

Improve Business Agility with Cisco Application Delivery Network Solution

Introduction

Imagine being tasked with consolidating and simplifying 11 agency data centers into one, while improving the quality of computing services to 120 agencies, boards, and commissions serving more than 45,000 statewide employees. Mark Reyer, data-center administrator for the State of Oregon, doesn't have to imagine it—he lives it. Over a few years, the State of Oregon took the state from a complex distribution of independent state agencies with their own networks, data centers, and backup systems to a single data center that now represents more than 80 percent of the state's computing power.

The State of Oregon is not alone. To global organizations, delivering real-time information to their ever-expanding employees, customers, and partners anywhere while improving application performance service-level agreements (SLAs) and lowering costs is a common data-center challenge.

By partnering with Cisco[®], Oregon has already achieved impressive results: A standardized network platform; improved productivity of workers at all levels; a 30-percent reduction in energy consumption; and additional cost reductions in IT, procurement, and maintenance.

With the Cisco Application Delivery Network (ADN) solution, you can do the same. Cisco ADN can help your organization improve business agility and lower application-delivery costs by:

• Reducing response time of business applications by up to 95 percent:	Improved business agility
• Improving server capacity by up to 71 percent:	Reduced server expenditures
• Facilitating global 24-hour application availability:	Improved business continuity
• Maximizing end-to-end application security:	Streamlined corporate risk management

The Cisco ADN solution delivers these results by focusing on two IT objectives: Standardizing and optimizing your application-delivery-network infrastructure.

Cisco Application Delivery Network Solution At-a-Glance

The Cisco ADN solution standardizes application-delivery infrastructure by offering a comprehensive end-to-end, system-level architectural approach, allowing organizations to realize broad optimization benefits across their entire network infrastructure (Table 1), for any application type, to any user anywhere.

Table 1. Broadest Benefits Offered by Cisco Application Delivery Network

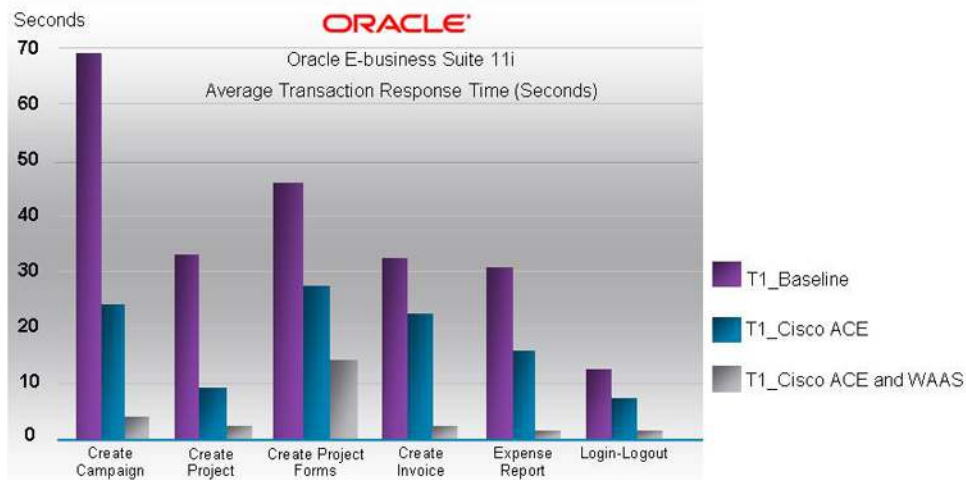
Application Delivery Benefits	Cisco ADN Solution	Application Type	User Type and Location
Application acceleration	Cisco Wide Area Application Services (WAAS)	<ul style="list-style-type: none"> Any TCP-based application Video 	Branch and mobile employees (intranet)
Application acceleration Server capacity improvement	Cisco Application Control Engine (ACE)	<ul style="list-style-type: none"> Any web-based application Extensible Markup Language (XML) Service-oriented architecture (SOA) 	3 rd party users (extranet and internet)
Global 24x7x365 application availability	<ul style="list-style-type: none"> Cisco ACE Cisco Global Site Selector (GSS) 	Any	Any
Maximized end-to-end application security	<ul style="list-style-type: none"> Cisco Catalyst 6500 and ACE Cisco Integrated Services Router Cisco WASS 	Any	Any

The following sections address these benefits, testified by both organizations and business-application providers that have partnered with Cisco to standardize and optimize application-delivery architecture.

