Business Value of Performance – The Netli Experience

By John Bartlett, Rebecca Wetzel and Peter Sevcik

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Many vendors claim to improve the performance of networked applications—but what does that really mean for your business? NetForecast's mission is to quantify the value of better performance.

To justify a technology purchase, you must be confident that the technology you choose will deliver maximum business benefit. Although vendor-provided data is essential, there is no better information source than actual user experience. For this reason NetForecast interviewed Netli's customers to learn first hand how Netli's solution delivers business value.

Business Value of Performance

Enterprises buy new applications to achieve business objectives, such as to improve processes, scale productivity, reduce cost, or increase sales and customer satisfaction. The cash and labor needed to deploy networked applications are substantial—and the benefits are typically measured against business objectives. Because so much is at stake, management routinely performs due diligence to understand the business benefits as well as the risks of deployment.

When deploying a new application, all eyes are usually on the high level goal (e.g. increasing sales or improving productivity). It is routinely assumed that the application will perform well. After all, with so many fine minds working overtime to achieve the high-level business goal, *surely* they made the right choices along the way to ensure satisfactory performance. More often than not, however, performance is taken for granted, without being specifically designed for and verified.

Soon after the application goes live, management often is unpleasantly surprised to learn that expectations are not being met, and demand to know why. The answer usually lies in the way the application is delivered. Applications with global users are typically deployed without a comprehensive support system in place to ensure success. This oversight is not unlike marching troops into battle without first ensuring they will be fed.

When inadequate performance jeopardizes a business-critical application, improving application delivery performance becomes paramount. Once in the limelight—usually late in the game—the job is to pinpoint the delivery problem and identify the best solutions. Although this may sound straightforward, it is not, because there is a confusing array of approaches to improve application performance and delivery, and only a few of them will deliver the best outcome.

Business Value Experienced by Netli Customers

NetForecast's primary research identified a number of areas of critical business value realized by enterprises using Netli's application performance enhancing services, including:

- **Improved customer satisfaction**
- **Better global reach from centralized location(s)**
- **Higher application reliability**
- **Faster user adoption of new business processes**
- **Significant data center savings**

NetForecast Report 5074

The Netli Solution

The Netli service, NetLightning®, provides transparent acceleration and reliability for Web-based applications. Netli's solution is designed to address Web-specific issues, including:

- Legacy applications designed to run exclusively within an enterprise are being Web enabled and run across the globe.
- The Web protocol HTTP introduces application performance problems due to its complexity.
- The Internet protocol TCP was not designed for the short, frequent connections HTTP requires to load Web pages, and this causes application performance problems—especially across long distances and/or during congestion.

The service consists of a series of globally distributed Virtual Data Centers (VDCs) and Application Access Points (AAPs), plus global DNS redirection, an IP address mapping system, and a 24x7 network operations center. Enterprises can use the service in a variety of ways, as shown in Figure 1.

Users access the service through VDCs, and application servers are connected via AAPs. The Netli global DNS redirection and IP address mapping system transparently direct users to the Netli service when accessing applications optimized by Netli. Netli optimizes application delivery between VDCs and AAPs using purpose-built protocols, while maintaining standard protocol sessions between a user and a VDC and a server and an AAP.

Netli's technology overcomes HTTP protocol inefficiencies by radically reducing the number of turns, or round trip delays, required to complete an HTTP transaction. We refer to this approach as Transparent Turns Reduction (TTR) (*See NetForecast Report 5066 "Application Response Time Improvements with Transparent Turns Reduction."*)

