

Pipeline

Knowledge Is Power

www.pipelinepub.com Volume 6, Issue 3

Transforming Service Providers Need True Traffic Awareness to Remain Relevant with Customers

By Manuel Stopnicki

One of the key trends in today's marketplace is the recognition that service providers are undergoing a major transformation of their business. While much of their revenue continues to come from providing the traditional pipeline, the market is also demanding an ever-growing range of new services such as VoIP, teleconferencing, and audio and video data streaming—applications that by their nature carry high bandwidth requirements, as well as specific performance requirements. Because these applications require a more costly and complex infrastructure, service providers find themselves in a difficult balancing act. They must garner new revenue out of existing bandwidth with the new critical applications, but at the same time they must meet the high quality of experience (QoE) customers demand when using them.

All of this leads to an ever-growing need for true traffic awareness. As service providers become more and more application-centric, they have an increasing requirement for effective, real-time visibility into network infrastructure, as well as at the application level for better traffic monitoring and improved control of what is going on and over their network.



Let us *drive* your profitability

ASK CONCEPTWAVE ABOUT ...

- multi-play orders
- exception order handling
- centralized dynamic catalog
- processing millions of orders

www.conceptwave.com

Empowering Service Orders

Proven, high performance order and catalog management solutions.

Achieving True Traffic Awareness

True traffic awareness can be defined as enabling a manager or operator to truly "see" infrastructure utilization as it happens and the application's QoE in a fully integrated, holistic platform that enables

the operator to go beyond monitoring network traffic to being able to proactively manage the network. Unless the entire delivery chain is managed proactively, a problem in any one area can create immediate performance impacts for end-users. Additionally, unless the impact of a new application on the overall network is well understood and planned for, it can compromise the quality of other critical network services.

The requirements for true traffic awareness are twofold; the first is to be able to analyze traffic trends as well as the abnormalities that occur in real time. Active monitoring technologies provide a cost effective way to get a sense of the network performance at the IP level by injecting fake transactions. But to really understand the customer experience, one must analyze each individual real end-user transaction. These transactions are often recorded in pieces of data called IP Detail Records (IPDR) or more generally xPDR. xPDR can be produced by the network equipments themselves (Call Managers for instance) or by Deep Packet Inspection (DPI) probes. DPI is a technology that ensures real-time monitoring of all IP flows and supplies the details of each communication, the protocol used, the port number, the client and server addresses, as well as automatic recognition of the application or service being exchanged. By analyzing those records in real-time, one can get an intimate understanding of how the network is used and of the true customer experience.

The second requirement for achieving true traffic awareness is having the ability to correlate this information within the context of the network infrastructure on a single platform. Such a holistic platform should be able to support many applications and provide the visibility to manage service across the multiple silos of servers and network applications that are tied together. This allows for measuring network traffic from an application perspective as well as from the standpoint of infrastructure capabilities. A holistic platform gives operators a comprehensive view of devices and real-time traffic flow across the entire network to assure the end-user's QoE.



An extension of this true traffic awareness is the ability for a service provider to communicate this visibility with its own customers. Enterprises today are asking for more and more real-time visibility. It's important for service providers to be able to offer customers this visibility in an understandable user interface that meets their customers' needs. The trend here is not for the enterprise to ask about bandwidth. Instead, they are asking about the application of the network, the efficiency and the reliability. They are asking about the quality of the application response time more than the latency in the core, which used to be the metric in the past. Now, the enterprise wants to have end-to-end application usage reporting.

Another critical aspect of obtaining true traffic awareness is that it leads to the ability for proactive performance management, rather than the traditional fault management. In traditional reactive fault management, a threshold is established for unacceptable performance. But a problem develops when trying to determine how to set the threshold value. If it's too high, end users will already be complaining before the system hits the threshold. If the value is set too low, false positive alarms can overwhelm network operators who, in the end, might ignore the alarms or turn them off. On the other hand, if you know a network's normal traffic patterns, if there is an acceptable baseline established, when traffic deviates from the norm, you can be more proactive in digging into the details as to what is causing the change of behavior and to take appropriate steps to improve the situation before a service outage occurs.

Traffic Growth Amplifies Need for Network Visibility

While many service providers are dealing with these challenges now, in five years the need for true traffic awareness will only increase and become even more critical. Considering the myriad of mobile services entering the marketplace and the variety of devices available, the growth in applications is almost staggering, particularly in terms of complex traffic, such as uploading and downloading video content to and from YouTube from an iPhone.

While there is an exponential explosion of the traffic, it doesn't necessarily represent revenue for the service provider because much of the revenue goes somewhere else. Service providers have to take action to increase their revenue by adding value-added services or face the diminishing returns of simply providing the pipeline. What many providers are doing is trying to outsource what does not now seem critical for them by asking their vendor partners to deal with some of these management problems. But what will be required is the ability to adapt to the new complexity and to understand that change is necessary to grab more of the revenue.

Ultimately, both businesses and consumers today are asking service providers to carry a wide range of different types of services, such as mobile data, residential broadband, and business services, each with its own set of quality requirements. In addition, more and more innovative applications are being introduced, and managing these applications and the resultant network traffic is becoming more and more complex. To address these challenges, service providers need true traffic awareness within a holistic platform for visibility into the relationship between services and network resources.

Such visibility provides a creative yet practical approach for identifying potential performance problems and proactively correcting them before they negatively impact end-user quality experience. Customers are becoming increasingly more sophisticated and demanding of their service providers, and they will gravitate to those providers that can meet their growing expectations.