

# How to Optimize a Limited IT Budget

**Costs associated with deploying, maintaining and supporting web application infrastructure can be dramatically reduced with application delivery controllers and server load balancer products.**

by [Marc Goodman](#)  
June 19, 2008

Today's web and application infrastructure continues to expand applications for e-commerce, and communications with customers, partners and internal employees. For those responsible for deploying, maintaining and supporting these networked applications, there is an increasing need to get the highest performance out of datacenter equipment, while simplifying the complexity that causes excess overhead and unnecessary costs.

The costs associated with network downtime can run six figures and above on an hourly basis. If not controlled, downtime can also lead to customer dissatisfaction and lost business. These consequences are unacceptable in a market where it costs ten times more to attract a new customer than it does to maintain a current one.

## Managing Internet user traffic and applications

One of the greatest challenges to any organization is the maintaining of continuous, economical web and application infrastructure uptime. Business-critical websites and Intranets face many challenges, from user traffic spikes, servers bogged down trying to handle compute-intensive SSL transactions, numerous, large data file requests, I/O and memory overloads, and hackers trying to flood servers with malicious attacks.

Today's global economy relies on Internet sites to run optimally 24x7, while IT staffs demand 100% operationally ready solutions. The operational readiness, maintainability, and durability of today's Internet sites are directly tied to the myriad of equipment all connected together within the datacenter infrastructure.

## Application delivery controllers deliver datacenter cost savings

Application delivery controllers (ADC) and server load balancers optimize web and application infrastructure, providing high-availability, high-performance, flexible scalability and secure operations while streamlining IT costs. ADCs simplify the management of networked resources, and optimize and accelerate user access to diverse servers, content and transaction-based systems.

Approximately 10% of the application servers in a typical datacenter are not used efficiently. Yet, these systems still require ongoing backups, maintenance and licensing costs; not to mention the energy costs associated with running them. However, application delivery controllers and server load balancers can make these under-utilized servers highly optimized, adding new efficiencies to the datacenter.

Many organizations believe that in order to reduce operating costs, they must invest in new energy-efficient technologies. While this has merit, by leveraging application delivery controllers and server load balancers, there is as much to be gained by optimizing existing systems, than replacing them. When a server is idle, it can use up to 70% of its power. By optimizing servers, there is a huge opportunity for maximizing energy usage. As an example, at 10 cents per kilowatt per hour, and 500 servers in a datacenter that are only getting 50% utilization, by leveraging ADCs you can maximize what would have been over \$70,000 of wasted energy each year, while increasing the performance, reliability and ability to scale your site.

## Improving Datacenter Operations

### Marc Goodman

Marc Goodman is the Director of Marketing at [KEMP Technologies](#). He has over 25 years experience in the technology industry, with a history of building industry leading brands for emerging companies, managing product marketing and marketing communications.

Marc Goodman has written 1 articles for HostReview.

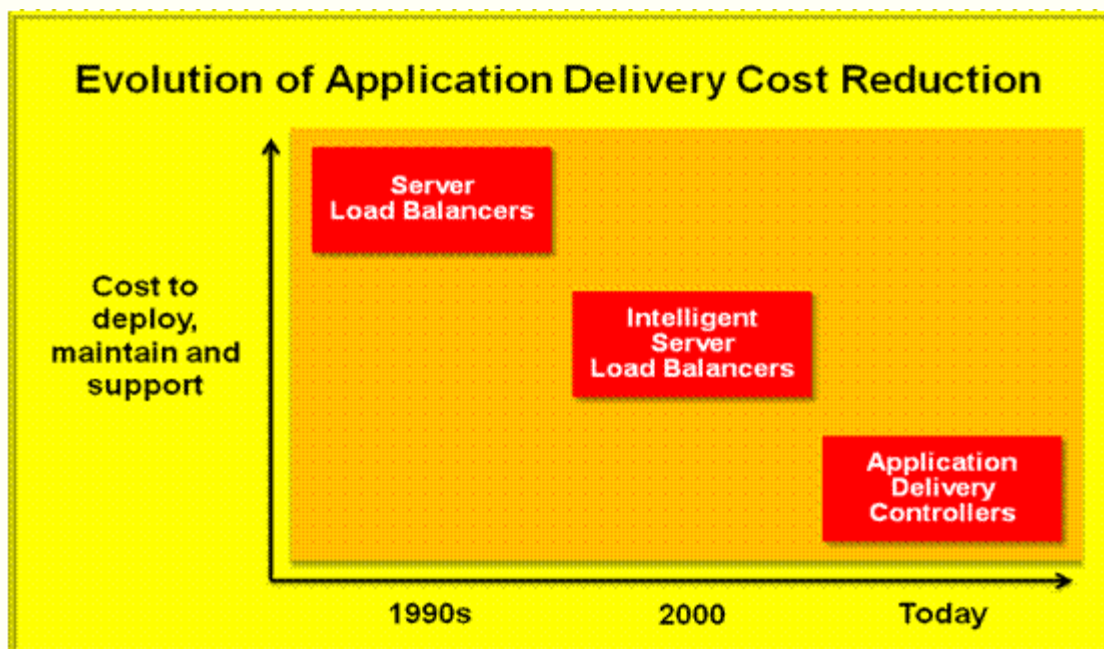
[View all articles by Marc Goodman...](#)