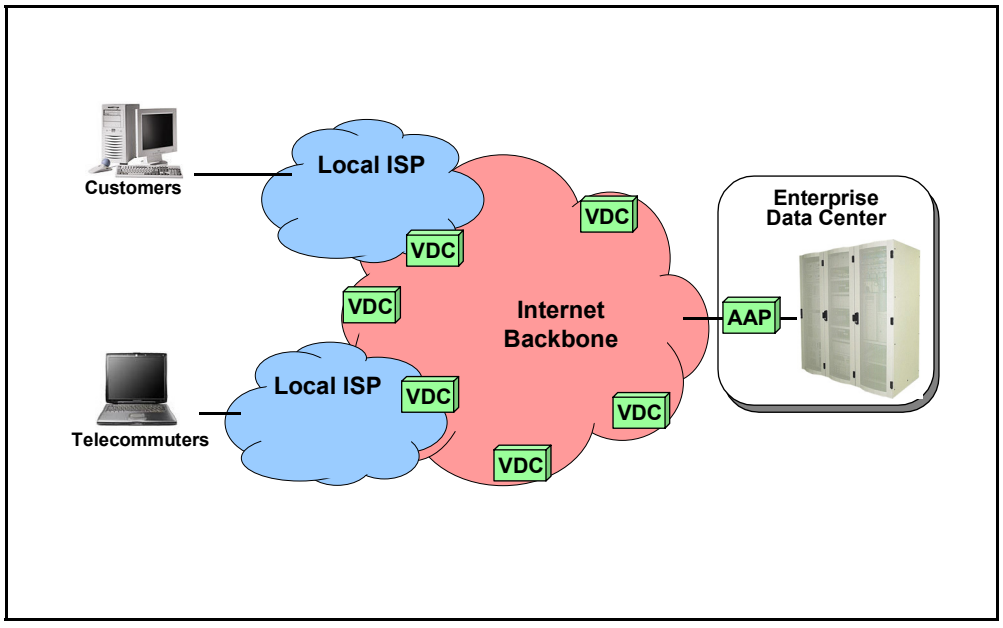

Figure 1 – Where Netli is Deployed

Asset Management – Provisioning, Efficiency, Protection

Because the Netli solution is provided and maintained as a service, the customer has no responsibility for the Netli network, thus relieving the customer of the asset-provisioning burden. Netli can facilitate asset management compared to other options, such an expensive content delivery network (CDN) solutions, or deployment of duplicate data centers in multiple geographies. Eliminating duplicate data centers lowers equipment costs, monthly bandwidth fees, and the complexity of maintaining and synchronizing multiple databases.

Netli also provides visibility into the behavior of enterprise network traffic, as well as Netli's support for that traffic. Netli's reporting service, NetliView, documents performance and availability information previously unavailable to the enterprise. This new information enables enterprises to reallocate equipment and personnel to meet the needs of application users more efficiently.

Experience Management – Accessibility, Quality, Safety

The NetLightning service addresses user experience quality by improving the performance of Web-based transactions. Substantially shorter response times, especially across long distances, mean that geographically remote users experience Web site performance equal to that of users near the data center. Shorter response times make users more productive by enabling them to view more content, make decisions more quickly, and complete tasks without the frustration of long Internet-induced delays.

The Netli service also improves application accessibility by overcoming Internet congestion and packet loss. Web sites or data centers can become unreachable when Internet performance is poor, frustrating users who expect the application to be available. By mitigating this performance hurdle, Netli improves the perceived reliability of the application or site.

The NetForecast Methodology

NetForecast performed primary research to gather information about the business benefits experienced by enterprises using the Netli service. We performed in-depth telephone interviews with technical professionals responsible for application performance in five enterprises with international operations. All of the enterprises surveyed were using Netli's technology to improve performance of Web-based applications accessed via the Internet.

We asked a series of questions to identify the business motivation for the enterprises to use Netli's service, to determine what benefits enterprises actually experienced, and to determine how each enterprise translated the improved performance they experienced into business value.

The Companies We Interviewed

The companies interviewed were using Netli to enhance the performance of a variety of mission-critical, Web-enabled applications accessed by customers via the Internet. The companies, which varied in size from $40M to $27B, included a financial services firm, a publishing company, a research firm, a telecommunications equipment manufacturer, and a high-technology bioscience and pharmaceutical firm.

The companies interviewed were using the Netli service to support such Web-enabled applications as: ecommerce support portals, information service reporting, online financial services, and marketing/branding sites.

Key Findings

Improved customer satisfaction and the ability to deliver quality performance anywhere in the world, were the leading benefits that all of the companies interviewed experienced after using the Netli service. Also highly valued were better acceptance of networked applications, and lower infrastructure costs.

The Netli-enabled performance improvements resulted in four direct business benefits for the companies interviewed: improved customer satisfaction, faster adoption of Web-enabled applications, data center savings, and the ability to increase sales.

Improved Performance and Customer Satisfaction

Customer satisfaction is inextricably linked to application performance in the eyes of the companies interviewed. According to one interviewee: "With the Netli solution, we were able to cut in half our delivery time to our customers, [and] by improving performance, we improved the customer experience." Said another: "Delivery time for a Web page was cut by a factor of 4 or 5, from many seconds down to milliseconds. Once it is fast enough that you don't get timeouts, the customers don't complain."

For another customer, Netli was able to overcome geography-related performance problems. "We have always been proud of the fact that our global average response time is under one second for the full page load time. But when we looked at regions in isolation before we started using Netli, we saw that we were not sub-second in [Europe] and Asia. After we applied Netli to the Web site, when we look at the regions in isolation, we are now sub-second, so we are at the point where—from a backbone performance point of view—this nut is cracked. We have eradicated the impact of geography from a performance point of view."

Faster Adoption of Web-based Applications

Several of the companies interviewed used Netli to support migrating business processes from traditional technologies such as phone and fax to the Web, and also used Web to open new channels of communication with customers. This migration of business processes to the Web was undertaken to increase efficiency, generate cost savings, and increase sales.

