The goal of these measures is the subscribers themselves, to enjoy a better overall service experience than they otherwise would without these practices.

II. Congestion Management Practices

A. Congestion Management Overview

Under normal traffic conditions, it is not necessary for Eutelsat to employ Congestion management practices. That said, while Network capacity is abundant, it is not unlimited. Stated differently, the Network can be expected to experience some level of Congestion, necessitating the application of Congestion management practices described in this Policy. Eutelsat manages its

Network to minimize the adverse impact that Congestion may have on the Subscriber experience. Congestion typically occurs in the link between the subscriber terminal and the gateway earth station via the satellite. In order to determine if the link is congested, Eutelsat continuously monitors the traffic load in each spot beam channel. If the instantaneous traffic load exceeds the available capacity of the spot beam channel, Eutelsat implements the Congestion management algorithm described below.

B. Mitigating the Impact of Network Congestion on the Subscriber Experience

Internet traffic is "bursty" in nature; traffic flows generally are not continuous, but rather are characterized by "bursts" of data. In addition to that, upload and download speeds may vary based on a variety of factors including the configuration of the Subscriber's computer, the number of concurrent Subscribers, network or Internet congestion, the speed of the Websites Subscriber is accessing and other factors. Nominal speeds and uninterrupted use of Service are not guaranteed. On occasion, simultaneous transmissions from multiple subscribers in a given spot beam channel result in a total instantaneous demand for capacity exceeding, on a temporary basis, the capacity available within the channel. On such occasions, the Network can experience Congestion. Congestion most typically occurs during the Network's "peak" usage hours which generally can be expected to be from about 17:00 to 00:00 local time at the subscriber's location, depending on the day of the week ("Peak Hours"). Congestion may also occur during certain periods when usage is "unmetered" (such as the "night free zone").

Congestion, and the resulting transmission delay, impacts the Subscriber experience in terms of speed (upload and download speeds can result lower than the nominal ones) and with respect to some types of applications more than others. For example, a delay in the rendering of a web page may be noticeable to a subscriber waiting for the content to appear on his/her screen. On the other hand, a subscriber downloading a bulk file (e.g. a software update) may be less impacted if the download takes longer during Congestion than it otherwise would, since the subscriber may already know that the download requires some time to complete.

Eutelsat's goal is to manage its Network to minimize the impact of Congestion on traffic. To accomplish this objective, Eutelsat's Congestion management

algorithm is designed to reduce the traffic load, while giving a preference to (i.e. having a lesser effect on) services and applications that require less transmission bandwidth such as web page browsing and email. During periods of Congestion, bandwidth intensive applications such as video streaming and file downloading may be slowed more than other applications. As a result, the quality of video streaming may be reduced and/or buffering may occur. In addition, file downloads may take longer to complete during periods of Congestion. Under more severe Congestion, all applications may need to be slowed, and in those instances, the time to download web pages may take longer.

Eutelsat operates as a "mere conduit". Despite the fact that Eutelsat is in no way involved with the information transmitted through the Network, following a specific request of a Public Authority, Eutelsat may block the access to specific URLs.

Eutelsat does not intentionally block any particular form of traffic (unless explicitly specified in the characteristics of a given service profile), but may block certain TCP/UDP ports and/or specific protocols that it reasonably believes may represent a security threat to the Network.

C. Heavy Users

A "Heavy User" is a Subscriber (or a small group of Subscribers) consuming a disproportionate amount of Network's resources (for example, those having an SNR lower than 9dB or, with respect to the Infinite Service Class, those using more than 100 Gbytes in a Cycle - traffic generated during the night zone is not accounted). Eutelsat will monitor both overall Network performance and individual resource consumption to determine if any Subscriber is a Heavy User that could potentially disrupt or degrade the Network and/or its usage by other Subscribers. In this case:

- With respect to the Infinite Service Class, in case of Congestion the maximum peak rates will be reduced to up to 3 Mbps in download and up to 1 Mbps in upload.
- With respect to other Service Classes, Eutelsat will inform the Distributor of such behavior; if Subscriber does not change his behavior permanently within 15 (fifteen) days after notification to the Distributor, Eutelsat reserves the right to restrict, suspend or terminate the relevant Service Account without other notification and no possible recourse of the Subscriber.

III. Web Browsing and Email

In order to be certain to fully enjoy, when experiencing service limitation, web browsing and email, Subscriber needs to follow all of the guidelines below (otherwise no service will be available):

- Virtual Private Network (VPN) and remote access software must be turned off
- A web browser application has to be used. Only static (non-video, non-music) content viewed within a web page application qualifies as web browsing and/or email. Content viewed in other applications may not be considered web pages or email (e.g. Android, iPhone or iPad apps other than web browsers).
- Web Browser URLs must begin with http:// or https://. This means ftp:// and other types of sites that launch external applications will not be classified as web traffic.
- Email attachments must be 10 MB in size or less.