

Incident Report

xDSL Connectivity

Report Date: 20th January 2014

Author: Richard Partridge



Introduction:

The report below is a breakdown of the events and issues surrounding the disruption experienced by our broadband customer base at approximately 16:20 on Friday January 17th.

Breakdown of the events:

At approximately 16:20 on Friday January 17th, monitoring indicated an overall drop in bandwidth utilisation. Shortly afterwards, calls reporting poor performance were received from some broadband customers. Further monitoring information indicated that the reduction in bandwidth utilisation appeared much sharper than we would expect at this time. Additionally, this drop was apparent on each of the 20CN and 21CN interconnects. Given this issue appeared to be affecting each of our interconnects, our Systems engineers began investigating internally.

As a troubleshooting step, a staged reboot of the traffic management platform took place. Following this reboot, bandwidth utilisation across the board began to improve, suggesting that the problem related to the traffic management itself. By approximately 17:15, throughput levels began returning to those which would be consistent with a Friday evening.

Our investigation suggested that our traffic management system was marking each connection as an unknown user. Connections which fall into the unknown user category are subject to heavier traffic management than other connection types. This feature limits the impact that an element unknown to the traffic management system can have on bandwidth utilisation.

L2TP based connections (EWCS and PWANs) continued reporting performance issues. The traffic management system was still marking existing connections as unknown users and continued to restrict their bandwidth. In order to remedy the immediate situation and allow us more time to thoroughly investigate the cause, the bandwidth restrictions in place on the unknown user category were temporarily removed. By 17:50 a vast improvement was seen as L2TP based connections were able to use normal levels of bandwidth once again.

Once the immediate symptoms had been temporarily resolved, our Systems team focused on correctly categorising connectivity. As the traffic management platform consists of multiple devices, we are able to move sessions between devices without having to disconnect them. Once moved, these connections were considered new to that device and were correctly categorised. This process was repeated so that each session had moved at least once. Once all L2TP connections were being correctly categorised, the connections were balanced out across the platform. The restrictions on the unknown traffic were left open as a precautionary measure.

Incident Report

xDSL Connectivity

Report Date: 20th January 2014

Author: Richard Partridge



The initial cause of this categorisation problem was related to an issue with the introduction of a new subscriber manager into the traffic management network. This device was deployed into the network in preparation for future implementation and our traffic management system was not made aware of the new subscriber manager and hence the deployment was not categorised as service affecting. This subscriber manager was blank except for configuration outlining where the traffic management system was located.

Unexpectedly the traffic management system accepted the pushed blank configuration from the unknown subscriber manager and consequently applied it, marking all connections as unknown which resulted in heavy throughput restrictions. The new subscriber manager has since been removed from the traffic management network.

We apologise for any inconvenience caused by this incident.