

## Business Value of Performance – The Cisco ACE Customer Experience

By Peter Sevcik and Rebecca Wetzel

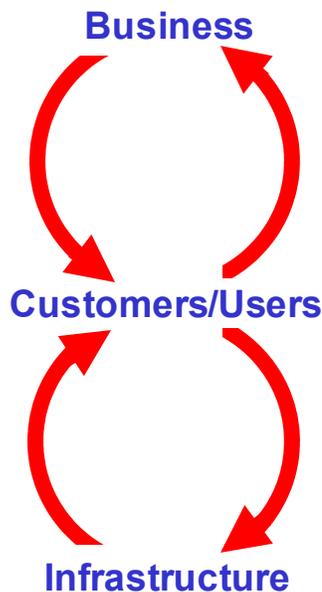
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Many vendors claim to improve application performance and delivery—but what does that mean for your business? NetForecast’s mission is to quantify the value of better performance.

To justify a technology purchase, you must know that the technology will deliver maximum business value. Although vendor-provided data is useful, there is no better information source than actual user experience. With this in mind, NetForecast interviewed five Cisco customers to learn firsthand how Cisco’s ACE Application Control Engine delivers business value through improving application performance and delivery.

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### Business Value of Performance



Improving networked application performance has business value, the nature and magnitude of which varies based on who is doing the evaluation.

For a service provider, business value hinges on how well an application’s performance enables customers to accomplish their goals. While for an enterprise, business value must be delivered to the end user, or no other business value can be realized.

A business manager views the business value of performance in terms of how it increases sales, improves competitiveness, and/or helps work get done faster. An IT manager, in contrast, perceives performance-related business value in terms of IT infrastructure cost savings, fewer calls from disgruntled users, and improved IT staff productivity.

This study links application delivery performance with business goals for a variety of enterprises and perspectives—and documents the tangible business values Cisco ACE customers experienced.

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### Cisco ACE Business Value

NetForecast’s research identified the following areas of critical business value customers experienced using the ACE solution:

- **Operational agility**
- **Improved customer/end user satisfaction**
- **Cost Savings**
  - **Equipment costs 3x to 20x less than other alternatives**
  - **50% labor savings**
  - **20% to 30% savings in power, cooling, and rack space**

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## The Cisco ACE Solution

The Cisco ACE Application Control Engine is a centralized application delivery solution that serves as a load balancer and provides other application performance optimization capabilities. Information about the ACE solution is available at:

<http://www.cisco.com/go/ace>

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## The NetForecast Methodology

NetForecast performed primary research to gather information about the business benefits experienced by service provider customers using Cisco's ACE solution. We performed in-depth telephone interviews with managers responsible for network infrastructure within five service providers. All of the customers surveyed use the ACE technology to support data center-hosted applications.

We asked a series of questions to identify: the business motivation for the service providers to choose Cisco's ACE solution; the benefits they actually experienced; and how each company translated the improved performance into business value. *The resulting information is applicable not only to managed services providers, but also large enterprises that deliver similar "services" to users within their own organization as well as to business partners and customers.*

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## The Companies We Interviewed

The five service providers interviewed use the Cisco ACE solution to balance traffic among multiple servers within centralized data centers, and in two cases to enable server failover across data centers. All of the service providers rely on their ACE infrastructure to support thousands, and in some cases hundreds of thousands of concurrent users.

The companies we interviewed, which varied in size from 25 to 20K employees, included:

- A hosted email and collaboration service provider processing 60B messages per month for 30M users
- An \$800M global managed computing and network infrastructure services provider
- A \$20M data center, hosting, and managed service provider
- A global software as a service (SaaS) and web business platform provider
- A multibillion dollar network service provider

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## Key Findings

Operational agility, improved customer satisfaction, and cost savings are the primary business benefits the service providers interviewed experienced from their ACE investment. All of these benefits converged to give the service providers a competitive edge they could not have achieved using other solutions.

ACE customers consistently told NetForecast that virtualization and the ability to increase capacity using licenses rather than “forklift” equipment upgrades, are the primary reasons ACE makes their businesses more operationally efficient and agile. This efficiency and agility ensures that the service providers can meet customers’ present needs, and instills confidence that future needs will be easily met. The service providers also told us that they experienced significant capital as well as operating cost savings because of ACE’s ability to create virtual devices and its license-based scaling.

