

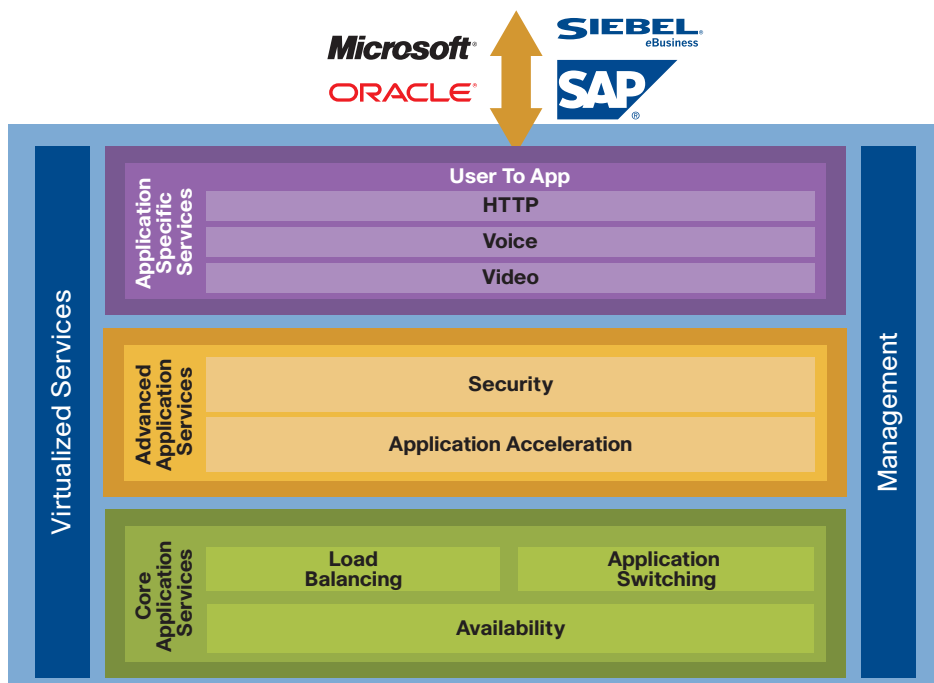


Cisco® Application Control Engine (ACE) application switches represent the state of the art in next-generation application switches for maximizing the availability, acceleration, and protection of data center applications.

The Cisco ACE family of application switches includes the Cisco ACE Application Control Engine Service Module for the Cisco Catalyst® 6500 Series of Ethernet switches and for the Cisco 7600 Series of Routers.

Through a broad set of application delivery capabilities, coupled with unique virtualized architecture (Figure 1) and granular user access control, Cisco ACE provides industry-leading time and cost reduction for application deployment, build-out, and performance or security enhancement. IT departments and end users benefit directly through faster application roll-out, improved response time, and long-term investment protection.

Figure 1. Cisco ACE Application Switches Architecture



Application availability: To maximize application availability, the Cisco ACE product family uses best-in-class Layer 4 load balancing and Layer 7 application switching algorithms coupled with highly available system software and hardware. Specifically, Cisco ACE provides a state-of-the-art failover system with an extensive set of application health probes that helps ensure that traffic is forwarded to the most available server. To help ensure data center availability, Cisco ACE is integrated with the industry-leading Cisco data center availability system: the Cisco ACE Global Site Selector (GSS). Cisco GSS provides failover between data centers and helps ensure business continuity.

Application acceleration: Cisco ACE is designed to accelerate the application experience for all users, whether they are in the office or on the road. The Cisco ACE solution also integrates Secure Sockets Layer (SSL) acceleration technology, which offloads the encryption and decryption of SSL traffic from external devices (servers, appliances, etc.).

Protection: Cisco ACE is designed to serve as a last line of defense for servers and applications in data centers. The Cisco ACE application switches performs deep packet inspection and blocks malicious attacks. The Cisco ACE family of application switches provides both data center firewall and application-layer firewall. The data center firewall protects against protocol and denial-of-service (DoS) attacks and encrypts mission-critical content. The Cisco ACE application-layer firewall protects against both known and unknown threats and against Day Zero attacks. An integrated firewall enables IT professionals to comprehensively secure high-value applications in the data center. Cisco ACE secures mission-critical applications; protects against identity theft, data theft, application disruption, and fraud; and defends applications and transactions from targeted attacks by professional hackers.

