

TalkTalk Group Resolves Critical Customer Complaints with RFC 6349-Based TrueSpeed™

TalkTalk Group operates the United Kingdom's largest next-generation network, with over £600 million invested in infrastructure. As one of the UK's leading telecom service providers, the company provides voice, broadband, and IPTV services to residential customers throughout the country and to more than 180,000 small and medium-size businesses and 350 partner companies. TalkTalk transports voice and data traffic for both their residential and business customers via a high-speed, all-IP national network that offers significant benefits in terms of efficiency and cost.

The Challenge

Like most network operators providing data services to enterprises, TalkTalk Group offers its customers a service level agreement (SLA) so that both sides have an objective standard to determine if the service TalkTalk provides meets customer expectations. For many of their customers, the network throughput or amount of data that can be sent per second is a very important SLA parameter. Their customers often attempt to independently verify network throughput by timing how long it takes to transfer files from one site to another or by using Internet-based bandwidth tests. Their customers found that often the throughput received was far less than TalkTalk had promised.

When customers complained about poor network throughput, the network provider's field engineering team was expected to resolve the issue. Often, they had more than 20 to 30 open cases at a given time, with each case requiring one or two TalkTalk engineers to travel up to 4 hours to the customer site to investigate. In many cases, they also needed assistance from a third-party network operator's engineers when part of the circuit was transported on a third-party network. To make matters worse, traditional Ethernet and IP throughput tests like RFC 2544 and Y.1564 failed to isolate the problems. This resulted in wasted time, wasted expense for contracting with third-party engineers, circuits that still were not working properly, and customers who were increasingly frustrated with TalkTalk. In many cases, these unsuccessful attempts to resolve a complaint cost TalkTalk over £1000 (\$1500) each, not including potential fees for the SLA violations.

The Challenge

Efficiently resolve customer throughput complaints

The Solution

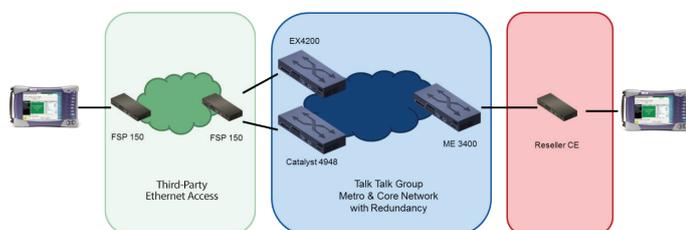
Viavi Solutions™ TrueSpeed testing based on RFC 6349

The Key Benefits

- Quickly and reliably identify sources for throughput problems
- Fewer customer complaints
- More efficient use of field-engineer time
- Save more than £1000 (\$1500) per complaint
- Comprehensively verify customer satisfaction
- Reduce time on site to <40 minutes

The Solution

In an attempt to isolate and resolve these network throughput problems, TalkTalk turned to the Viavi TrueSpeed test which similarly measures network throughput to the way TalkTalk Group's customers measure it. However, TrueSpeed uses a standardized, repeatable method based on the RFC 6349 IETF standard. Specifically, RFC 6349 calls for measuring throughput using end-to-end TCP traffic to allow for network latency and TCP's stateful protocol effects. TalkTalk Group's customers felt comfortable accepting the results of a TrueSpeed test because they understood how it performed measurements which were based on the only recognized industry standard for measuring TCP throughput.



Third-party Ethernet access TalkTalk Group metro and core network with redundancy

In one case, TalkTalk was able to resolve a network throughput complaint from a customer who sublet office space to other small businesses. TalkTalk's customer had an SLA calling for 100 Mbps throughput, but the customer was actually only receiving 88 Mbps in one direction and 12 Mbps in the other. This particular circuit traversed both TalkTalk Group's metro and core networks as well as a third-party provider's Ethernet access network. Isolating the source of the problem proved both challenging and costly. After several attempts to isolate the problem using traditional methods, a TalkTalk engineer used a T-BERD®/MTS-6000A to run TrueSpeed tests on both the upstream and downstream sides of a reseller-installed Ethernet access device (EAD). The test results indicated that the EAD had been misconfigured because running the test on the downstream side resulted in low throughput due to TCP retransmissions, while running the tests on the upstream side resulted in full throughput with no TCP retransmissions. TalkTalk reported the problem to their reseller who reconfigured the EAD which ultimately resolved the problem. Traditional Ethernet and IP test procedures were unable to isolate the cause of the poor throughput. However, a TrueSpeed test which automates the RFC 6349 procedures detected the cause right away because it could only replicate the issue with stateful TCP traffic on the circuit.

The Results

After seeing how successfully TrueSpeed helped them resolve customer throughput complaints, TalkTalk Group rolled out TrueSpeed test capabilities to their entire field engineering team. Not only did they use TrueSpeed to troubleshoot throughput complaints, but they also incorporated it into their circuit-activation workflow to preemptively prevent complaints. TalkTalk Group found that they could complete the test in fewer than 40 minutes per site and often found at least one problem that would have required them to return to the site to address a customer complaint.

"I can only endorse how effective the MTS-6000A MSAM using the RFC-6349 testing has been for my team. There is a real opportunity for the MTS-6000A MSAM to further enhance our testing capabilities with its multifunction and modular platforms. I have no doubt this will ultimately improve our network reliability and customer satisfaction."

— Keith Vicary

Field Engineering Manager, TalkTalk Group

TalkTalk
Group



Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the Viavi office nearest you,
visit viavisolutions.com/contacts.

© 2015 Viavi Solutions Inc.
Product specifications and descriptions in this document are subject to change without notice.
truespeed-cs-tfs-tm-ae
30173497 900 0713