

Carriers Add Value By Optimizing Application Performance

Rebecca Wetzel and Peter Sevcik

Enterprises that are reluctant to do it themselves may have another choice for improving application traffic across the WAN.

Peter Sevcik is president of NetForecast, and is a leading authority on Internet traffic, performance, and technology. Peter has contributed to the design of more than 100 networks, including the Internet, and holds the patent on application response-time prediction. He can be reached at peter@netforecast.com. Rebecca Wetzel is an associate of NetForecast and president of Wetzel Consulting LLC. A veteran of the data networking industry, she works with network product vendors and service providers to develop and implement successful strategies for new offerings. She can be reached at rebecca@netforecast.com.

Not long ago, most carriers couldn't identify, much less improve, the performance of networked applications—except to prescribe more bandwidth as a performance panacea. This is changing as distributed application delivery system (ADS) technologies mature and carriers and value-added network service providers respond to global enterprises' need for applications to perform well for all users, no matter where they are.

Products to optimize application performance over a wide area network (WAN) are fast becoming mainstream. Global enterprises are now familiar with distributed ADS solutions from the likes of Cisco, Riverbed, Juniper and Packeteer—and as their familiarity increases, so does their penchant to purchase these solutions as managed services. Service providers like AT&T, BT Global Services, Orange Business Services, Vanco, and Verizon Business are stepping up to the plate with sophisticated services to measure, control (i.e., protect from degrading under adverse network conditions), and accelerate (i.e., speed up for all users all the time) application performance.

To learn what application performance services are available and why customers are drawn to them, we interviewed five network service providers, each with an application optimization story to tell. Here is what we learned.

Who Buys Application Performance Services And Why

We asked network service providers what types of customers are buying their application performance services and why. As for who is buying, the consistent answer is global enterprises.

Application performance service buyers are primarily multinational companies tasked with delivering acceptable performance to corporate users in many global nooks and crannies. The challenge of delivering a quality experience to far-flung users is great to begin with, and it is often exacerbated by corporate initiatives like datacenter consolidation which extends the distance between servers and application users, thus increasing latency and further hurting the user experience.

The application performance problems that domestic U.S. enterprises experience tend not to be as profound as those of their multinational counterparts, which explains why the domestic U.S. carriers we approached during our research don't offer solutions beyond basic MPLS, and therefore receive no mention here.

As for why global enterprises buy performance services rather than "rolling their own" solutions, the answer is because it is easier and cheaper. The combined challenges of hiring and training employees, running gauntlets of import/export laws, and deploying, tuning and maintaining equipment in multiple countries make global self service difficult and expensive.

"Do you want to take on the responsibility to have people trained, to add help desk capabilities, and to take on the complexity and hassle—or would you rather focus your human and IT resources on other things?" said Bob DiGiau, vice president of enterprise management service for BT Global Services. Since the service providers we interviewed already manage customer premises-based network infrastructure, they view it as a natural progression to manage additional infrastructure needed to measure, control and accelerate application performance.

Access to knowledge and skills is an important reason multinational companies look to service providers for application performance solutions. According to Ciaran Roche, solutions director at Vanco, "The real benefit of all the [product] solutions is the ability to interpret the data—identify-

ing trends across the network, identifying areas where a network technology might need to be changed, where WAN devices might need further tuning or optimizing, or identifying where you might need to change MPLS service parameters. Most clients that have gone down the in-house path find their main investment is in people who can delve into that detail, interpret it and act upon it.”

Managed Application Performance Service Offerings

We interviewed five managed application performance service providers: AT&T, BT Global Services, Orange Business Services, Vanco and Verizon Business. Thanks to its Equant heritage, Orange Business Services has arguably the longest track record of the pack for offering man-

aged application services. Orange Business Services first offered application performance monitoring in 2001, followed by traffic shaping in 2003 and application acceleration in 2004. Vanco also stands out as a market pioneer, offering application performance monitoring and control services since 2002, and fleshing out its package to include acceleration in 2005.

Below is an overview of the application performance services these network service providers offer.

