Customer Case Study

Online Travel Leader Achieves More Reliable Uptime for Consumer Web Brands

Orbitz Worldwide migrates to Cisco Data Center Switching Architecture to maximize scalability, operational speed, and network resilience.

EXECUTIVE SUMMARY

ORBITZ WORLDWIDE

- Orbitz Worldwide, a brand of Travelport, Inc.
- E-commerce: Travel services
- Chicago, Illinois, U.S.

BUSINESS CHALLENGE

- Previous network caused Website outages, suspending online sales
- Overburdened IT staff had insufficient time to work on new, high-impact projects
- Previous network slowed business expansion plans

NETWORK SOLUTION

- Deploy a 10 GE data center switching infrastructure with Cisco Catalyst Switches

BUSINESS RESULTS

- Highly available network keeps online business running 24 hours a day
- Scalable switching architecture easily accommodates thousands of servers growing at 40 percent per year without increasing IT resources
- IT staff now has time to develop new applications and services to improve customer experience

BUSINESS CHALLENGE

Orbitz Worldwide, a brand of Travelport, Inc., is a leading consumer online travel business, offering leisure and business travelers a wide selection of low airfares, and deals on lodging, car rentals, cruises, attractions, and vacation packages. Orbitz Worldwide includes well-known consumer brands like Orbitz® and CheapTickets® in the Americas, ebookers® and OctopusTravel.com® in Europe and Asia and HotelClub.com® and RatesToGo.com® globally. Travelport's Business Group unit includes brands such as Galileo®, Gullivers Travel Associates® (GTA) and Travel Bound®.

To promote that robust business growth, and to support the consolidation of Orbitz Worldwide's multibrand Website operations, the organization's data center needed a major upgrade.

According to Tony Armatys, senior network engineer for Orbitz Worldwide, the previous switching infrastructure was not only constraining growth, it was also causing significant network outages. The performance-only switches in use were unreliable. "We always felt that we were debugging the previous switch vendor's code," he says.

These switch problems had been the cause of an unacceptable number of outages for at least one of the supported websites. "The outages ranged from a few minutes to a couple of hours, depending on the problem," says Jack Morawski, manager of network engineering at Orbitz Worldwide. Prospective online customers unable to access a Website that was experiencing an outage would go elsewhere, and the company knew that it was losing business. "As an online shop, a large percentage of business travels over our network. Any outage or any downtime directly affects our revenue stream," he says.

These frequent outages also took a toll on staffing and morale. Some outages resulted in late hours, midnight calls, and even interrupted holidays. They affected the department's ability to work on other projects. Morawski recalls that the final factor prompting a change was a three-day troubleshooting event, requiring both systems and applications engineering involvement. The problem turned out to be a bug in the previous switch vendor's software.

NETWORK SOLUTION

Orbitz Worldwide was ready to move from a bandwidth-only data center switching infrastructure to a comprehensive switching architecture that was more scalable, resilient, and easier to manage and maintain.

Based on past experience, Orbitz Worldwide's Armatys and Morawski were both confident that Cisco• offered the right combination of speed and stability. The duo, led by Laef Olson (Orbitz Worldwide's Group vice president of engineering and operations), presented a successful business case for new equipment and additional capacity to company executives. The team calculated the cost of each outage and highlighted the continued potential of the outages to affect international data center operations. Additionally, they outlined the potential adverse effect that continued outages could have for Travelport's plans to expand technology services worldwide.

The new consolidated data center at Orbitz Worldwide is built on a solid platform of Cisco Catalyst® core, distribution, and edge switches. Two cross-linked pairs of Cisco Catalyst 6500 Series switches with 10GE modules comprise the core, each pair dedicated to one-half of the network. A dual pair of cross-linked Catalyst 6509 switches with 10 GE modules forms the distribution layer, with each switch pair again serving half the network. Approximately 200 top-of-rack access-layer switches support the data center's Web and thousands of application servers, which continue to increase in numbers as Orbitz's business grows.

