Cisco UCS Case Study
Modern Terminals Limited. Hong Kong

EXECUTIVE SUMMARY

Customer Name:
Modern Terminals Limited
Industry:
Container terminal operator
Location:
Hong Kong, China
Company Size: around 1,000 employees

Business Challenge
- Need to improve scalability and recovery times to keep up with growth
- Need to boost human and data center resources efficiency
- Aging legacy infrastructure leading to increased maintenance, cooling and energy costs

Solution
- Cisco Unified Computing System™ (UCS)
- FlexPod® validated Data Center architecture

Results
- Less time spent on infrastructure design and implementation by following validated FlexPod® Data Center architecture
- Faster server provisioning and recovery: from days to minutes
- Lower operational costs with less power usage, decrease in rack space costs, and reduction in cabling
- Better performance and improved system administration experience
- Greater flexibility to meet changing business demands
- Lower risks to business

Major Container Port Operator Simplifies IT Infrastructure for Growth

Modern Terminals overcomes the barriers of physical IT by choosing Cisco Unified Computing System (UCS) to virtualize mission-critical applications

Business Challenge

Modern Terminals Limited (MTL) opened Hong Kong's first purpose-built container-handling facility in 1972. Today, the company owns and operates container terminals at Kwai Tsing Container Port, Hong Kong, and has established footholds in DaChan Bay Terminals, Shenzhen, and Taicang International Gateway, Jiangsu. In Hong Kong, MTL has around 1,000 employees.

In recent years, MTL has embarked on growth and expansion plans in two of China's largest manufacturing regions—with a strong focus on China market through joint ventures.

As a large organization spread across multiple geographic locations, MTL's day-to-day operation relies on a series of critical business applications including SAP® and a popular terminal operating system (TOS) known as NAVIS®. These applications ran on legacy Windows®-based bare-metal blade servers and UNIX-based servers respectively, housed in two data centers: one for production, and the other for disaster recovery preparedness.

However, such an IT infrastructure would not facilitate MTL's expansion efforts. A prime issue was that the number of bare-metal blade servers required to run SAP enterprise resource planning (ERP) applications and TOS had grown to the level where space, cooling and energy costs became increasingly prohibitive.

In addition, MTL's legacy RISC/UNIX system which ran TOS had reached the end of its refresh cycle, presenting MTL with a dilemma: keeping it would incur high maintenance costs, but upgrading to another UNIX-based system properly sized for MTL's current and future demands would require high capital expenditure investments.

"Given the container throughput volume we handle on a daily basis, the scalability and performance of our core business applications are absolutely essential," said Mr. CK Cheng, IT & Business System Manager, Modern Terminals Limited.

"The IT demand of our business has been growing in a dynamic business environment, but the limitations of those aging systems were no longer able to support the flexibility requirement."

These challenges prompted MTL to transform its infrastructure so that it could scale easily with growth, while lowering costs and risks to its daily operations by streamlining data center management and unifying network, compute and storage resources.

Solution

After conducting a detailed evaluation process, MTL decided to award the project of setting up its critical application server farm to Cisco and Macroview Telecom Limited, a Cisco Gold Certified partner in China and Hong Kong.

Cisco worked closely with Macroview to develop the proposal for MTL with the aim of transforming its data centers with FlexPod® Data Center architecture. Built on Cisco Unified Computing System™ (UCS®) technology, FlexPod® Data Center architecture is an integrated computing, networking, and storage solution that employs the use of UCS chassis, blade and rack servers, and NetApp® storage.

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Cisco and Macroview's proposal was chosen over other competitors as it provided a single, comprehensive and pre-validated data center architecture that met all of MTL's core requirements. On top of that, the team had a track record of successful FlexPod® implementation and project management, while the inclusion of Cisco Validated Designs on FlexPod® in the proposal would also significantly reduce the time needed for design and implementation phases. MTL was also inclined to move ahead with UCS as it already had a positive experience with the platform, having used it successfully to run a virtual desktop infrastructure (VDI) pilot program in 2013.

The transformation of MTL's data center was carried out in two phases—the first of which began with the migration of the TOS from the UNIX box to UCS with an Oracle® database. The second phase involved the virtualization of SAP on UCS running VMWare vSphere®. Altogether, the deployment was carried out by a team consisting of five Macroview engineers, two Cisco engineers, and three engineers from MTL.

"We were very pleased with the end result," said Cheng. "Thanks to the Cisco-Macroview team, we were able to complete the entire migration in just two months. There was also no disruption to our daily operations while the new system was being implemented."

MTL's satisfaction culminated in an official letter of appreciation that was sent to Macroview in light of their professionalism and willingness to "go the extra mile" throughout the deployment process.

"We are honored and humbled by MTL's show of appreciation," said Anne Yeung, Sales Director of Macroview.

"We're glad that MTL is satisfied by our end result. And it also serves as a testament to our capability to provide high quality service to our enterprise customers —and we are thankful to MTL for giving us this opportunity."

FlexPod® Data Center Architecture comprising of:

UCS Fabric Interconnect 6248
UCS 5108 Chassis
UCS B200 M3 Blade Servers
UCS C240 M3 Rack Servers
NetApp® Storage

Results

Lower operational costs, lower risks

UCS' space and power efficient systems have led to cost savings for IT equipment maintenance. The container terminal operator managed to slash its physical rack space and cabling requirements. In addition, by moving away from ageing RISC/UNIX servers and onto the Intel x86-based UCS platform, MTL has reduced its maintenance and utility bills.

"We're getting much better utilization of our servers with fewer footprints" He added, "FlexPod® also provides the automatic synchronization needed between our production and backup data centers, so we no longer need to pay for additional third party software licenses."

Furthermore, system administrators can now substitute a faulty server with a new and better configured one, and get it ready for application to boot up and resume in less than 20 minutes with Cisco UCS Service Profile technology—compared to 3-4 hours with the previous infrastructure. This significantly reduces the impact of any disruption to port operations. Text-based service profiles (defining various server hardware metrics such as MAC addresses, CPU IDs, RAID configurations, Boot-orders, Firmware versions, etc.) can now be consistently prepared based on existing templates, and then stored and grouped easily into directories before hardware delivery. Once the hardware server is in place, they need only apply a ready-made service profile to prepare the server for OS installation—all within 10-20 minutes.

Significantly improved performance for mission-critical applications

By virtualizing SAP and NAVIS on UCS, the IT infrastructure now runs at much higher levels of performance and system availability.

"UCS radically simplifies the deployment and management of application processes by combining server hardware, networking and virtualization into a pre-configured service profile template," Cheng explained, "Management of the entire UCS platform can now be done through a single pane of glass; so for instance when greater server or storage capacity is needed, we can quickly achieve this through a few steps, or it can be set as an automated process."

Greater flexibility to meet future business demands

The vision for MTL's IT infrastructure is to eventually transition to one that can deliver computing services and resources "on demand" to its users.

As Cheng sees it, creating an "Enterprise Cloud" can help IT deliver more applications and services in shorter time frames, and keep MTL one step ahead of increasingly turbulent times in the economic environment.

"We see the Enterprise Cloud as a natural next step in the evolution of our infrastructure," said Cheng. "By cutting loose from our aging RISC/UNIX-based servers, and moving to an open, industry-standard Intel x86-based architecture, UCS provides us with an IT infrastructure capable of supporting our business growth in one of the most exciting economies of the world."

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