

# SERVICE PROVIDER IMPROVES LAYER 3 VPN CUSTOMER SATISFACTION WITH THE EXPLORER SUITE



## CASE STUDY



# Table of Contents

The Need for Visibility into Customer VPN Services	3
Modeling New Services and Failure Scenarios	4



## Service Provider Improves Layer 3 VPN Customer Satisfaction with the Explorer Suite

A very large Asian communications service provider with operations in more than 25 countries and employing over 25,000 people is enjoying rapid growth in its three, largely autonomous businesses:

- Enterprise – wireline and satellite communications plus an array of managed services and cloud solutions for mid-size and large companies
- Consumer – wireless mobility services for over 600 million subscribers
- Digital – consumer internet and media services, including IPTV, eBooks and gaming, and digital marketing solutions for businesses

The Packet Design Explorer Suite was acquired by the engineering team in the enterprise business unit responsible for the design, build and maintenance of a large MPLS network that delivers VPN services to enterprise customers, including many Global 500 companies. The VPN services are offered on two platforms – one for domestic customers and the other for international locations across Asia, Australasia, and beyond.

### The Need for Visibility into Customer VPN Services

To help them continue to raise the bar on customer satisfaction, the network engineering team realized that they needed better visibility into customer VPN services for proactive management and faster troubleshooting. On occasions, customers would call the support center to complain of service interruptions or slow-downs. Often these calls were received after the fact which made tracing the location, severity and cause of the problems very difficult, especially if they were intermittent. Frequently, the issues were traced to changes made at the customer location but not before a lot of time was spent diagnosing the root cause.

The network planning manager researched various tools on the market in search of something that would provide real-time visibility into individual customer VPNs, as well as troubleshooting and modeling capabilities. He was made aware of Packet Design's Explorer products by his network equipment vendor and, after an extensive product evaluation, the company acquired Route Explorer™ (Traffic Explorer™ was added later). "I've never found another technology quite like it," he says. "I use it to replay routing events—for post mortems, forensics, and deep-dive analysis after an outage because every routing event is captured so even transient problems can be diagnosed."

The Explorer products enable the team to trace the cause of problems to the source. This is helpful when resolving service delivery disputes because they can see exactly how traffic traversed both the customer's and their networks. "In the past, our customer service managers would report customer issues and we would be unable to determine the root cause definitively," the planning manager says. "Sometimes, to maintain customer goodwill, we would pay SLA penalties, even though we had no evidence that the problem was in our network."



## Service Provider Improves Layer 3 VPN Customer Satisfaction with the Explorer Suite

Since deploying the Explorer products, the company has been able to reduce the number of disputes by producing reports that show when, for example, a network problem was caused by a routing configuration change made by the customer. In fact, this happened during the Route Explorer evaluation period which helped justify the product acquisition.

### Modeling New Services and Failure Scenarios

Apart from monitoring and troubleshooting, Route Explorer is used to model changes to the MPLS network. The network engineering team can simulate the failure of a link or node to understand how the network would re-converge and ensure appropriate redundancy is in place. They also perform what-if simulations of routing changes before maintenance windows to see how the resulting network will perform. This enables them to model new customer VPN services to ensure they are provisioned correctly and greatly reduce the risk of service interruptions caused by unexpected routing behaviors. For example, during a routing infrastructure refresh at one of the company's locations, disruption to network services for a major multinational media company was avoided by using Route Explorer. "Using the product's modelling capabilities, we detected a very complicated RSVP-TE loop that would have been introduced by the hardware refresh and associated configuration changes," the planning manager says. "It identified the routing loop scenario and helped us visualize its effect on the network. There is no way we would have been able to prevent this problem without Route Explorer."

Route Explorer and Traffic Explorer are now used to model changes prior to all maintenance windows as part of the change management process. Adds the manager, "Modelling with the Explorer products is fast... they are more interactive and user-friendly than other products."

