

Business Value of Performance – The Cisco ACE Customer Experience

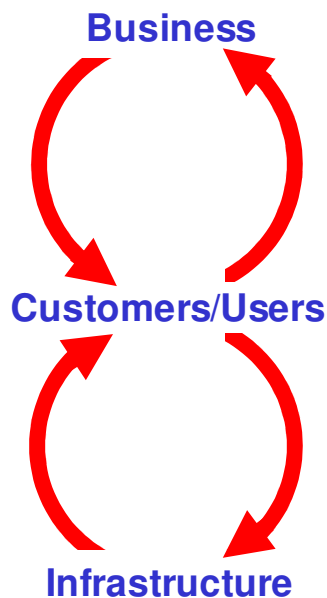
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Many vendors claim to improve application performance and delivery—but what does that mean for your business? NetForecast’s mission is to quantify the value of better performance.

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.

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

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**

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>.

The NetForecast Methodology

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

We asked a series of questions to identify: the business motivation for the customers to choose Cisco's ACE solution; the benefits they actually experienced; and how each company translated the improved performance into business value.

The Companies We Interviewed

The five companies 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 customers 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

Key Findings

Operational agility, improved customer and user satisfaction, and cost savings are the primary business benefits the companies interviewed experienced from their ACE investment. All of these benefits converged to give the ACE customers advantages 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 enterprises can meet their users' present needs, and instills confidence that future needs will be easily met. The companies interviewed 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.

Operational Agility

ACE's virtualization capabilities (i.e., the ability to create virtual devices) and its ability to add capacity using a license key instead of physically swapping out hardware, enable a degree of flexibility that the companies we interviewed 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 throughput capacity quickly and without disruption, and to deploy new services faster.

Easy Scaling: The ability to upgrade throughput without disrupting service is an important ACE attribute for many of the companies 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 business 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."

A systems engineer 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, [new load balancer] hardware installation and configuration would have been needed."

Improved Customer and End User Satisfaction

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

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

ACE contributes to improved customer and user satisfaction in other ways as well. One company interviewed told us that failover between data centers now happens so quickly that users don't even notice—whereas before users 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 companies 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 companies we interviewed. Individual savings vary, but in aggregate the companies 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 managed 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 Module 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 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 companies interviewed rank staff savings among the top business benefits from their ACE investment. Three of the four 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.

Summary of Benefits

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

- Enables more agility in offering new and more flexible IT 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 company 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 those we interviewed.

About the Authors

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