

Singapore 2010 Reaches New Heights with Cloud Platform

Singapore hosted the first Youth Olympic Games (YOG) in August 2010. The event welcomed more than 400,000 visitors, including an estimated 5,000 athletes and officials, 1,700 media representatives, and 300,000 volunteers and spectators.

To provide the best experience to athletes and visitors, the Singapore Youth Olympic Games Organising Committee (SYOGOC) put in place always-on access to related information, through various infocomm channels.

ORGANISATION

The Singapore 2010 Youth Olympic Games Organising Committee

INDUSTRY

Sport

CHALLENGE

Given that it was the inaugural Youth Olympic Games which had an immovable timeline, there was a critical need to put in place the direction, processes and options for scalability either way at little or no additional cost, while maintaining systems performance and good user experience.

SOLUTION

For the inaugural Youth Olympic Games, the cloud platform was used in a variety of ways to cater to initially unknown levels of usage. In order to meet unknown needs that may require scaling up or out – in a short period of time – and faced with a limited budget, the cloud platform proved to be a perfect solution.

BENEFITS OF CLOUD SERVICES

- Scalability
- Speed of scalability
- Secure
- Cost-effective

The Singapore 2010 YOG

Singapore hosted the world's first YOG in August 2010, and the successful event raised global interest in the games happenings. For example, the event was covered by more than 1,700 international media, including 160 broadcasters. To provide timely information and facilitate interaction among athletes, volunteers and spectators, the SYOGOC set up the Singapore2010.sg Web site and other electronic information channels to meet global interest and needs.

The Challenges

Given that it was the inaugural YOG, there were no references to shorten the learning curve. The scope and scale of systems in place were the result of a highly co-operative effort between the SYOGOC and the International Olympic Committee (IOC).

The SYOGOC had to quickly adopt technologies used in multi-sport multi-venue events and work closely with functional areas to define the requirements. In addition, the SYOGOC and the IOC also brought together mutual expectations of all stakeholders.

Even with an immovable timeline, the SYOGOC had to ensure that the budget ceilings were adhered to, and sought technologies which enabled scalability—up or out—at little or no additional cost.

User estimates had to be taken into consideration, for the Singapore2010 Odyssey 3D virtual world platform. An estimated peak number of concurrent users could only be derived from similar platforms—such as Second Life—to help with the planning process. Measures to speedily scale the infrastructure were critical in managing systems performance and user experience.

Singapore2010.sg Web site

Important event information channels

Given the pioneering status of the YOG, the event would be frequently searched for online and monitored by a wide global audience. Hence the official Singapore2010.sg Web site—and related sites such as www.whyohgee.sg--would be important information channels during the Games.

Overcoming Obstacles

The SYOGOC had to overcome challenges fast. First, there were no indicative levels of usage to prepare for due to the fact that this is the first YOG. Second, Singapore had a shorter preparation period of 2.5 years, as compared to other host cities (approximately 5 years), for a similar event. Hence stringent requirements for the technical setup needed to be met – fast.

The Solution

To the SYOGOC, a cloud-based platform would be the best solution: fast, cost-effective, robust and highly scalable. A cloud-based infrastructure was also chosen due to the low setup cost. Another key consideration was that the SYOGOC would be dissolved after the YOG, and a cloud-based infrastructure eliminates the need to manage hardware inventory post-YOG.

Security measures were also put in place to ensure information accuracy and availability. Exclusive use of the data servers was provided by the cloud service provider Alatum.



(Above) The Singapore2010.sg Web site

Digital Concierge for Singapore 2010

Anytime, Anywhere Personalised Information

The “Digital Concierge for Singapore 2010” used during the YOG stemmed from an initial key programme in Singapore's 10-year Intelligent Nation Masterplan.

During the Games, the athletes and officials were provided with a customised Samsung smart phone loaded with the Digital Concierge for Singapore 2010. The application gave access to timely and personalised cloud-hosted information—such as Youth Olympic Village information, competition schedules and results, access to social networks, weather and direct dialling to hotlines.

To cater to the youthful crowd at the Singapore 2010, the Digital Concierge was designed to enable the sharing of digital media content, easy posting of status updates or uploading of photos and to social networks—such as Flickr, Facebook and Twitter, as well as various Singapore 2010 related sites.



Singapore 2010 Odyssey:

Virtual World for Education and Youth Engagement

The Singapore 2010 Odyssey (www.singapore2010.sg/o) is the first 3D virtual world based on an Olympic event. It presented an immersive virtual experience of the Singapore 2010 for the global audience, and combined sports, games, education and social networking. It offers youths from various countries an opportunity to interact virtually and engage in activities based on the Olympic values, ahead of the Games in August 2010. The Odyssey project team engaged cloud service provider, nGrid to host the virtual world. This allowed organisers to subscribe to server, storage and network resources on a utility model.



(Above) User interface for Singapore2010 Odyssey

Scalability

A robust hosting infrastructure—with the capability to handle a variable number of concurrent users by scaling the infrastructure up or down rapidly—is required. The cloud infrastructure by nGrid was used to support an initial load of 1,000 concurrent users. The infrastructure was scaled up to support 2,000 concurrent users based on demands throughout the duration of the Games, and scaled down to 1,000 users thereafter. As the resources are pay-per-use, this assured cost effectiveness.

Cost Savings

By leveraging on cloud service providers and adopting the pay-per-use model, the SYOGOC achieved 50% cost savings by avoiding the high upfront investments in purchase of servers and network equipment, recurrent costs from managing the infrastructure and inefficient use of resources during non-peak periods associated with traditional ICT provisioning models.

"Alatum's virtual data centre services allowed the games organisers to avoid heavy upfront investments in ICT infrastructure and maintenance costs, while improving productivity and streamlining business operations. The operations were run in a highly efficient secured and reliable

framework to support the mission-critical applications and services required during the Games," said Bill Chang, executive vice president of SingTel's Business Group.

Game and Pass Management Systems

The SYOGOC expected an estimated 500,000 spectators to attend 201 medal competitions held at 18 competition venues. In order to ensure efficiency in operations, accuracy in location information and easy access to timely competition results, cloud services were used to manage infrastructures such as: the Games Management System, the Information Diffusion System; and the Timing, Scoring and Results System.

Scalability of Games Management Systems

As with the other YOG-related services, the needs hovered around the period of the event, and had to be cost-effective while scalable. Cloud service provider Alatum hosted the systems on the data centre utility-based services in three locations: a primary data centre, secondary data centre and an integration test lab. This ensured secured virtual data centre services to drive key applications such as games and results management, management of location passes, related Internet applications and email services, as well as web hosting.

Benefits

"The Singapore 2010 Youth Olympic Games was the most complex IT project for a sporting event ever undertaken in Singapore to date," said Lim Bee Kwan SYOGC's director of technology. "It was essential for us to work with trusted and experienced partners such as SingTel, to ensure smooth operations and success for all competition events."

About the National Grid

The National Grid is a national effort that draws together commercial cloud service providers to offer pay-per-use access to compute, storage and software facilities. The three consortia who have been appointed National Cloud Service Providers are Alatum led by Singapore Computer Systems Ltd (now part of SingTel), nGrid led by New Media Express Pte Ltd and PTC System (S) Pte Ltd.

For more information, email ida_grid@ida.gov.sg

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