IDC
Analyze the Future

IDC CUSTOMER SPOTLIGHT

Alphawest builds on Cisco UCS for its Cloud Computing Solution

June 2010

Sponsored by Intel and Cisco

Project Summary

Over the last few years, significant advances in Information Communication and Technology (ICT) have simultaneously occurred across the board which has enabled centrally distributed application architectures, or the re-centralization of ICT to prosper once again, similar to that of the IT/dumb terminal architectures in the 1980s. Today's technology can facilitate a robust, dynamically provisioned and highly secure end-user experience while delivering on the benefits of consolidation, centralization and convergence. This customer spotlight describes Alphawest's journey towards creating a shared infrastructure known in the industry as "Cloud Computing" or Infrastructure as a Service (IaaS) and becoming the first Australian company to be an authorized technology partner for Cisco's Unified Computing System (UCS), based on the Intel Xeon Processor 5500 Series.

Solution Snapshot

Organization: Alphawest Services Pty Ltd.

Operational Challenge: Building a world-class infrastructure for delivering a private virtual datacenter offering

Solution: Cisco Unified Computing System (UCS), powered by Intel Xeon Processor 5500 Series .

Project Duration: 18 months from inception.

Project Cost: Undisclosed

Benefit: Lowered cost of ownership, agility of service provisioning and elasticity of infrastructure.

Introduction

Alphawest is an ICT services provider with over 20 years in the Australian market addressing the needs of the government and commercial market. Alphawest, in conjunction with Optus, provides integrated information and communication technology solutions and is owned by SingTel Optus.

In September 2008, Alphawest embarked on architecting an IT infrastructure cloud solution as a strategic focus for its business. The management recognized that they could provide a compelling infrastructure cloud service that would meet the requirements of the commercial and government market coupled together with Optus' strengths in its telecommunications services network.

A Cloud solution will form an integral part of Alphawest's wide scope of new generation value added services that compliment an existing, broad portfolio of services in their datacenter technologies practice. The management team wanted to deliver a 'best in class' infrastructure cloud platform utilizing a best-of-breed approach from various technology suppliers. The man behind architecting the enterprise solution, Rodney Haywood, Principle Architect - Datacenter Technologies and Cloud, was in charge of the technology components underpinning an IaaS offering. "When you are building Infrastructure as a Service, what you need is flexibility because workloads in the Cloud may not be as

predictive as private enterprise workloads. Being able to make fast administrative changes and enabling self-service is a competitive advantage", Haywood stated.

Mid-way through the research phase of the project, Alphawest was introduced under non disclosure to what was back then, a preview of the Cisco Unified Computing System (UCS) from corporate Cisco headquarters. Alphawest has a long standing relationship with Cisco that dates back to 1994 with 12 partner accreditations, specializations and 138 certified engineers.

In the US in early 2009, Andrew Vranjes, Alphawest practice manager for Datacenter Technologies and the person in charge of the solution offering, was privy to the Cisco UCS solution. Andrew needed to enthuse on the implications meant for Alphawest with what he had just witnessed. He contacted Rodney and in his own words, "I think we have found our IaaS compute platform!".

What Alphawest saw at the heart of the Cisco UCS solution was a combined data centre resource to reduce total cost of ownership and radically reduce the number of devices requiring setup, management, power, cooling, and cabling. In an example of their subsequent comparisons, to current technology the cabling needed to support 3,500 virtual machine workloads were numbered in the hundreds of cables; with each cable requiring a port, and an administrator to configure each port. This did not include the need for coordination between server, storage and virtualization administrators to make the management changes. The Cisco UCS solution according to their tests, needed just 40 cables, and with minimal configuration from an administrator, instead an operator could provision those workloads.

Implementation

Cisco extended to Alphawest, access to all levels of Cisco executives ranging from technical expertise, technical marketing to senior executives during a time when the technology was fresh off the shelf. Alphawest declared in the interview with IDC that these discussions were "Invaluable and sharpened our thinking". This was seen as one of the critical success factors during the implementation phase, as knowledge sharing and transfer took place across all levels from the local Australian subsidiary to corporate headquarters. The shared vision, plans, and transparency into the Cisco organization meant that Alphawest were able to address non-technical implementation issues that so very often occur in developing a new service offering.

Another key component of the solution was the UCS manager software. It combines multiple management functions into a single interface. One of the key features that Alphawest liked was the provisioning of both, Graphic User Interface (GUI) and a command line interface. In their words, "neither is a poor child". Engineers were completely content with the command line interface while non-technical administrators/operators found comfort with the GUI interface. The UCS manager allows the managing of service profiles that encompasses the infrastructure policy needs to provision a server from a hardware perspective, such as server identity, firmware, network and storage policies. This profile can be moved between blades, changing the identity of the blade and complementing both physical and virtual environments.