Customer Benefits of Cisco ACE Application Switches

The Cisco ACE family of application switches offers several important customer benefits, including the following:

- Up to 70 percent faster application deployment and build-out
- Up to 85 percent reduction in power and cooling expenses, resulting in a return on investment (ROI) of less than one year
- Lower ongoing cost of application infrastructure and maximum server efficiency
- Better end-user productivity through improved application availability and up to 300 percent faster response time

Cisco ACE Application Switches Highlights

- **Virtual devices:** A primary design element of Cisco ACE, and a unique selling proposition (USP) compared to other solutions in the marketplace, is its virtualized architecture, which enables IT managers to configure up to 250 virtual devices on a single Cisco ACE platform. The resulting benefits are far fewer devices to manage as application deployments grow, significantly lower power and cooling expenses, and faster time-to-service for new applications.
- **Roles-based system administration:** Multiple departments or stakeholders can independently manage appropriate role-assigned tasks with Cisco ACE, minimizing inter-departmental conflict and maximizing productivity.
- **Best-in-industry performance and scalability:** Cisco ACE provides best-in-industry scalability and throughput for managing application traffic: up to 64 Gbps in a single Cisco Catalyst 6500 Series switch chassis.
- **Industry's highest-performance data center security:** Cisco ACE offers 1 million Network Address Translation (NAT) entries and 256,000 access control list (ACL) entries.

ROI for Cisco ACE Application Switches

By consolidating data center infrastructure, for instance, by reducing the number of servers and load balancers required, companies can save on capital expenditures (CapEx), such as hardware, software, and IT, and operating expenses (OpEx), such as rack space, power, cooling, and ongoing management cost of applications. Consolidation also improves application availability and performance, increasing end-user and IT productivity and employee satisfaction.

In addition, test results from the independent laboratory Miercom show that Cisco ACE modules require half the power to operate compared to a standalone platform, and potential power, cooling, and resulting operating cost savings multiply dramatically as virtualized architecture is used to provide services to multiple applications from a single module or appliance. For a sample configuration of 25 virtual systems compared to standalone devices, power and cooling savings alone can achieve investment payback in less than one year through savings of tens of thousands of US dollars annually. Hence, the Cisco ACE solution offers customers excellent ROI through optimal total cost of ownership (TCO).

Cisco ACE Product Family Deployment

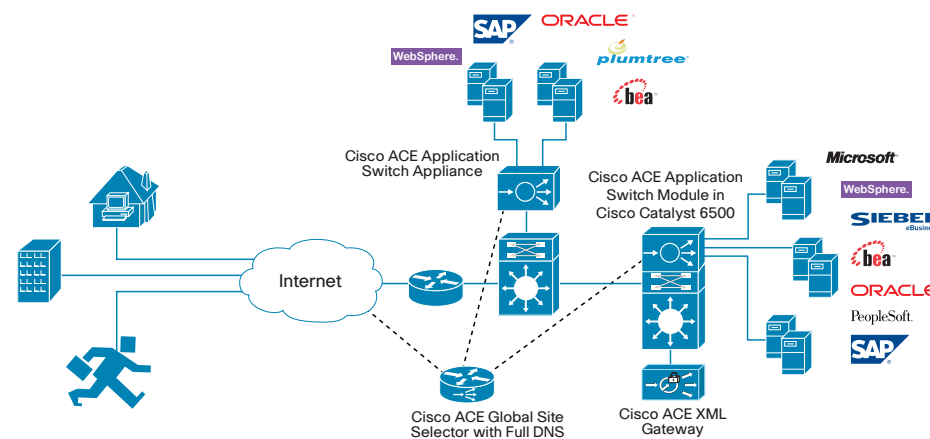
Typically, customers deploy the Cisco ACE family in data centers in front of multiple server farms (application, storage, or Web servers) supporting many application types.

As traffic is sent from clients to the data center servers, it passes through the Cisco ACE application switches for processing (Figure 2).

Figure 2. Cisco ACE Deployment

Cisco Application Networking Services: A Broad Product Portfolio

Cisco ACE is part of the Cisco Application Networking Services (ANS) portfolio, the



industry's most comprehensive range of application-aware network-based services for improving the value and effectiveness of enterprise application deployments. The Cisco ANS family includes technologies such as server load balancing, application security, SSL acceleration, Extensible Markup Language (XML) gateways, and WAN optimization to enhance the full range of deployment scenarios, including branch-office, remote-worker, data center, and back-office application integration projects, all using a common foundation and enterprise quality.

For More Information

For more information about the Cisco ACE product family, visit <http://www.cisco.com/go/ace>.