

Accelerate applications to make your business more agile

Recent times have seen pressure piled on enterprises to do more with less while reducing complexity and improving management, security and business continuity capabilities. But the trend towards centralising and consolidating IT infrastructures has introduced challenges at branch level. An exclusive Computer Weekly seminar, in association with Easynet Global Services and Cisco, examined how wide area network (WAN) optimisation can address these challenges

- **Latency and bandwidth over the WAN**
- **Cut costs and drive value**
- **Managing application acceleration**

It is easy to see why UK businesses have developed an appetite for IT and particularly for data-centre consolidation in recent years. “Virtualisation is key here,” Claudio Scola, Easynet Global Enterprise WAN Services product manager, told seminar attendees. “With all the exabytes of data growth, along with many more applications, compliance requirements around data going missing and the management complexity that brings with it, there is a strong need to centralise and virtualise IT infrastructure. To have fewer servers and stem the rising cost of IT in the branch means businesses can start to see real cost savings.”

Latency and bandwidth issues over the WAN

Scola said Easynet Global Services has seen the market for WAN optimisation technologies take off. This, he said, was in response to networking issues exposed by server centralisation. “Many organisations have found they lose LAN-like [local area network] performance.”

Once the application and server infrastructure is centralised, simple things like sending out an e-mail to a distribution list can mean sending the same data repeatedly over the WAN, for example, Scola said. “It used to be only gamers and voice over IP (VoIP) users who complained about latency. The main issue here now is really how chatty applications cope with increased latency and reduced bandwidth, now they are being accessed over the WAN [wide area network].”

Paul D’Cruz, datacentre business transformation systems engineering manager at Cisco, cited IDC’s IT services market figures. He said: “The market for IT services is growing. But WAN optimisation came out top, with 27% already using the technology and

24% saying they will use it as part of an extended roll out, because it gives measurable return on investment [ROI].”

Cut costs and drive value

“Cisco’s ability to integrate into existing network infrastructures for routing and switching makes WAN-optimisation ROI models and the cost of entry attractive,” added D’Cruz. “It can also help with disaster recovery and business continuity, in managing the replication of data between datacentres, with the announcement made by Cisco, VMware and EMC last week regarding their launch of a new virtual computing environment coalition. And busi-

“It’s about tuning the behaviour of TCP/IP, compressing the data and introducing application proxies to reduce application chatter”



“WAN optimisation can also tackle storage sprawl, as part of consolidation efforts to manage IT better, along with security and application performance, to gain productivity enhancements”

nesses can take the risk out of deployment with services such as Easynet’s.” The two main goals of WAN optimisation were, according to Scola, bandwidth control and latency mitigation. But WAN optimisation is just a super-set of a number of technologies that make up its managed service.

“It’s all about eliminating repetitive data, compressing it and adapting the behaviour of the TCP and application layer protocols in a way that is completely transparent to the enterprise’s IT Infrastructure” Scola added.

Applications that were traditionally LAN based are very wasteful of bandwidth and intolerant of latency because of their chattiness. The sender and receiver send small chunks of data back and forth and then wait for acknowledgements to come back. This causes unnecessary waiting time which is perceived as a slow network issue. With international branch offices this effect can be so extreme that the communication hits a latency bottleneck that prevents it from using all the available bandwidth.

Scola said Easynet’s approach to such issues was to use its multi-protocol label switching (MPLS) network with its managed application acceleration (MAA) service to provide improved application response times. “Compressing the data deals with bandwidth issues; our service has removed a lot of redundancy. Then the TCP and application layer latency mitigation accelerates the performance of the communication. Together, these functions result in acceleration ratios that our customers have typically seen up to around x40 with our MAA service.”

Easynet’s MAA service is a device-driven option

for MPLS based WANs, using appliances at the edges of the WAN. “Then you get the whole shooting match,” according to Scola. “WAN optimisation is not necessarily an alternative to more bandwidth,” he said. “It all depends on what is right for your business. If your branch office is in a remote location for instance, getting faster than a 1MB ADSL [asymmetric digital subscriber line] can be extremely difficult and using WAN optimisation to overcome the bandwidth issue may be technically and financially justified, but if your office is in a metro area, it may be cheaper just to buy more bandwidth. Where WAN optimisation really does cost in is where you need to overcome the issues of both latency and bandwidth.”

Managing application acceleration

Cisco’s wide area application services (WAAS) powers Easynet’s MAA service. WAAS combines WAN optimisation, acceleration of TCP-based applications and Cisco’s wide area file services, in either a single appliance or a blade. D’Cruz said: “From our standpoint, WAAS is a transparent solution, so it doesn’t matter who the user is – whether they have a fixed location, in an office, or away from the office – it offers both a software and hardware approach to the solution. It looks at the characteristics of the underlying applications and how best to deploy them over the networks. You don’t have to worry about integration with certified technologies running on WAAS, such as Microsoft Server 2008 R2, because it extends existing MPLS services to embed industry protocols into the network assets with an integrated network appliance.”

By designing WAN optimisation directly into the WAN, customers get extra reporting capabilities and guaranteed quality of service and reliability assurances, said Scola. And, in answer to the many attendees who wanted to know when WAN optimisation should be adopted, he added: “I would say anything related to datacentre consolidation requires you to consider how you’re going to manage your applications. A lot of customers are in the middle of disaster recovery and business continuity projects and making WAN optimisation part of the business case. But sometimes it’s slipping under the radar, when the main concerns are the centralisation of control and data.”

D’Cruz concluded by pointing to a variety of ways WAN optimisation is changing how business gets done: “We partnered successfully for some time now with Easynet and have found the ‘sweet spot’ around reducing the numbers of devices to manage in branch. WAN optimisation can also tackle storage sprawl, as part of consolidation efforts to manage IT better, along with security and application performance, to gain productivity enhancements. And, transparent integration into WAN design can allow you to lengthen the life of your WAN infrastructure, minimising capital expenditure and allowing IT to concentrate on supporting the core business, rather than just another network technology.” ●

