Virtualization a Key Attraction for Resorts World Sentosa

Resorts World Sentosa needed an infrastructure that could run the applications supporting attractions such as a theme park and a wide range of shops and restaurants. The entertainment operator selected datacenter-to-the-desktop virtualization based on VMware technologies. The organization has now improved the performance and availability of applications that allow it to take bookings, sell tickets to events, market itself, and manage its employees.

Resorts World At Sentosa Private Ltd (Resorts World Sentosa) operates a 49 hectare leisure development on the island of Sentosa off southern Singapore.

The S$7 billion (USD$5.5 billion) development incorporates six hotels with more than 1,500 rooms in total; South East Asia’s first and only Universal Studios theme park; the world’s largest oceanarium; a maritime museum; and a wide range of dining, retail and entertainment options. Resorts World Sentosa officially opened the integrated resort on 7 December 2012.

The Challenge
Resorts World Sentosa plays an important role in attracting families and leisure tourists to Singapore. This means the systems needed to make the operation run smoothly 24 hours a day, seven days a week must be available and performing well. These systems include a mobile application that customers can use to check queue times at rides and find various venues, as well as point-of-sale and ticketing systems that allow retail, attraction, and food and beverage outlets to charge for entry or products and services. Other important systems include an online room-booking service for resort hotels and an application which ensures customer-facing employees are issued the correct uniforms.

The resort’s rapid expansion between the ‘soft launch’ of its first four hotels in January 2010 and its official opening in December 2012 made running these systems on physical servers expensive and inadequate. For example, in the lead up to milestones such as the official opening, business units frequently required access to infrastructure resources at short notice to help them develop new applications. If the resort was running physical servers alone, a business unit may have been forced to wait four to six weeks for IT to order and install a new machine.

Resorts World Sentosa also wanted to embrace technologies that would allow it to manage its workforce efficiently while minimizing costs and fulfilling environmental targets. For example, the resort operator needed to ensure that the 6,000 employees that did not have access to a desktop or notebook computer could easily check information about their pay, rostering, or leave entitlements.

The company previously required these employees to visit a central office to obtain payslip printouts, which caused
congestion, delays, and paper waste at peak times. From a print run of about 10,000 payslips, about 8,000 would remain uncollected.

In addition, Resorts World Sentosa needed to continue to train its employees to comply with new rules, regulations and policies. The organization’s existing system required these employees to attend classes, take notes, and complete written exams.

When a major new policy or regulation was introduced, Resorts World Singapore had to expend considerable time and effort updating several thousand of its workers.

Finally, the integrated resort operator had to improve the efficiency of the systems that operators in its offshore call center used to take phone bookings for its hotels. It is important that applications such as the Opera reservations system—used to check hotel availability and make bookings—are delivered efficiently.

The Solution

To meet these requirements, Resorts World Sentosa is virtualizing its IT from the datacenter to the desktop, using VMware® vSphere™ and VMware Horizon View™. The company opted for VMware technologies as they led the market and were designed specifically for the enterprise.

Resorts World Sentosa elected to engage the VMware Professional Services Organization (PSO) to conduct the deployment. The VMware PSO worked closely with the resort operator to design, deploy and document the VMware environment. The customer was particularly impressed by the PSO’s efforts in generating accurate, comprehensive documentation, and in sharing best practices and knowledge with it.

Resorts World Sentosa is now running about 600 live virtual machines on 60 host servers in its production datacenter, and by early 2013 had virtualized about 60 percent of its infrastructure. The organization plans to virtualize more of its servers by 2014 as part of a project to deploy a private cloud, and has already adopted a ‘virtualize first’ policy for new applications.

Resorts World Sentosa has also used VMware View to provide workers with access to virtual desktops across three settings:

First, the organization has deployed 25 self-service kiosks across its employee cafeterias. This project, which started in September 2012 and was completed two months later, allows up to 6,000 workers to use virtual desktops to log in to the firm’s employee self-service portal to check payslips, rosters and leave entitlements, and to request holidays. If employees wish to keep these records, they can print them out on printers located around the cafeterias.

