

Travel Services Provider Gains World-class Efficiency and Scalability



Executive Summary

Challenge

- Business goals were outpacing infrastructure capabilities
- Server and network management was increasingly time consuming and complex
- Infrastructure performance and resiliency did not meet company standards

Solution

- Cisco Unified Computing System with Intel® Xeon® 5500 and 5600 series based blades
- Cisco Nexus 5000 and 7000 Series Switches
- Cisco Services Unified Computing System Implementation Service

Results

- Increased cabling and hardware efficiency by eight times
- Consolidated switches from 12 to 4, reducing costs for hardware, port, cabling, cooling, and power
- Reduced server deployment time from weeks to hours

Travelport saves time, cost, and resources with Cisco Unified Computing System and Cisco Nexus Series Switches.

Challenge

Travelport is a leading provider of transaction-processing solutions for companies in the global travel industry. It provides technical operations support and content-processing services for 420 airlines, 60,000 travel agencies, and online travel services.

Travelport's expansive Linux and Windows systems already serve millions of customers annually. As the company looked forward five years, the Travelport Technical Operations (TTO) organization realized that its current server and network infrastructure strategy would require considerable manpower and significant equipment expansion to meet anticipated growth. The network and server teams were already operating at near capacity.

Travelport's server infrastructure was growing steadily. In 2008, the data center installed 2021 physical servers and 214 virtual machines (VMs). Since then, the company has deployed an average of 125 servers and 66 VMs per month. With 4800 physical servers, 1700 virtual servers, and no end in sight, simply deploying servers fast enough was a challenge. With multiple access layer switches and multiple applications running between servers, Travelport's network backbone needed significant additional capacity.

In addition to virtualizing as many servers as possible, Travelport wanted to reduce the time required to deploy server infrastructure. The majority of staff time was dedicated to managing server requests and server-related application projects, and each new server or VM host required several man-weeks to be placed into production. Travelport also maintains a global product development team that works nonstop. Rapid deployment of product development and user testing servers was critical to the company's agile development efforts.



“We are now able to free our teams from the daily management grind to work on the challenges that we know are coming our way. We will continue to see benefits in network, server, and OPEX savings year after year, which further enhances IT’s efficiency and responsiveness.”

— **Gregory G. Sheperd**,
Director, Network
Infrastructure and
Security for Travelport

“Although we were successfully meeting customer needs, the infrastructure needed to be much more scalable and resilient to handle the demand expected to occur in the next few years,” says Steven Senecal, manager of Global Server Engineering for Travelport.

Solution

The networking and server teams worked to begin closing the gap between the network and server infrastructures. They created a new network and server plan based on a Cisco Unified Computing System™ powered by Intel 5500 and 5600 series Xeon processors and Cisco Nexus® Series Switches and with the assistance of Cisco’s services implemented a proof of concept.

“Cisco provided our Atlanta data center with a Cisco Unified Computing System chassis and a significant amount of expertise,” says Gregory G. Sheperd, director, Network Infrastructure and Security. “The Cisco Unified Computing System Manager and service profiles were huge selling points and a significant technology change for us.”

Travelport also preferred the Intel Xeon 5500 and 5600 processor platforms, because the Intel platform is best suited to the company’s development needs and the company had a strong relationship with Intel. Intel Xeon processors 5600 series are the next generation of intelligent server processors. They automatically regulate power consumption to combine industry-leading energy efficiency with intelligent performance that adapts to each workload. With the Intel Xeon processor and Cisco® Unified Computing System, Travelport achieved a visible improvement in the number of VMs deployed per core for record-breaking scalability.

Travelport also chose Cisco Nexus 7000 Series Switches. The Cisco Nexus switches allow Travelport to aggregate Cisco Unified Computing System links efficiently and achieve a 10GB-capacity backbone. They also support virtualization through virtual device contexts (VDCs). VDCs combine groups of dedicated software processes with dedicated hardware to provide virtualized control and data planes within an independent management context.

“The Nexus VDCs will allow us to segment web and application tiers into virtual devices based on business need, with context-level fault isolation and management,” says Cliff Forrester, manager of Network Engineering for Travelport. “This will further optimize power consumption, space requirements, and, ultimately, service speed.”

Travelport had an established relationship with Presidio Networked Solutions, a Cisco Gold Certified Partner, for providing technical support and expertise. As Travelport prepared for its first Cisco Unified Computing System deployment, it engaged Presidio to provide planning and engineering services. Travelport also worked with Intel to engage Cisco Services for assistance with configuring the systems.

“There was great partnership between Intel and Cisco as they teamed to help ensure the success of our initial implementation,” says Senecal. “We initially deployed 180 chassis, and their help was instrumental.”



