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Ms Lynne Fancy  
Director General, Competition, Costing and Tariffs  
Telecommunications  
Canadian Radio-television and Telecommunications Commission  
Centre Building, Les Terrasses de la Chaudiere  
1 Promenade du Portage  
Gatineau, Quebec K1A 0N2

Dear Ms Fancy,

**RE: Vianet Internet Solutions/ExaTEL complaint regarding Barrett Xplore Inc. Traffic Management (File 8646-C12-200815400)**

We have reviewed the response provided by Barrett Xplore Inc. and would like to provide the following comments.

#### **Use of ITMPs**

Barrett Xplore makes the following statements:

*Provided a consumer has not used his or her data limit applicable to the consumer's Internet service package, Barrett Xplore Inc. does not utilize any ITMPs on its networks that apply to real-time protocols such as VoIP applications.*

*If a consumer is only using a VoIP application at the time the data limit is reached, the consumer would still be able to transmit at speeds that would not result in a noticeable degradation of the VoIP service.*

*It is possible that the ExaTEL customer has a small Internet service package that is not adequate for the data usage needs of the applications being utilized by that customer. Switching to a more appropriately sized service package may lessen or resolve the issues being experienced.*

Both customers noted in our letter upgraded their Satellite connections based on Xplornet's recommendation. In our first customer example, the customer was using only VoIP on the connection when a cap was reached. The customer called Xplornet early in the morning, no other internet data traffic passed through his connection as the customer had just turned on his computer. This was with an upgraded package, on the most conservative bandwidth settings we can offer (identified below). If Barrett Xplore does not utilize any ITMPs on its networks that apply to real-time protocols then why did this customer reach a cap?

Xplornet recommends that customers upgrade their service to 'possibly' alleviate their issues. Based on the numbers below, this will fail by design. Once the customer has tried this and seen it fail, Xplornet tells the customer that if they switch to Xplornet Digital Voice their problems will be solved. This leads the customer to believe that the problem is with Vianet/ExaTEL and not with Xplornet. This is not only anti competitive, but is also damaging to Vianet/ExaTEL's reputation as a leader in VoIP Telephony.

Even if Vianet/ExaTEL could make further adjustments to the customer's service settings that under normal circumstances would resolve the issue, the stringent guidelines by which the Xplornet ITMP's function will cause serious degradation in the quality of time critical VoIP application data.

Let's look at some numbers:

**Xplornet Basic Package:**

|  |                             |
|--|-----------------------------|
| Maximum Downstream Bandwidth:  | 1Mbps (1000Kbps)            |
| Maximum Upstream Bandwidth:  | 128Kbps                     |
| ITMP Threshold:  | 200MB                       |
| Threshold Timeframe:   | 24 hours                    |
| ITMP restriction Duration  | 24 hours                    |
| Throttled Downstream:  | 5% of 1000Kbps = 50Kbps     |
| Throttled Upstream:  | 5% of 128Kbps = 12.8Kbps    |
| Speed required for reliable VoIP on Vianet/ExaTEL's service (details below): | 39.2 Kbps in each direction |

**Xplornet Kazoom Package:**

|  |                             |
|--|-----------------------------|
| Maximum Downstream Bandwidth:  | 1Mbps (1000Kbps)            |
| Maximum Upstream Bandwidth:  | 256Kbps                     |
| ITMP Threshold:  | 55MB                        |
| Threshold Timeframe:   | 1 hour                      |
| ITMP restriction Duration  | 1 hour                      |
| Throttled Downstream:  | 10% of 1000Kbps = 100Kbps   |
| Throttled Upstream:  | 10% of 256Kbps = 25.6Kbps   |
| Speed required for reliable VoIP on Vianet/ExaTEL's service (details below): | 39.2 Kbps in each direction |

**Note:** Speeds are MAXIMUM speeds attainable, based on network usage and in reality may be lower than this during peak times

Typical Bandwidth Usage for VoIP traffic for standard VoIP codec's used by most providers:

G.711, 64Kbps, 20ms sample rate, 50 packets per second: This requires on average 95.2 Kbps of bandwidth in each direction. Vianet/ExaTEL does not use this codec on Satellite customers.

G.729a, 8Kbps, 20ms sample rate, 50 Packets per second: This requires on average 39.2 Kbps of bandwidth in each direction. This is the default for Vianet/ExaTEL services on satellite connections.

Based on this simple calculation, it can be concluded that the ITMP's imposed by Xplornet can and will, not only degrade time sensitive VoIP traffic, but will cripple it on the upstream. **This is regardless of the Internet package the customer chooses.**

## Xplornet Digital Phone Service

Barrett Xplore makes the following statements:

*Barrett does not attempt to uniquely identify or separately handle VoIP application data from the rest of the Internet data traffic within its networks. However, the Xplornet digital phone service is not Internet data traffic. On the satellite networks, Barrett has created a separate virtual circuit over which the Xplornet digital phone service is configured. This is a separate connection from the regular Internet data traffic and, therefore, not subject to the ITMPs within the Internet data connection. The answer given by the Xplornet representatives is consistent with our ability to provide this separate circuit on the satellite networks for the Xplornet digital phone service.*

Vianet/ExaTEL's Digital Phone Service is based on the Session Initiation Protocol (SIP) standard for digital voice communications, and is hosted on a standards based platform, designed around Digital Voice over IP telephony. This is in fact the same type of setup that Xplornet uses, including the end user hardware. So it can therefore be argued that Vianet/ExaTEL's "Digital Phone Service" is NOT internet DATA traffic, but rather time critical VOICE traffic and should not be subjected to the use of ITMP's by Xplornet.

Even though Xplornet is aware of other providers VoIP application data on its network, they make no attempt to "uniquely identify or separately handle VoIP application data from the rest of the Internet data traffic within its networks" but rather keep this voice traffic with all the other "Internet Data" traffic where it is subjected to the limits imposed by their ITMP's. This excludes their own digital voice application data which they do uniquely identify and separately handle.

Based on the information provided above, Vianet/ExaTEL believes that Xplornet is utilizing ITMPs on its networks that apply to real-time protocols, such as VoIP applications. It is clear that Xplornet's Internet Management Practices are resulting in the noticeable degradation of time-sensitive Internet traffic.

Sincerely,

Kathleen Turnsek  
Regulatory Affairs

cc: Patrick Owens, CRTC  
Christine J. Prudham, Barrett Xplore Inc.  
Bill Macdonald, Barrett Xplore Inc.  
David Miles, Barrett Xplore Inc.