The service providers interviewed experienced strong business advantages using ACE compared to other load balancing alternatives. Several told us that ACE enables them to offer services they could not deliver before, which helps grow their business. They also told us they can service more and bigger customers with fewer boxes, and have improved their chances of winning business from non ACE-enabled competitors.

### ***Operational Agility***

ACE’s ability to create virtual devices and add capacity using a license key instead of physically swapping out hardware, enable a degree of flexibility that service providers welcome and value more highly than any other business benefit captured in our survey. Among the many benefits Cisco ACE brings to those we interviewed, are the ability to:

- Scale capacity quickly and without disruption
- Deploy new services faster
- Bundle load balancing with other value added services to facilitate sales

**Easy Scaling:** The ability to add capacity without disrupting service is an important ACE attribute for many of the service providers we interviewed. For the hosted email service provider for example, the ability to add capacity without disruption is vitally important because the company has only four maintenance windows per year and needs to use them to enhance core services, not upgrade infrastructure.

A senior network manager for the company told us: “A maintenance window impacts about 30M users for four hours, and if you’re using it to put in a new piece of hardware that’s not vetted, you don’t know how well it will work.” He went on to say that if an upgrade goes awry and exceeds a maintenance window, it not only causes expensive SLAs to kick in, it also potentially damages the company’s reputation.

**Faster Service Deployment:** The power to deploy new services faster delivers strategic value to several of the businesses we interviewed. For example, the managed computing service provider describes how: “It used to be that we couldn’t deploy new services, and we would have to turn customers away. Before it was a locked door—a deal breaker. [With ACE] we can now routinely roll out new services within 3 to 6 weeks, and for high priority ‘six or seven figure’ customers we can roll out new services within several days.”

The company can now also support bursting through its ACE load balancers. This allows customers to take advantage of idle capacity, and it enables the service provider to garner a new revenue stream.

A systems engineer for the network service provider interviewed told us that his company was able to roll out a new CRM service much faster because of ACE, and that he expects the same to apply to other services because: “New services can be provided solely by configuration changes in the ACE, whereas before the ACE solution, [load balancer] hardware installation and configuration would have been needed.”

**Service Bundling:** ACE enables two of the companies interviewed to bundle load balancing with other services, thus making load balancing services easier to sell. The senior network engineering manager for the SaaS and web business platform provider told us: “As part of our value add you get load balancing, you get IDS, and you get DDOS protection. You get all of this in addition to the servers that run your application.” He added that before deploying ACE, customers were compelled to buy load balancing as a separate line item, which required additional sales effort and often failed to result in a sale.

### ***Improved Customer and End User Satisfaction***

Improved customer and end user satisfaction ranked as the second most important value ACE delivers. Interviewees agreed that improved customer satisfaction flows directly from ACE’s ability to create virtual devices and its ability to make capacity upgrades easy.

Service providers told us that customers respond well to the fact that ACE lifts limitations posed by other solutions—such as the inability to easily add or modify services upon customer request, and service disruptions for capacity upgrades. With ACE they can transparently deliver services that meet customers’ current needs and they can change and scale services as customer needs change.

ACE contributes to improved customer satisfaction in other ways as well. One service provider told us that failover between data centers now happens so quickly that customers don’t even notice—whereas before customers were often adversely affected. “[With ACE in place] if we see an issue where we need to fail over, it’s [back up] in a couple minutes versus having Singapore or Tokyo for example down for hours at a time.”

The hosted email provider we interviewed experienced an additional benefit. ACE enabled what the company described as “a huge improvement in application response times.” Webmail application response times, for example, improved 40 percent from one second to 600ms after ACE deployment.

### ***Cost Savings***

ACE’s virtualized architecture delivers three discrete cost savings to the service providers we interviewed:

- Equipment savings – due to the need for fewer appliances
- Operations savings – from reduced power, cooling and rack space
- Staff savings – due to easier deployment and management.

**Equipment Savings:** ACE’s virtualization capabilities deliver substantial equipment savings to all of the service providers we interviewed. Individual savings vary, but in aggregate the service providers interviewed told us that an equivalent non-ACE equipment solution costs from three to 20 times more than an ACE solution with virtualization leveraged.

The networking director at the managing hosting company told us that: “By going to a virtualized environment, our cost of having to buy parts and pieces went way down. The virtual route is much cheaper in the long run by about 20 times. If you were to chart it, you would see the overall cost of equipment going through the roof. It would never stop. The overall cost would have gone up the more customers we brought in.”