> **"Cisco's balanced approach of performance and reliability is crucial for a business where literally being online every minute, every second, means revenue."**
> **—Jack Morawski, Manager of Network Engineering, Orbitz Worldwide**

Armatys says that the three-tiered architecture helps the network scale to accommodate server growth and provides resiliency for the company's targeted 99.999% availability. Cross-links between the two halves of the network core and distribution layers create primary, secondary, and even tertiary backup systems to keep the network up and running when IT needs to upgrade, add equipment, or fix problems. The network automatically recovers from component failures or isolates the problem and then reroutes traffic around it using the fault-tolerant IP routing capabilities of the Catalyst switches.

The ability to deploy redundant "hot standbys" for the Cisco Catalyst 6500 Supervisor Engine 720 modules that mastermind switching and routing offers another huge resiliency advantage. The previous switching infrastructure would drop server connections during failover, causing Website outages. In contrast, Cisco's backup Supervisor Engine 720 module automatically takes over without an outage if the other supervisor fails for any reason.

In addition to vastly improving uptime, the Catalyst switches are also much easier to manage. Cisco Catalyst 6500 Network Analysis Modules (NAMs) give Armatys and Morawski a valuable, in-depth look at network application performance and server and traffic usage, which enables them to effectively manage network resources and proactively resolve network problems. Morawksi says, "We can manage and troubleshoot our data centers from any location without having to drive to the site, which significantly cuts down on support time."

BUSINESS RESULTS

Orbitz Worldwide's high-speed, highly available network architecture based on Cisco switches brings a high return on investment. Morawski says, "Cisco's balanced approach of performance and reliability is crucial for a business where literally being online every minute, every second, means revenue."

More uptime, higher sales—Armatys notes that the number-one benefit of the new network is its reliability. Website downtime has gone to zero since deploying its Cisco Catalyst switch-based infrastructure several months ago. "Cisco's equipment functions as advertised," says Armatys. "The higher our availability, the better the online sales numbers and our bottom line."

A scalable foundation for growth—The scalable, resilient Cisco data center switching architecture gives Morawski and Armatys confidence that their network can support Orbitz Worldwide and Travelport's global growth plans. Armatys says, "The network's strong performance since its deployment has proved to our executives that we can easily support significant year-over-year growth projections as well as provide the 24-hour uptime required for worldwide business operations."

Higher IT staff productivity—"We were always in a difficult, never-ending cycle of fixing problems, and now life is different," says Morawski. "We can now support expanded business demands with the same number of staff, and still keep our engineers happy by offering them a better work-life balance." IT staff spent too many hours using too many staff resources with the previous network—troubleshooting, fixing, and following up on trouble-ticket reports. The new Cisco Catalyst switch-based network has significantly eliminated that resource drain. Additionally, freed from the troubleshooting demands, the IT staff now has the opportunity and time to work with new technologies that will directly affect the company's primary business goal of providing customers with the best online purchasing experience possible.

Lower total cost of ownership—Morawski says that the many advantages of a Cisco Catalyst switch-based network—high resiliency; centralized, proactive network monitoring and management with a common user interface; and scalable platform design—all contribute to an overall lower cost of ownership. Keeping internal costs down is mission critical to an online business like Orbitz Worldwide, which needs to maintain margins while offering competitive prices on all its brands.

PRODUCT LIST

Routing and Switching

- Cisco Catalyst 6500 Series switches with Supervisor Engine 720 modules and 10GE modules

Network Management

- Cisco Catalyst 6500 Network Analysis Modules
- CiscoWorks

NEXT STEPS

Orbitz Worldwide is using its Chicago data center as a model to build out other corporate and data center networks around the world. Armatys reports that the company has already built out a similar infrastructure for its corporate activities. Standardizing on a common infrastructure brings focus to the IT organization and allows the staff to take advantage of shared knowledge, create simpler and more consistent processes, and develop business applications more quickly and successfully. "We know our Cisco network has worked extremely well in our main data center, and it makes good business sense to replicate what works," he says.

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