The integrated resort operator’s IT and human resources team worked closely to deliver the project. In particular, the human resources team helped IT undertake user acceptance testing before deployment, and ensured the organization had developed an appropriate workflow for processing employee forms such as leave requests.

Second, Resorts World Sentosa installed an e-learning laboratory with 25 machines running virtual desktops to deliver online training to its 4,000 customer service workers. The workers use a web client to access a PeopleSoft training module that provides interactive course materials and exam information.

Finally, Resorts World Sentosa has deployed virtual desktops to about 25 of the machines in its offshore call center. Via these desktops, employees can access a range of applications used to meet customer needs and fulfill internal requirements. These applications include an internal employee information system dubbed ‘Transformer’.

Business Results & Benefits

Deploying VMware virtualization has ensured Resorts World Sentosa can provide visitors with an excellent experience, helping it to attract new customers and fulfill its business and regulatory requirements.

For example, the ability to provision infrastructure resources in hours rather than weeks enabled the resort operator to develop new applications in time for its opening in December 2012. Had the organization been running physical servers only, meeting this deadline may have proved very difficult.
VMWARE CASE STUDY

“We have reduced the cost and time required for our employees to complete training courses.”

Manager, Infrastructure and Operations
Resorts World Sentosa

VMWARE FOOTPRINT
• VMware vSphere 5 featuring ESXi
• VMware Horizon View
• VMware vCenter Configuration Manager
• VMware Professional Services Organization

APPLICATIONS VIRTUALIZED
• Transformer internal staff information system
• Corporate website
• Uniform management system
• Retail and food and beverage point of sale system

PLATFORM
• Dell and Cisco UCS servers
• EMC storage
• Microsoft Windows 7 operating system

By running critical applications such as its website and point-of-sale system in a VMware infrastructure rather than on physical servers alone, Resorts World Sentosa has boosted their availability and business continuity. This has improved customer service and reduced the likelihood of disruptions that may frustrate visitors.

VMware enables administrators to eliminate application downtime due to hardware maintenance work, and to restart failing virtual machines in fully operational environments in the event of a server or operating system failure. Since deploying VMware vSphere, Resorts World Sentosa has not recorded any major unplanned downtime.

The planned adoption of a private cloud will transform the way IT resources are delivered to Resorts World Sentosa's applications teams. Many of these teams will be given the ability to access infrastructure on a self-service basis. Resorts World Sentosa has also stepped up its deployment of VMware management tools to increase the efficiency and manageability of its virtualized infrastructure.

On the desktop side, the organization forecasts a significant reduction in the environmental and financial cost of paper pay slips, as workers will only print these out if they need to. The self-service system accessible via the virtual desktops has also reduced the number of requests from workers to the organization's human resources department. This has enabled the department to direct resources to strategy development.

Thanks to its deployment of VMware Horizon View, Resorts World Sentosa also expects to reduce the cost of running training courses for its customer service employees, while the use of virtual desktops has made it considerably easier to update course materials.

In addition, by easily obtaining reports covering details such as failure rates for particular classes or groups, the organization will be able to amend its course materials or organize specialist training as required.

Meanwhile, the implementation of VMware Horizon View has considerably improved the responsiveness, and consequently the professionalism and performance, of the organization's offshore call center.

From an IT management perspective, the organization can load new desktops and applications faster as well, reducing its IT administration times and enabling the IT team to respond more promptly to the requirements of the call center.

Implementing VMware Horizon View has also eliminated some of the problems that Resorts World Sentosa had experienced when applying patches and upgrades to physical desktops.

Because the call center had a separate IT team, the resort operator's central IT team would have to liaise with them to complete the updating process. This generally took about two days, and the process would have to be repeated two or three times a year. Now, the patches and upgrades can simply be applied to a single master image in order to be distributed across the environment.

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