CUSTOMER SOLUTIONS

CHARON™-VAX Aids Aurora Aircraft for Canadian Department of National Defence

CUSTOMER PROFILE

The Department of National Defence (DND) collaborates with the Canadian Forces (CF) to ensure the security of Canadians. Part of Canada's Air Force, 14 Wing Greenwood is nestled in the heart of Nova Scotia's beautiful Annapolis Valley. Aurora crews conduct sovereignty and surveillance missions over the Atlantic Ocean routinely, while search and rescue capabilities are maintained 365 days of the year. For more information, please visit www.forces. gc.ca

⊖ Quayle Consulting Inc.

PARTNER PROFILE

Quayle Consulting Inc. is a Professional Engineering corporation located in Ohio. Since 1992, Quayle Consulting has provided system virtualization, data migration, system administration, software development, and training services. As a Value- Added Reseller for Stromasys, Inc., Quayle Consulting offers CHARON-TB, CHARON-VAX, and CHARON-AXP products, support, and installation services. Quayle also boasts extensive experience in OpenVMS, UNIX, and Linux operating systems. For more information, visit www. stanq.com, call 1-888-VAX-VMS-8 (US and Canada) or +1 614-868-1363 (Worldwide).

THE CHALLENGE

When the Canadian Forces procured the CP-140 Aurora Maritime Patrol Aircraft in 1980, the requirement to maintain its many computer programs was widely recognized.

To fulfill this requirement, the Software Engineering Squadron (SES) was formed on August 7, 1980. The Squadron is tasked with providing software support for the CP-140 Aurora. This includes maintenance and design of computer

programs, not only for the Aurora's on-board computer, but also for the Data Interpretation and Analysis Centre (DIAC), and the computer assisted training devices used by the 404 Squadron.

In addition to the over 500,000 lines of code they maintain, the past few years have seen a growing emphasis on the development of new software as aging components of the Aircraft's weapons systems hardware are replaced. In 2007, the SES decided it was time to replace their VAX 6510 & 6520 hardware, for which support had become hard to find, as well as more expensive. The machines had been running at full capacity day in and day out for years, but they knew they would not last forever.

The Aurora conducts regular sovereignty and surveillance missions and maintains search and rescue capabilities 365 days a year, so hardware failure was not an option. As part of the Canadian DND, it was also important to keep the security provided by their OpenVMS operating system. The SES knew that replacing the VAXes would be a challenge; with more than 500,000 lines of code, migrating to another platform was a daunting task, especially since they had an application for which they did not have all of the necessary source code. To complicate matters, the VAXes were also connected to a matchless Rockwell card that communicated with a Unisys system, whose programs would have to be rewritten for another device.

THE SOLUTION

In search of a less complicated solution, several SES staff attended the HP Technology Forum & Expo in Houston, Texas. There, they were introduced to Stromasys' CHARON-VAX cross-platform virtualization software, which promised to keep their VAX applications and operating system running unmodified on a new, industry-standard server. Using the CHARON-VAX software, they could replace their VAX hardware with a new server, while they maintained and could still change their application, all without the original source code. It was the solution they had been looking for.

After learning about the CHARON solution, Wayne Graham, Resource Manager for the Software Engineering Squadron, contacted Quayle Consulting for more information. Although the SES had not given up their search for the missing source code, after weighing the options, they decided that the CHARON-VAX software was the best choice. For their new hardware, they chose a HP ProLiant DL380 server (pictured below). Quayle Consulting provided support during the CHARON-VAX implementation process via phone and e-mail. The implementation went smoothly, although there was a minor issue when specifying how a serial port would be mapped into the virtual VAX to support their Rockwell card. The device they originally planned to use to connect the card was limited to 9600 baud (bits per second), which was well below their desired speed. However, with the assistance of Quayle Consulting and the Support Center, they found a solution by configuring a virtual DHQ11 device and were able to reach the desired baud speed. After resolving this issue, their virtual VAX was up and running.

"We needed a way forward, and CHARON provided that, and more. Using the CHARON software allowed us to reduce energy consumption, increase our available floor space, and save on maintenance costs."

- Wayne Graham, Resource Manager, 14 Software Engineering Squadron, Department of National Defence, Canada

THE RESULT

According to Wayne Graham, the SES has had no issues with their virtual VAXes running on the CHARON-VAX software. The systems boot automatically and run just like a VAX, with the exception of being smaller and more energy-efficient. Using the CHARON-VAX software, the SES can maintain and continue to develop programs for the Aurora aircraft, without having to worry about declining support for legacy hardware. In addition to solving their support problem, they were also able to increase storage capacity, reduce their energy consumption, increase the amount of available floor space in the data center, and save money on maintenance fees.

ABOUT STROMASYS

Stromasys SA is a privately held company headquartered in Geneva, Switzerland, serving thousands of users in more than 50 countries. Stromasys develops and markets Cross-Platform Virtualization solutions that allow owners of PDP, VAX, and Alpha computers to continue to run their business-critical applications unchanged on modern, industry-standard computer systems.

Stromasys SA was established in 1998 as part of a management buyout of DEC's (Digital Equipment Corporation) European Migration and Porting centre following the HP/Compaq merger. The vast experience gained from years of large-scale migration and porting projects, System-level VMS engineering projects, and development of Binary translators eventually led to the development of the CHARON-VAX and CHARON-AXP products. For more information, please visit www.stromasys.com.