Reducing Reponse Time of Business Applications by up to 95 Percent

As the number 1 market leader in enterprise networking technology, Cisco has formed R&D and support partnerships with SAP, Microsoft, Oracle, and other third-party software providers to standardize optimization of a broad range of applications. The combination of joint interoperability testing, formal licensing agreements, and escalation support in place among Cisco, Oracle, Microsoft, SAP, and others allows networking and application groups within IT organizations to confidently accelerate applications while minimizing the risk of difficult troubleshooting and collaboration. For example, the application-response-time improvement results shown in Figure 1 are jointly validated by Cisco and Oracle.

Figure 1. Cisco ADN Accelerates Broad Range of Applications



"As market leaders, both Cisco and Oracle have been working closely together to meet the latest application and network performance challenges to help customers successfully realize business productivity improvements."

-Vijay Tella, Vice President, Development, Oracle




"There are 7 initiatives where we are focusing our joint investments, ranging from security ... to network infrastructure optimization, where the two companies are working to develop a joint architectural blueprint that will help customers reduce costs by deploying solutions that combine Microsoft and Cisco products in a consistent way."

- Steve Ballmer, CEO, Microsoft



"No application designed without considering the Network will ever be as powerful as one created with the Network."

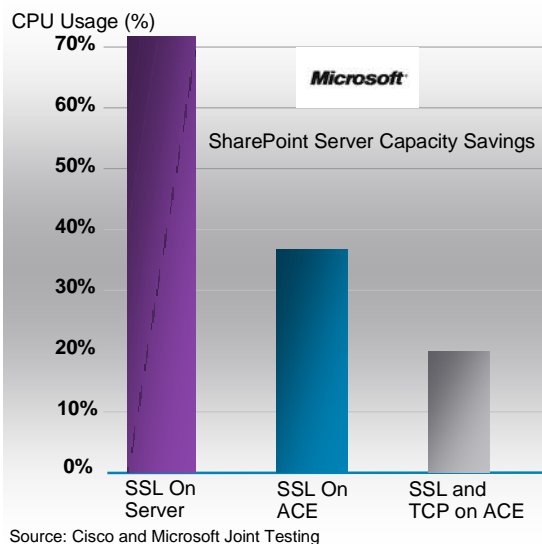
- Amit Chatterjee, SVP Governance, Risk, and Compliance, SAP



Improving Server Capacity by up to 71 Percent


Using Cisco ACE to offload CPU-intensive task, including encryption, network, and XML processing from servers, organizations can reduce the need to buy more powerful servers (Figure 2). This approach also allows application developers to focus on business-logic software innovation, without having to worry about limited CPU resources.

Figure 2. Cisco ADN Improves Server Capacity



"Cisco ACE is also helping First National offload SSL processing that had previously been a function of another vendor product. The capability of performing multiple tasks on the Cisco ACE makes it so much more appealing to us than having websites run through a traditional Web load balancer."

- Todd Kleinsasser, Network Engineer at First National Bank



Ensuring Global Application Availability

Cisco ADN offers complete products and services across all places in the network to help ensure uptime and help organizations rapidly adapt to failure modes (Table 2 and Figure 3).

Table 2. Global Application Availability

Global Application Availability	Cisco ADN Solution
Local Server Load Balancing (SLB)	Cisco ACE
Global Server Load Balancing (GSLB)	Cisco Global Site Selector (GSS)
Interoperability Guarantee Program	Data Center Assurance Program (DCAP)—Industry's only interoperability guarantee program across data center, campus and WAN
Global 24x7x365 support with 2-hour onsite	Cisco being the only networking supplier awarded with the prestigious J. D. Power and Associates Certification

Figure 3. Cisco ADN Ensures Global Application Availability



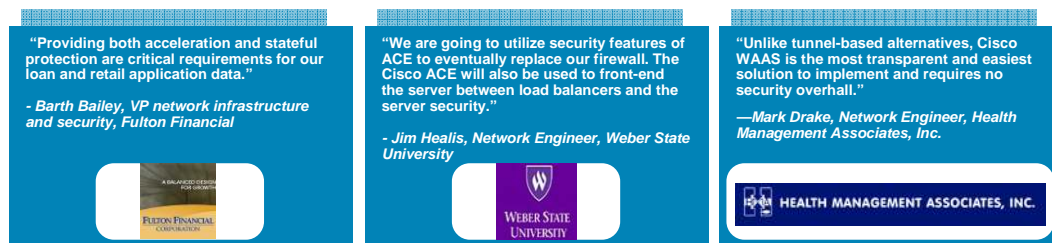
Maximizing End-to-End Application Security

Cisco ADN helps ensure that applications and related resources are protected from attacks and data theft at all locations across the network, hosts, and applications (Table 3 and Figure 4):

Table 3. Cisco ADN End-to-End Security

Maximized Application Security	Cisco ADN Solution
Protection of accelerated data from the branch	Cisco ISR and Cisco WAAS
Protection of accelerated data from the campus	Cisco Catalyst 6500 and WAAS
Protection of accelerated data from the data center	Cisco Catalyst 6500 and ACE
Protection of SOA XML application and Web Services	Cisco ACE XML Gateway

Figure 4. Cisco ADN Maximizes End-to-End Application Security



Gain Strategic Advantages With Cisco ADN

With its track record of No.1 market leadership in all networking solution areas including Routing/Switching, Unified Communications, Security, Mobility and Data Center Networking, Cisco ADN offers organizations long term viable partnership moving together towards Service-Oriented Architecture (SOA).

