

# STUCK BETWEEN A ROCK AND A HARD PLACE:

## APPLICATION DELIVERY CONCERNS

BY JESSICA YI



According to a recent Forrester Research survey, the most pressing concern for IT executives going into 2007 is improving their alignment with business strategies.<sup>1</sup> In far too many instances, IT is seen as a roadblock to business initiatives rather than an enabler. Many of these challenges come to a head in the area of “application delivery,” an emerging term that refers to the process of getting applications from their source in the corporate datacenter out to end-users in the fastest, most secure, most cost-effective way possible. With virtually all business processes today being run on some type of application, the need for increased focus on application delivery has never been greater.

### USERS MOVING FURTHER AWAY FROM APPLICATIONS

One of the greatest changes revolutionizing the way organizations are doing business today is an increasingly mobile user base. According to Nemertes Research, an astounding 90 percent of the U.S. workforce now works remotely, with branch offices growing at an average annual rate of 8.9 percent over the past four years. Trends like offshoring and outsourcing further complicate the picture, and IT is increasingly being asked to deliver online web applications to external customers, partners, and suppliers to increase revenue and improve business efficiencies. With all of these forces driving users further away from the source of applications they depend on, it is absolutely critical for organizations to understand how these changes impact their ability to achieve business success.

Mark Templeton, President and CEO of Citrix Systems, Inc., believes that IT organizations with a robust application delivery infrastructure in place will be much better positioned to meet the demands of business in an increasingly dynamic world. Citrix, who won the 2006 Frost & Sullivan Best Practices Award for Product Line Strategy and was recently named a leader in application performance solutions by Forrester, believes there

are “Five Forces” making the world a more dynamic and volatile environment for IT executives today: Globalization, Disruption, Consolidation, Regulation, and the Echo Generation. These external forces make it far more challenging for IT to ensure applications get to users with acceptable performance, security, and cost efficiencies. At the same time, they offer exciting opportunities for IT executives who grasp the evolutions and make the right investments to align themselves with business goals.<sup>2</sup>

The workforce is undoubtedly shifting; not only are more people working from their homes and from branch offices across the country, but the global talent pool is expanding like wildfire. While enterprises are already having trouble managing all of their information, securing their intellectual property, and complying with regulations, globalization has now made this difficult task even more challenging. Globally distributed and virtually disrupted applications in this dispersed environment have created a lack of visibility, driving up costs to keep the enterprise in line. Consolidation – 2006 being a record year for merger and acquisition deals – only adds to this headache of creating successful synergies between hundreds of applications. Finally, with the technically savvy Echo Generation (babies of the Baby Boomer Generation) quickly infiltrating the workforce, and with their desire to control their own computing experience, the dynamics of the new enterprise are destined for a great rebirth.

### IT'S DILEMMA

With all of this going on, IT executives are faced with the goliath challenge of increasing user productivity and reducing the cost of delivering business applications to those users – two goals that seem to contradict each other, leaving IT departments stuck between a rock and a hard place. Enterprises who try to solve these problems by simply architecting better applications

will be haunted with the daunting duty of creating an all-encompassing strategy for application transformation, a task industry analysts see as an uphill battle that will take longer than you probably expect. Gartner predicts that many CIOs, in fact, will be consumed with establishing smoothly blended application architectures from now until 2013. This task will be complicated further as they struggle to manage both existing client-server and web applications with emerging application architectures such as Web 2.0 and SOA (service-oriented architecture).

Currently, it seems as though IT is unable to keep up with all the application access demands of end-users. During his presentation at the Gartner Symposium/ITxpo 2006, Andy Kyte, Vice President and Gartner Fellow, said user demands for a better application experience (from all around the globe) have grown exponentially, making it extremely difficult for IT departments to meet end-user expectations. "Organizations can no longer assume that the future of business application architecture is simply today's applications upgraded – we are talking about a fundamental transformation," says Kyte.

In order to meet extremely high user demands, Gartner believes the first step is for CIOs to drop the siloed approach to application management and adopt an integrated approach to end-to-end application delivery in order to ensure that both old and new applications alike can be delivered to users with the fastest performance, highest security, and lowest possible cost.