■ **AT&T**—AT&T’s Managed Networking Services Group provides a portfolio of distributed ADS service offerings including two application performance monitoring services, two performance control services, and an application acceleration service. One of the two monitoring services gathers highly detailed, real-time, resource

TABLE 1 Application Delivery Services

	Measure	Control	Accelerate
AT&T	Managed Networking Services		
	Appliance-based: Identifies WAN applications, provides real-time resource usage and performance information for application flows [Fluke] NetFlow-based: Identifies WAN applications and provides near-real-time bandwidth usage breakdown [Proprietary reporting software]	Static policies for bandwidth allocation by application [Cisco] Dynamic bandwidth allocation for critical applications [Packeteer]	On a custom basis, accelerate applications based on vendor’s capabilities [Cisco, Blue Coat, Riverbed; Juniper planned]
BT Global Services	Applications Assured Infrastructure Monitoring		
	Monitor the user experience, application performance and server health (service offered with or without agents) [Compuware]		
	Applications Assured Infrastructure Application Service		
	Identify WAN applications and provide bandwidth usage breakdown [Ipanema]	Dynamically optimize performance by adjusting throughput to favor critical applications [Ipanema]	Accelerate TCP [Ipanema]
Orange Business Services	Business Acceleration		
	Identify WAN applications and provide bandwidth usage breakdown [Packeteer, Ipanema]	Dynamically optimize performance by adjusting throughput to favor critical applications [Packeteer, Ipanema]	Accelerate applications based on vendor’s capabilities [Juniper is default, Riverbed by request, Cisco by request]
Vanco	Application Aware Networking		
	Identify WAN applications and provide bandwidth usage breakdown [Cisco or Ipanema]	Dynamically optimize performance by adjusting throughput to favor critical applications [Ipanema]	Accelerate applications based on vendor’s capabilities [Ipanema is default, Riverbed by request, Packeteer by request, Cisco planned]
Verizon	Managed WAN Optimization Service		
	Identify WAN applications and provide bandwidth usage breakdown [Juniper]	Control applications by priority [Juniper]	Accelerate applications [Juniper]
	Network Management Reporting—Visual Application Integrity		
	Provides real-time resource usage and performance information for application flows [Fluke]		
	Private IP Application Performance Management		
	Identify WAN applications and provide bandwidth usage breakdown to the desktop [Centrisoft]	Dynamically optimize performance by adjusting throughput to favor critical applications to the desktop [Centrisoft]	

usage and performance data using a Fluke Networks probe installed at a customer's premises. The other monitoring service feeds NetFlow data from Cisco routers into an AT&T-developed software tool called Application Traffic Analyzer to provide "near real-time" bandwidth usage information by application flow.

One of the performance control services statically implements bandwidth allocation policies within Cisco routers—while the second service (available by special request) dynamically allocates bandwidth using Packeteer's packet shaping technology.

To round out its portfolio, AT&T provides application acceleration as a custom service using a customer's choice of Cisco, Blue Coat or Riverbed products (with Juniper's WX product to be an added option soon). AT&T is also developing a network-hosted application acceleration alternative.

■ **BT Global Services**—Delivered under the Applications Assured Infrastructure service line name, BT Global Services (formerly Infonet) offers a monitoring as well as a control and acceleration service. BT's Applications Assured Infrastructure Monitoring service uses Compuware to measure the user experience, application performance and server health. This service is available with or without customer premises-based agents.

BT's Applications Assured Infrastructure Optimization service uses Ipanema's technology to control as well as accelerate application performance. The Optimization service identifies WAN applications, provides bandwidth usage information by application, dynamically optimizes performance by adjusting throughput to favor critical applications, and selectively accelerates applications. The optimization service has two variants—one for BT Global Services VPN customers and the other for customers using non-BT WAN infrastructure.

In addition to its managed ADS service suite, BT Global Services also offers a sophisticated array of professional services for auditing as well as managing application performance.

■ **Orange Business Services**—Orange Business Services offers a number of managed application performance services under the moniker Business Acceleration. Like BT, Orange boasts a strong professional services component to its Business Acceleration service line and encourages customers to use its professional services group to perform proof-of-concept analyses and pilots to identify the right distributed ADS vendor platform.

The Business Acceleration service line includes application performance monitoring and dynamic performance optimization for critical applications based on Packeteer or Ipanema technologies. The Ipanema platform is sold mainly in France today, but Orange plans to make it a standard global offering in 2008. A managed application acceleration service is available using Juniper as the current default service delivery platform, with Riverbed and Cisco available upon request. Orange Business Services plans to add Riverbed as a standard acceleration option in 2008.

■ **Vanco**—Vanco's application performance service line is named Application Aware Networking. The monitoring component of the service line uses Cisco's NetFlow or Ipanema's platform to identify applications and provide a breakdown of which applications are using a majority of the bandwidth. The service also reports on trends over time.

Vanco uses only Ipanema to provide dynamic bandwidth allocation. Ipanema is also Vanco's standard platform for application acceleration, but Riverbed and Packeteer platforms are available on a custom basis, and Vanco plans to add Cisco's WAAS as an option in the future.