Cisco ADN is architected to enable entire data center virtualization. As a result, Cisco ADN solution allows organizations to migrate towards service orientation so as to make their infrastructures and applications high performing, cost effective and flexible. Cisco ADN service orientation fundamentally involves the use of standardized, loosely coupled building blocks that you can flexibly organize and reuse to support the changing requirements of your business. Adopting this unique architecture can help your organization achieve the following additional benefits when using Cisco ADN:

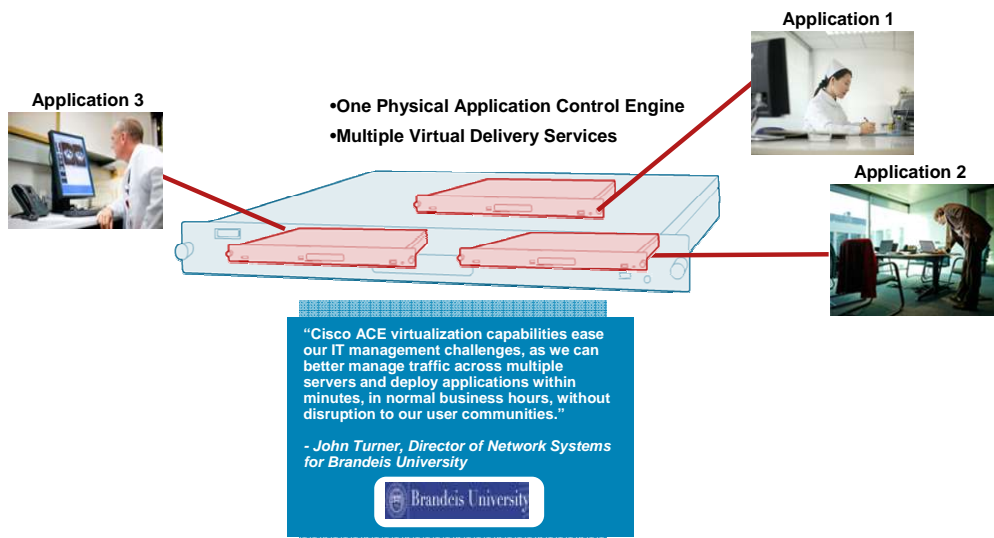
- Accelerate application deployment time from months to hours: “Replacing or upgrading applications is an important issue for many firms, ranking as the fifth-highest priority among IT decision makers for 2006.” Source: Forrester Research, June 2007
- Reduce application-delivery CapEx and OpEx (rack space and power consumption): “Power and cooling is a pandemic in the world of the data center. By next year, about half the world’s data centers will be functionally obsolete due to insufficient power and cooling capacity.” Gartner Inc., June 2007
- Reduce branch IT operating expenses by up to 70 percent: Companies spend 6 billion dollars per year on branch servers, storage, backup and management.” Source: IDC, Gartner, Cisco Analysis
- Ease application-delivery operations through network transparency

Accelerate Application Deployment Time

By standardizing and virtualizing application delivery network and security services, organizations can use a common and repeatable process to roll out new applications. By provisioning application availability, acceleration and security services using virtualized templates on a single physical device, organizations can simplify and streamline application deployment and service provisioning:

- Typical deployment time savings: 2 to 4 weeks through virtualized services templates
- Typical deployment time savings: 6 to 8 trouble tickets and 2 to 4 days through role-based administration

