Service Provider Delivers Cloud-Based Virtual Desktop Solution

Customer Case Study

Cisco Unified Computing System provides foundation for O4IT to Deliver Virtual Desktop-as-a-Service to Latin American businesses

EXECUTIVE SUMMARY

Customer Name: O4IT

Industry: Service provider

Location: Latin America

Number of Employees: 50

Challenge

- Deliver innovative IT and cost-optimized service to Latin American market
- Help ensure scalability to meet rapid growth targets
- Simplify infrastructure management

Solution

- Cloud-delivered virtual desktop services, based on Cisco UCS B-Series Blade Servers
- Citrix XenApp

Results

- Simplified delivery of virtual desktop services to 3000 users
- Ability to grow workloads without additional employees
- 160 percent improvement in speed of application delivery

Challenge

Based in Miami, Florida, O4IT is a young and rapidly-growing provider of IT services in the Latin America, Central America, and Caribbean regions, with local offices in Colombia, the United States, and Venezuela. The company offers solutions in two areas: private cloud consolidation for large enterprises and multi-tenant hosted solutions for small-to-medium businesses (SMBs).

Its leading product, CloudDesktopNow, is a cloud-based virtual desktop solution that is offered on a per-user, per-month subscription basis, allowing businesses to order customized Microsoft or Linux desktops for immediate deployment. One of the major features of CloudDesktopNow is an automation module that allows deployment of a complete workstation with email and applications from a simple control panel.

The service currently has about 3000 users across 65 customer businesses, in industries such as retail, financial services, oil, and construction.

The O4IT hardware infrastructure resides in three fiber-optic interconnected data centers operated by Terremark and XO Communications. Driven by accelerated customer growth since 2010, the company decided to undergo a complete review of its infrastructure. It was searching for a best performance platform at low cost, plus scalability and highest computing power density to provide a competitive price structure.

The previous platform was based on traditional virtualization schemes, multiple Gigabit Ethernet teamed interfaces, optic fiber switches, and fibre port storage. This presented multiple scalability challenges and its performance was noticeably impacted by increased demand.

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Efraín Soler
CEO
O4IT

Solution

O4IT decided to move to a multitenant, multiclient cloud architecture based on a desktop virtualization solution backed by the Cisco® Unified Computing System™ (UCS®). This would provide an optimized computing infrastructure for addressing the unique demands of virtual desktops, offering low latency, high computing density, and ease of administration.

"CloudDesktopNow requires a top-of-the-line, scalable, cost efficient infrastructure," says Efraín Soler, CEO at O4IT. "The success of our product lies in providing the best virtualized desktop experience to our end users and the Cisco UCS platform is an essential component of that experience."

The O4IT multi-tenant environment is also supported by Citrix virtualization technologies. Initially, the company introduced UCS B440 and B230 blade servers at its Miami data center, along with Cisco Catalyst® switches, EMC VNX storage, VMware vSphere 5.0 Hypervisor, and Citrix XenApp technology for on-demand application delivery. This setup was replicated in 2011 at the O4IT data center in Bogotá. The Latin American IT provider ASIC supplied the equipment, which was installed by O4IT engineers.

The architecture allows O4IT to offer customers highly-customized virtual desktops and application delivery. Besides the number of desktops needed, customers can specify how much memory (from 2GB upwards) and storage they want, and whether to have a Microsoft environment or open source-based operating system and application suite.

The former includes a desktop with Windows 7 experience, Microsoft Exchange, Microsoft Office 2010, and Internet Explorer, while the latter comprises Linux, GNU Postfix, OpenOffice 3.3.0, and Firefox. Customers can choose to add SAP Business One management software as part of their package, or any other market-available accounting and enterprise resource planning solutions.

For customers that do not have their own thin client hardware, O4IT offers two options. Wyse and Panalogic devices are its standard offering, but O4IT also offers the Galeón operating system provided by Colombian specialist SLM Sistemas on traditional PCs with the same functionality as thin clients.

Customers can either share a Microsoft Windows server with other users, an option currently favored by approximately 85 percent of users, or have their own dedicated server. The Microsoft operating system runs one security domain with multiple subdomains assigned exclusively to each customer, making it possible to have dedicated and shared servers through different VLANs and their respective subnets, protected by different virtual firewalls.

To accomodate the highest possible computing power density in the data centers, O4IT has chosen 384GB of memory for its blade servers. In addition, within Citrix, the roles of perimeter and security devices such as web servers, licensing servers, and databases are all configured to support multiple users.

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Gonzalo Araujo
Director of product development
O4IT

This setup, combined with the high-performance capabilities of the UCS servers and intelligent application delivery through XenApp, allows O4IT to host up to 700 concurrent desktops per B440 blade, depending on the number and size of applications being deployed per user.

One of the challenges O4IT faces when providing its services is latency issues, although these have largely been solved through the use of UCS. And UCS is optimized for integration with VMware software, which incorporates High Availability functionality to automatically restart virtual machines on a new host in the event that a physical server fails. This capability provides a highly-resilient solution independent of operating system and application without the cost and complexity of server clustering.

Results

According to the quantity and type of applications being deployed by its customers, the current O4IT infrastructure has the capacity to deliver between 7000 and 12,000 virtual desktops. Since switching to UCS, the service provider has seen a 160 percent improvement in the speed of delivery of its applications. UCS also makes for much easier management, for example, through the ability to smoothly move workloads using service profiles. Moreover, thanks to UCS Manager, the virtual desktops are managed in a single UCS domain, providing a holistic view of the environment.

O4IT is also able to get a much better return on investment thanks to the computing density achieved through Cisco UCS. Service reliability has improved too. And owing to the flexibility and ease of UCS management, XML APIs, and features such as service profiles, O4IT has experienced a significant reduction in the overhead needed for the operation and maintenance of its service.

Jamil Atallah, the O4IT country manager, says: "Thanks to the implementation of this infrastructure we have reduced our operational costs by more than 30 percent. We have not reduced our headcount, because the people we have are very experienced engineers. However, we have not had to take on new people in order to cater for our growth, and the people we have are able to focus on much higher-value tasks."

Going forward, O4IT is looking to use the scalability of UCS to support ambitious growth plans in Latin America. Soler believes O4IT will become the default trusted name in cloud computing services in Latin America, Central America, and the Caribbean, providing the best experience to end users. To achieve this goal, several fully interconected data centers will be put into production with automated deployment solutions and a standardized architecture. "Our goal for the year 2015 is to reach 50,000 virtualized workstations," says Soler. "We were backed up by Cisco in the build-up of our current platform and we will continue to have that support in the future."

As well as growing its customer base, O4IT is hoping to use Cisco UCS as a platform for the delivery of other cloud-based offerings, and is currently studying the possibility of delivering cloud-based voice services using Cisco Unified Communications Manager. "We will definitely continue using UCS and replicating our current data center setup as we grow," says Gonzalo Araujo, director of product development at O4IT.

For More Information

To discover how Cisco can help you succeed with desktop virtualization, please go to: www.cisco.com/go/vdi

To learn more about the Cisco Unified Computing System, please visit: www.cisco.com/go/ucs

Product List

Data Center

- Cisco Unified Computing System
- Cisco UCS B230 Blade Servers, powered by Intel Xeon E7-2800 and E7-8800 series processors
- Cisco UCS B440 Blade Servers, powered by Intel Xeon 7500 series processors
- Cisco Catalyst switches
- EMC VNX storage
- VMware vSphere 5.0 Hypervisor

Applications

- Microsoft Windows Server Edition
- SAP Business One
- Citrix XenApp

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