The following are examples of how application delivery controllers and server load balancers can help reduce datacenter costs and optimize datacenter operations:

- Maximize server utilization
- Optimize investments into existing equipment
- Improve performance by distributing user traffic loads among multiple web and application servers
- Optimize server and application resources by efficiently allocating traffic across a servers based on application types
- Increase site performance by distributing user traffic based on server resources
- Cost-effectively scale server capacity to keep up with growing traffic demands
- Reduce single points-of-failure

## The evolution of application delivery

Until recently, even basic server load balancing was cost prohibitive for small-to-medium sized businesses (SMB). Today, advanced application delivery controllers and server load balancers are not only affordable, but the consolidation of Layer 4-7 load balancing and content switching, and server offload capabilities such as SSL, data caching and compression provide SMBs with cost-effective out-of-the-box infrastructure.



*Costs associated with deploying, maintaining and supporting web and application infrastructure can be dramatically reduced with new application delivery controllers*

## Integrated capabilities for application delivery controllers improve reliability and lower costs.

Datacenter managers know that reliable web and application infrastructure is crucial to providing customers, partners and employees with fast and reliable access to information and transactions. ADCs integrate four important functions of site management. **1.** High-availability **2.** Server offload **3.** User traffic distribution among server resources **4.** Application security. These capabilities help to reduce costs associated with managing sites, while keeping sites up and running.

## **Make sure you have the right product to fit your company needs**

For enterprise organizations (companies with 1,000 or more employees), integrating best-of-breed network infrastructure is commonplace. However, for SMBs, best-of-breed does not equate with deploying networks with enterprise-specific features and expensive products, but rather, deploying products that are purpose-built, with the explicit features, performance, reliability and scalability created specifically for the SMB market.

In general, businesses of all sizes are inclined to purchase “big brand” products. However, smaller vendors that offer products within the same category can provide the tailored performance, features and reliability that SMBs require, with the same benefits at a lower cost.



## **The case for application delivery controllers**

ADCs deliver high-performance, high-availability, flexible scalability, network security and ease of management for business-critical Internet and Intranet sites. They enable customers to run their businesses and critical networks more efficiently and reliably, while lowering operational costs. ADC products can deliver a site management platform that enables small-to-medium size businesses and service providers to simplify management of diverse applications and server equipment.

### **ADC benefits that save costs**

Reducing web and application infrastructure complexity is driving the rapid adoption of ADC products. They help lower management, maintenance and equipment costs, by masking the shortcomings associated with site complexity. Used as a front-end controller to distribute and streamline user traffic, ADCs optimize web and application infrastructure resources. ADCs offer unique benefits such as:

#### **Planning and Design**

- Easier equipment management with less capital investment

## Implementation

- Quicker, easier deployments with fully managed, plug-and-play provisioning

## Maintenance

- Servers and applications are easily updated, and moved in and out of service without end-user disruption.

## Site Repair

- Reduce site downtime by ensuring timely repair of non-operational equipment without effecting end-users.

Application delivery controllers and server load balancers have an easily quantifiable ROI. In fact, customers can see payback on their investment from many different perspectives:

- Reduced capital expenditures on web and application infrastructure
- Integrated functionality simplifies web and application infrastructure
- Ease management of complex datacenter infrastructure
- Save rack space
- Reduce or even eliminate downtime

## Summary

From a business standpoint, SMBs, VARs, network integrators and managed hosting providers are under continuous pressure to optimize operational expenses and to improve profitability. Significant areas that can benefit from efficiency gains include administration, maintenance, provisioning and ensuring maximum uptime.

Organizations today depend upon their websites to perform reliably in order to conduct business and increase productivity. This will not be accomplished through more complexity or more single capability solutions. The solution is found at the critical juncture between the end user and the datacenter servers/applications - where high-availability, scalability, performance and security are enabled.

Datacenter-based application delivery and server load balancing products enable small-to-medium size business and managed hosting providers to cost-effectively run their sites. They help lower operational costs, while making it easier to provision, maintain and support business-critical websites.

Customers can rely on applications that are delivered reliably, IT personnel gain a dramatic improvement in quickly resolving site equipment problems, and organizations reduce their overall site infrastructure and maintenance costs.