The benefit of unifying infrastructure management through UCS software was the reduction in training and operational costs. A pleasant surprise to Alphawest was that it worked according to expectations, considering they were a little pensive about first generation versions of the software, somewhat expecting critical functionality to be in early release stages and susceptible to software bugs.

The manager software also provided visibility into SLAs and performs in a way that administrative and management costs are kept low. This had a double edge sword effect as parts of the management interface and the integration with older system management tools presented a challenge (see Challenges section).

"The Cisco UCS platform has allowed us to achieve our goal of stateless computing with less operational costs", according to Rodney Haywood. The fact they no longer needed to build silos of infrastructure at the physical layer meant that they could be much more agile in the provisioning of the service. They quote that a server, storage and network resources can often be self-serviced and provisioned in less than 4 minutes. Powering this platform is the Intel Xeon Processor 5500 Series, one of the core components of the cost-value proposition allowing the UCS solution to scale and embed virtualization technology. The improved performance and reduced power consumption ensures a lower TCO of the datacenter.

The implementation effort was complete in a matter of weeks. The UCS platform itself was switched on within a day, and in Alphawest's words, "it worked". Before production commences, testing, and proofing is underway to achieve 'ready for service'. "The real work is in the 'layer 8' 8'by architecting the people, and process management to support the virtual machine layer" said Andrew Vranjes.

Challenges

The challenges were twofold. Firstly, developing a new design on a new infrastructure fabric meant breaking new ground for Alphawest. They needed to understand how it works and adjust the design of use such as availability, virtual storage area network (VSAN) and backup. While they were used to the 'older' way of architecting an infrastructure fabric, there was no reference architecture for what they were attempting to achieve with the Cisco solution. The experience was like "creating a reference architecture as we went along", Alphawest stated.

The second challenge they faced was the integration with Alphawest's existing system management platform. No system stands alone as an island, let alone the UCS platform. Parts of the management functionality of the UCS platform didn't integrate well with their existing system management platform due to the limited exposure of management functionality upon integration. Like with all new technology, backward integration to an older system management tool was proving difficult. A solution involved the task of finding the best way around 'instrumentation' and how to match people and process to the integrated system.

Benefits

The benefits were threefold. Firstly differential cost of the physical assets combined into a converged platform yielded a 10-15% savings. Also, with the improved performance of the Xeon 5500 means that fewer servers are required to deliver a high level of performance when compared to previous generations of the Xeon CPU. Secondly, having a greater impact on cost was the differences in staffing requirements and operation expenses. Efficiencies around "rack and stack" of scalable and highly integrated equipment within the data centre, consolidated cabling [and networking] architectures, and a high VM density (or an efficient VM per kilowatt ratio), thanks in part to the energy efficiency of the Intel Xeon 5500 meant that in the long run, operational expenses are kept to lower than industry standards. "We [Alphawest] wanted to avoid islands of infrastructure as the enterprise will be able to see our problems when they needed to scale. What we had set out to build was an environment where we could abstract out what we need – or what we term as 'wire once'", according to Rodney Haywood vExpert, Enterprise Architect - Virtualization & Cloud.

Lastly, with this enabling infrastructure and support from Cisco and Intel, Alphawest became the first Australian company to be an authorized technology partner for Cisco's Unified Computing System. A compelling message to the government and commercial market in providing a virtual private cloud computing solution, bridging the gap between enterprises' own private infrastructure cloud and public

cloud options. This is Alphawest's core message and differentiation by using the Optus Evolve MPLS new generation IP network in a secure manner to achieve this.

Recently, Curtin University of Technology signed up as a 'pilot customer', making them one of the first Asia/Pacific customers to deploy the Cisco Unified Computing System with Alphawest. Testing, configuration and performance monitoring between adjacent workloads are in progress on Alphawest's private virtual datacenter cloud.

Methodology

The project and company information contained in this document was obtained from Alphawest, including information obtained from Cisco's and Intel's website. Questions were posed by IDC directly to Alphawest employees* and material from Alphawest corporate documents were used. The key employees of Alphawest interviewed were: Andrew Vranjes, Practice Manager, Datacenter Technologies and Rodney Haywood, vExpert, Enterprise Architect - Virtualization and Cloud.

IDC Asia/Pacific, 80 Anson Road, #38-00, Singapore 079970 P.65.6226.0330 F.65.6220.6116 www.idc.com.