The SaaS provider's senior network engineering manager was able to quantify his company's savings. In his estimation, the company would need to buy four sets of load balancers for a total of \$200K to equal the capabilities of one ACE pair at \$65K. He also told us that the company no longer needs to buy separate firewalls, resulting in additional cost savings.

The email service provider finds that it can support many more servers using less equipment, enabling the company to scale much more cost effectively and efficiently. The company's senior network manager told us: "In our old setup we were using a full cabinet to support about 60 servers and we had no room to grow. Now we use a full cabinet to support over 100 servers, and we have room to grow."

**Operations Savings:** The ACE blade form factor enables the hosted email service provider to save 20 to 30 percent on the cost of power, cooling, and rack space. For the managed computing and network services provider, the power and rack space savings have been well received. "We went from a box that was the size of a [Cisco] 6500 to the size of the ACE blade. It's one 15th the size, and the power savings is huge. We're down to 270 or so watts versus a gazillion for the other one."

**Staff Time Savings:** Four of the five service providers interviewed rank staff savings among the top business benefits from their ACE investment. Three of those four companies were able to quantify those savings for us. All three companies cut staff time devoted to the load balancing function by one half compared to non-ACE alternatives.

The data center and hosting company's experience was typical: "We have cut our manpower hours in half. Instead of taking 40 hours to rack, stack, cable, upload, upgrade the code and everything else required for an individual appliance, all I have to do is carve out a separate piece of the appliance."

The email service provider told us: "If we were still in the old environment, I would need at least two other IT guys to do what we're doing today [increasing staff from two to four]." And the European telecommunications provider said they experienced a 50 percent reduction in staff time devoted to configuration, management and operation compared to their previous solution.

Without increasing head count, the managed computing and network infrastructure services company told us that their engineering and support staff can now support more customers than they could before ACE was deployed, and when all of the legacy equipment is retired, the company expects to further reduce IT headcount allocations.

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## Competitive Differentiation

ACE allows service providers to deliver offerings competitors cannot match. They can now bid on complex projects others find hard to bid, they can achieve service rollout schedules others cannot, and they can offer easy migration to new configurations. In addition, they can offer small, incremental capacity increases rather than big, expensive jumps in capacity—and they can easily scale to very high throughput if needed.

A senior network manager of the hosted email service provider described the business difference ACE has made this way: "We have grown three times as a result of having the ACE. Before we had this infrastructure we were right around 10M users, and now we're at 30M and still growing."

The networking director at the data center and hosting provider said this about the competitive differentiation ACE brings to his business: “Because of the amount of throughput the ACE can handle, the services that it offers, its scalability, and how it can virtualize—when we go into a sales call and say we’ve got this and our competitors don’t, it makes us more competitive.”

The ACE-enabled flexibility also gives the SaaS and web business platform provider a competitive edge. The company’s senior network engineering manager told us: “Our competitors who are traditional hosters can spec out a network architecture and build it for you, but ours is already in place. All the flexibility is there. For us flexibility and scale is the name of the game. We have definitely won new business because of the features and capabilities of the ACE.”

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## Summary of Benefits

NetForecast’s survey results clearly show that ACE is a good data center load balancing solution for service providers and large-scale enterprises. Because of its virtualization and easy scaling, ACE delivers strong business value to service providers as well as to large, data-centric enterprises. The customers we interviewed told us that Cisco ACE:

- Enables more agility in offering new and more flexible services, and thus helps grow business.
- Supports service delivery to more users with fewer boxes resulting in significant capital as well as operating expense savings.
- Creates strategic competitive advantages that cannot be duplicated using any other solution available today.

One service provider we interviewed aptly summed up the ACE value by saying: “When you compare Cisco ACE to what we had, the improvement is anywhere from 10 to 15 fold—meaning more customers, more bandwidth, more transactions per second, and more contexts, as well as more functionality.” This was consistent with what we heard from all of the companies we interviewed.

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## About the Authors

**Peter Sevcik** is a principal of NetForecast and is a leading authority on measuring, assessing, and improving the performance of networked applications. Peter has contributed to the design of more than 100 enterprise systems and pioneered many performance management techniques including Apdex. He can be reached at [peter@netforecast.com](mailto:peter@netforecast.com).

**Rebecca Wetzel** is a Principal of NetForecast and a veteran of the data networking industry with unparalleled inside knowledge of the networking service and product markets. She works with network product vendors and service providers to understand customer needs and develop and implement product strategies. She can be reached at [rebecca@netforecast.com](mailto:rebecca@netforecast.com).

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