Travelport, Presidio, and Cisco worked together to complete the design and engineering work for the Cisco Unified Computing System and Nexus switches before the equipment was ordered. When Cisco Services arrived, the systems were already cabled, racked, and stacked. Cisco Services went to work with Travelport's team to configure the systems to the company's specific requirements. Working together through the Cisco Unified Computing System Manager, the team configured service profiles, set up MAC address pools, created reports, and developed standards for labeling fabric interconnects to track alerts through data center systems. Presidio also provided onsite technical support for the Unified Computing System and Nexus systems during implementation. Cisco Services, Intel, and Presidio helped Travelport accelerate its implementation to quickly begin realizing the benefits delivered by the Cisco Unified Computing System and Nexus solutions.

Since the initial deployment, Travelport has added blades and Nexus Series Switches. Today Travelport's IT group has deployed 1215 Cisco Unified Computing System blade servers powered by Intel Xeon 5500 and 5600 series processors, two Nexus 7010 Series Switches, two Nexus 7018 Series switches, and 16 Nexus 5000 Series switches across its development, user testing, and production environments. Travelport selected the recently announced Cisco UCS C210 M1 solution for 88 rack servers, which have proven to be highly reliable, a key requirement for the deployment.

"Our top priority in selecting a new data center server was reliability, since uptime of our travel sites is critical," says Senecal, "We've had 88 Cisco UCS C210 M1 and M2 rack servers deployed for over a year now, and have experienced superior reliability, which has been key to our business growth."

Results

The flexibility of its new data center solution is enabling Travelport to respond rapidly to new business needs. Senecal has calculated that Travelport is achieving the following savings:

- Eight times savings on racking, cabling, server, network, and costs
- 86 percent savings in total support hours
- 70 percent savings in total power (kW) and cooling costs
- 86.5 percent savings in total data center floor space

"The Cisco Unified Computing System service profiles are a benefit to data center TTO managers," says Senecal. "We can create and store a unique identity for every blade. Our team can query this information for asset management, and it enables us to truly rip and replace a blade in minutes, if necessary."

Service profiles have also greatly enhanced IT's ability to deploy applications quickly. The Travelport team can automatically generate a blade identity before new blades even arrive. Once the blade is installed, the identity is automatically populated, and the server is in production. In December 2010, 218 new blades arrived for deployment. Travelport's Hardware Systems Management team installed 190 servers in six hours and turned them over to the Global Server Engineering team. By the end of the third day, the Global Server Engineering team had turned over 190 servers to the operating system team. In the past, this would have taken many weeks to accomplish.

Products and Services

Routing and Switching

- Cisco Unified Computing System
 - Cisco UCS B200 M1 and M2 Blade Servers
 - Cisco UCS B230 M1 Blade Servers
 - Cisco UCS B440 M1 Blade Server
 - Cisco UCS C210 M1 and M2 Blade Servers
- Cisco Unified Computing System Manager
- Cisco Nexus 7010 and Nexus 7018 Switches
- Cisco Nexus 5010 and Nexus 5020 Switches
- Cisco Nexus 2148 and Nexus 2248 Switches
- Cisco Unified Computing System Implementation Services

The Service Profile can also speed recovery from a problem to increase resiliency. If an uptime-affecting issue occurs, a new blade can be installed and the Service Profile is applied, restoring the application in just minutes. Travelport can also easily disassociate a blade from a Cisco Unified Computing System pod and move it to another pod to add compute resources in one day. The Cisco Unified Computing System and Cisco Nexus solution offers far more flexibility to maximize compute and network assets.

“For the network, the Nexus 7000 VDCs are a big plus,” says Forrester. “Using the VDCs, we consolidated from four switches to two, and in our development and user testing environment, we went from eight switches to two Nexus 7010 Series Switches. It is a large reduction in hardware, network ports, cables, and staff time.”

A converged infrastructure has brought the networking, server, and storage teams together naturally to help Travelport stay on track to meet its goals over the next several years.

“We are now able to free our teams from the daily management grind to work on the challenges that we know are coming our way,” says Sheperd. “We will continue to see benefits in network, server, and OPEX [operating expenses] savings year after year, which further enhances IT’s efficiency and responsiveness.”

For More Information

To find out more about Cisco Unified Computing System, visit: www.cisco.com/go/unifiedcomputing.

To find out more about Cisco Services, visit: www.cisco.com/go/services and www.cisco.com/go/unifiedcomputingservices.

To learn more about Travelport, visit www.travelport.com.

To learn more about Intel visit: www.intel.com/itcenter/.

This customer story is based on information provided by Travelport and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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