### RETHINKING APPLICATION DELIVERY

Clearly, the traditional approaches to application delivery are not working. The old model was to buy the most powerful PCs, networks, and systems management tools you could afford and hope that this solved the problem. Unfortunately, this approach simply does not scale to meet the dynamic nature of today's user base or the complexities of modern application architectures. What's needed is a complete end-to-end infrastructure focused solely on improving the application experience. In the words of Gartner Vice President and Distinguished Analyst, Mark Fabbi, "There are only three reasons to put in a network: to support applications, to support applications, and to support applications."

Another step recommended by some analysts is that enterprises create a business application profile (BAP) in order to keep track of the growing number of applications that are increasingly becoming more complex to manage and deliver. The Robert Frances Group (RFG), a consulting firm to Global 2000 business advisors and IT executives, believes BAPs will assist enterprises in meeting growing user expectations, improve application performance, and all the while reduce IT costs. Their research indicates that "BAPs can help enterprises reduce overall application support costs by as much as 10 to 15 percent while maintaining or improving service levels."<sup>3</sup>

Once the BAP is created – giving enterprises a clear roadmap of enterprise application development, delivery, and support – IT executives will be able to examine tangible information regarding the enterprise's applications, allowing them to take steps towards solutions and necessary investments to improve application delivery.

### EXTENDING APPLICATION DELIVERY TO BRANCH OFFICE USERS

Initially, organizations began establishing mini datacenters in each of their branch offices in order to give them the same level of application performance as employees working at corporate

headquarters. However, enterprises quickly realized that this "solution" actually created serious impediments – soaring capital and operational costs, handicapped visibility into these remote locations, and increased potential for security breaches. Faced with these "new" challenges, organizations are taking a different approach and consolidating servers in one location, only to be stopped in front of another roadblock – poor application performance.

Although it significantly reduces costs, centralizing servers affects remote, mobile, and branch office users' response time and productivity, forcing applications to run over frustratingly lethargic wide-area networks (WAN) which only offer limited bandwidth. This results in latency becoming a serious issue, causing remote workers to stop dead in their tracks whenever they have to wait to access data.

Out of impulse to quickly resolve this bandwidth headache, network managers have tried to simply add more bandwidth to WANs. Unfortunately, this is an expensive proposition that often does nothing to actually improve application response time.

According to Layland Consulting, a firm that specializes in network architecture and new technology, network managers are now taking a new approach to speed up application delivery for branch users using WAN optimization appliances. These solutions, deployed on both sides of a wide area network, apply a blend of compression, caching, and protocol optimization technologies to dramatically enhance application performance while actually reducing bandwidth requirements.

In order to provide productive performance over WANs that is comparable to local area networks (LANs), WAN optimization solutions are often coupled with next-generation application delivery controllers (ADCs) that are deployed in the datacenter, immediately in front of applications. Application delivery controllers use a variety of technologies like virtualization, optimization, and streaming to initiate the process of application delivery from the datacenter. According to Gartner, ADCs allow IT to successfully centralize servers to reduce costs while maintaining performance – the "silver bullet" for many enterprises.

Application delivery controllers are popping up all over the market in many varying forms. While it may be difficult to keep up with which solutions fit your organization best, it is critical that enterprises stay informed since these next generation devices can radically improve the cost, security, and performance of applications, making IT far more relevant to business executives.

### REACHING FOR THE BRASS RING

It may seem as though the string of challenges that IT executives are faced with today is endless, but it is absolutely imperative for enterprises to continue to push through these barriers because there is indeed a bright light at the end of this tunnel. The business rewards are compelling, and there is a golden future in store for enterprises that get it right. IT executives should motivate the rest of the enterprise by reminding themselves of the good news (yes, there is actually some good news).

"The good news for networking professionals is that they can bring a lot of value if they just adjust their mindset and approach. They can become a lot more visible and much more closely linked to the success of the business, rather than simply being seen as that 'techy geek' sitting in the corner," says Joe Skorupa, Research Vice President for Enterprise Network Services and Infrastructure at Gartner.

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