Netli enabled a US-based high-technology bioscience and pharmaceutical firm to expand its online business in Japan. As the company's manager of Internet services explained: "I don't believe we would have been able to launch [our online store in Japan] if it hadn't been for the performance improvements we got from Netli. One of the main reasons we selected Netli was to adopt this new application." As a result of this initiative, the company saw a significant increase in online sales.

The manager went on to describe some of the performance challenges that Netli overcame: "The infrastructure that we built to support our Japanese business required a much tighter integration with our Oracle databases in the US. So there were a lot more database calls, and the checkout process was lengthened. As a result the overall time became an impediment, and we were trying to move distributors to using the online channel, so we had to demonstrate the value to them for switching."

A publishing company interviewed attributed an increase in its Web-based business to Netli. "We are doing about 37 percent more [business online] than we expected to be doing this year. I attribute a good deal of this to the improved customer experience through Netli." The publisher experienced substantial cost savings by moving business previously handled by a call center to the online channel. This savings, of about one dollar per telephone call, cost justified the Netli purchase in a matter of days, and resulted in savings of approximately 27 times the cost of the Netli service.

Data Center Savings

By mitigating the effect of geography on performance, Netli enabled several companies interviewed to consolidate data centers and/or eliminate the need for new data centers—generating substantial cost savings. The resulting cost savings included: reduced capital equipment costs; Internet connectivity savings; and reduction in costs related to database synchronization complexity and support.

A telecommunications equipment manufacturer found that after consolidating a European data center with a US data center, performance for European customers actually improved with Netli's service in place. "We measured and found that had we consolidated [the European data center] without treating it with any performance technology, it would have doubled response times. After treating that same site in the US with Netli, performance measured from [Europe] was actually slightly better out of the US using Netli, than it was in [Europe]."

Another Netli customer, a research firm, realized substantial cost savings from not having to build multiple data centers. The firm described challenges that the Netli solution overcame to deliver high performance to customers globally from a single data center. "When you are delivering real-time data over the Internet with a single data center, you have performance, reliability, and uptime issues because the Internet is congested, messy, and dirty. If we were delivering static content, we could solve that by populating our content on data servers distributed around the Internet. But we could not do that because we have a single source database, and we are fighting performance and reliability issues. When we implemented Netli, it looked like we had implemented data centers all around the world, because reliability, uptime, and performance all improved tremendously. Noise, timeouts, and disruption of HTTP over the Internet went away."

Additionally, the firm experienced a dramatic decrease in the number of telephone calls from customers who perceived the site was unreliable due to Internet-related performance problems.

New Business Growth

Several companies interviewed described how performance improvements attributable to Netli's service led to new business growth. In one case, Netli helped a financial services firm close new business. According to the firm's vice president of technology: "We had a client who said they would give us business if we met performance goals. They went out of their way to find the most obscure location possible from a network perspective [Australia]. They did their own testing, and indicated to us that we had met their requirements." The ensuing sale resulted in an estimated 200 percent return on the Netli service cost for initial deployment.

Additional Benefits

There was agreement among the Netli customers interviewed that the transparency of the Netli service was an important benefit, as well as its ease of management. According to one customer: "You turn every DNS name and it works. I don't have to manage anything. I don't know how it could be better." Another customer expressed a similar viewpoint: "There is no administration on our side. We simply make a DNS entry that points our site to a Netli domain. All the administration is on their end."

Summary of Benefits

The NetForecast survey results show that for a company intent on "webifying" its business, the benefits that Netli delivers are clear, and include the following:

- Netli improved Web-based application performance globally.
- Consistent global performance facilitated customer adoption of the business-critical applications.
- The customer-perceived performance for dynamic content was dramatically improved.
- Netli made Web applications consistently "reachable" even when Internet performance was poor.
- Netli's service enabled data center consolidation, and obviated the need for additional data centers.
- Customers were pleased with transparency and lack of administrative requirements.

The NetForecast survey results indicate that the return on investment for enterprises with dynamic, business-critical Web applications, which are centrally hosted but accessed globally, easily cost justifies deploying Netli's solution. The results also show that Netli's service is truly transparent to enterprises and application users, and that the administrative burden on Netli's customers is lighter than an equipment-only solution.

Additional Business Value Observations

Hard cost savings from data center consolidation and reduced customer support are relatively easy to quantify, and often can directly justify the purchase of application performance enhancing technology. Harder to quantify are softer savings in reduced complexity, increased system manageability or reduced staff workload - but they also directly support the purchase of a system. Hardest of all business benefits to quantify are productivity increases and revenue increases attributable to satisfied users - but although most difficult to quantify, these benefits often have the largest positive effect on a business, and should be assessed carefully.

NetForecast helps enterprises evaluate, improve and manage the performance of business applications.

Additional information on managing and improving application performance is available at:

www.netforecast.com