■ **Verizon Business**—Verizon Business offers an innovative service with the rather long-winded name of Private IP Application Analysis and Priority. The "analysis" service identifies WAN applications at the desktop, provides bandwidth usage information also from the desktop, and dynamically adjusts throughput to favor critical applications all the way through the network to the desktop. In Verizon's words, the "priority" service "delivers desktop-to-datacenter class of service for mission-critical data." The service, which is delivered via technology from Centrisoft, is unique among the service providers we interviewed.

Verizon Business also offers a conventional line of application performance services, including a measurement service with another long name, Network Management Reporting-Visual Application Integrity. This service, which uses Fluke Networks' Visual Uptime product, provides real-time resource usage and performance information for application flows.

In November Verizon Business planned to roll out its Managed WAN Optimization Service, which uses Juniper's WXC platform to identify, provide bandwidth usage breakdown information for, and accelerate WAN applications. The service combines monthly performance and trend reporting with what it describes as "quarterly tuning by application analysis consultants."

Carrier-based application performance SLAs are generally not here yet

SLAs—We're Not There Yet

The time for carrier-based application performance service level agreements (SLAs) has not yet arrived. The only standard SLAs offered cover such things as notification time for performance threshold breaches, application availability, platform availability, and time to repair service infrastructure. Some service providers do offer application performance SLAs on a case-by-case basis.

Orange Business Services does offer end user experience-driven application response time "objectives," and according to Jean Critcher, head of the application management competency center at Orange Business Services, in 2008 the carrier will fit application performance into an ITIL (IT Information Library) framework and use Oblicore's SLA management software to perform SLA contract management. Other service providers including BT Global Services are also moving toward slotting application performance SLAs into an ITIL business framework.

**The market
for these carrier
services
is growing**

Market Observations

The market for managed application performance services is vibrant and growing. Take Orange Business Services as an example. It has nearly 300 multinational customers for its Business Acceleration service, each with 10 to 1,000 devices under management, and currently boasts service revenue of \$40 million–\$50 million. Orange predicts sales growth to at least \$200 million over the next two years. During the past year, Vanco has incorporated its Application Aware Networking service into 80 percent of new client contracts.

It is clear that as managed application performance services go mainstream, network service providers will buy a growing percentage of distributed ADS products. Given this trend, vendors who disregard service providers' requirements do so at their peril.

The impressive number of vendor platforms offered by the service providers reflects customer interest in and awareness of distributed ADS solutions. The market is still maturing and the inevitable vendor shakeout has yet to occur, so a broad vendor lineup is to be expected.

Several of the service providers we interviewed said they would prefer to offer a best-of-breed solution designed for service provider environments, but popular demand requires them to offer a broader selection of enterprise-specific solutions. According to Ciaran Roche of Vanco, "A majority of our target customer base knows, has tested, and in many cases has been offered free trials of actual hardware from the different vendors. So as we offer this service to more clients, we're

finding that clients are expecting that we can offer a managed service based on a platform of their choice rather than a platform of our choice."

Service providers consistently told us that products designed for enterprise environments do not give them the complete set of features they need. In particular, they mentioned the need for more complete reporting. Of the distributed ADS products the service providers are using today, only Ipanema's platform is purpose-built for service providers.

Like Ipanema, a market newcomer from Australia named Exinda also has designed its products with service providers in mind. Although none of the service providers we interviewed has yet deployed it, we believe Exinda is a vendor to watch.

We predict that as press and analyst chatter about ADS products subsides over the next two years and products increasingly resemble each other, customers will become amenable to carriers choosing best-of-breed solutions designed for service provider use. This should winnow the field to two

or three vendors. Also over the next two years, we expect a few carriers will offer network-hosted distributed ADS service offerings in what we see as a North American carrier phenomenon to lower service delivery costs □

Companies Mentioned In This Article

AT&T (www.att.com)
Blue Coat Systems (www.bluecoat.com)
BT Global Services
(www.btglobalservices.com)
Centrisoft (www.centrisoft.com)
Cisco (www.cisco.com)
Compuware (www.compuware.com)
Exinda (www.exinda.com)
Fluke Networks (www.fluke.com)
Ipanema (www.ipanematech.com)
Juniper (www.juniper.net)
Oblicore (www.oblicore.com)
Orange Business Services
(www.orange-business.com)
Packeteer (www.packeteer.com)
Riverbed (www.riverbed.com)
Vanco (www.vanco.com)
Verizon Business
(www.verizonbusiness.com)