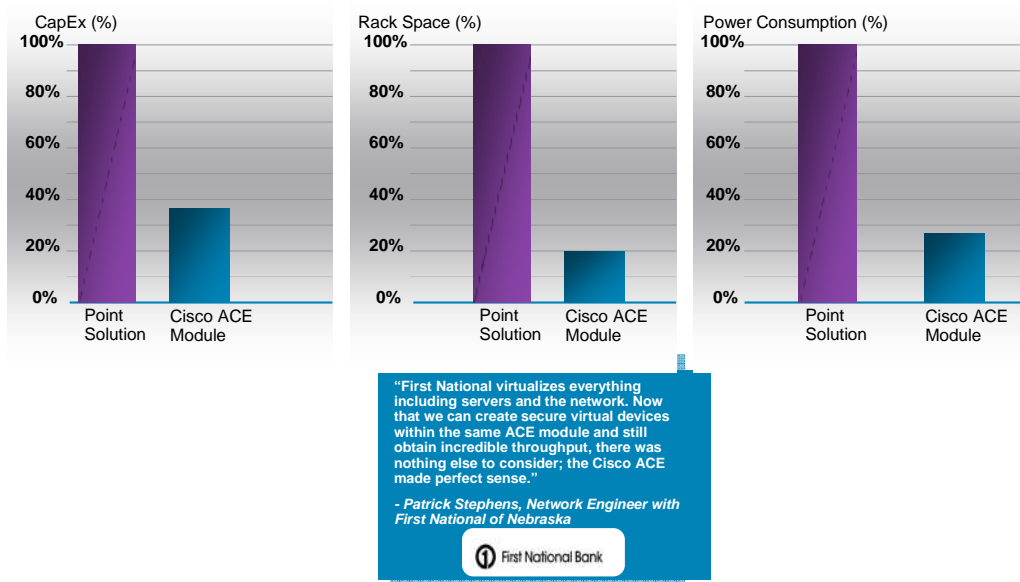
Figure 5. Cisco ADN Accelerates Application Deployment Using Virtualized Services



Reduce Application Delivery CapEx and OpEx

Cisco ACE virtualized application delivery services enables organizations to migrate from a complex, redundant set of systems supported by many point products, to a standardized, optimized system. This end-to-end architectural approach reduces the number of components that are not designed to interoperate with each other, hence reducing application delivery CapEx and power consumption.

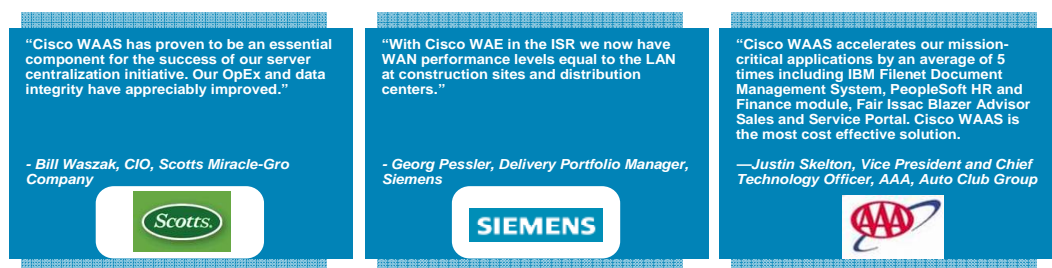
Figure 6. Cisco ACE Reduces Application Delivery Infrastructure Costs



Reduce Branch IT Operating Expenses by up to 70%

Gartner research and Cisco customer analysis both indicate that over the full deployment lifecycle of a network, the upfront cost of buying equipment is typically the smaller part (20%) of the total cost of ownership, compared with the ongoing operational costs (80%). To maximize application delivery optimization benefits while minimizing its total cost of ownership, the 80% OpEx issue must be addressed head-on. More than 2,000 organizations show that embedding WAN acceleration directly in the router can reduce OpEx by 70% through less rack space, power and cooling, improved mean time between failures, ease of management, and consolidated support contracts. Norcraft Companies, a leader in the kitchen and bath cabinetry industry, has deployed WAN acceleration to support their nationwide branch server consolidation initiative. “We not only saw 68-84% acceleration benefits for Microsoft SQL and print traffic, but also minimized our OpEx by centrally installing and managing WAN optimization with routers without sending our limited IT staff onsite,” says Darin Wipf, Director of IT at Norcraft Companies.”

Figure 7. Cisco ADN Reduces Branch IT Operating Expenses



Ease Application Delivery Operations Through Network Transparency

As the only vendor offering true network transparency to protect large organizations' existing investments in networking, security and application assets, Cisco is committed to simplifying operations and management across many technology areas and enabling better collaboration among IT departments rather than having them to work in silos:

Table 4. Cisco ADN Eases Application Delivery Operations

Benefits of Transparent Architecture	Cisco	Ask Point Product Vendor
Ease of Network Operation	Yes	–
Ease of End-to-End Application Performance Management	Yes	–
Ease of Integration with Unified Communication (VoIP)	Yes	–
Ease of Security Operation	Yes	–

Figure 8. Customer Testimonials: Ease of Application Delivery Operations



Conclusion

The Cisco vision is to allow organizations to take full advantage of and standardize the network platform to minimize branch IT and application-delivery costs. By partnering with Cisco, your organization can focus on creating strategic advantage rather than on solving the problems that arise when information technology systems do not work together well.



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