How teamwork built a better training system for the Australian Defence Force

BLUE CONNECTIONS IT

DELL Technologies

Overview

To support military performance in the field, defence force training off the field is critical. But there's another critical factor also at work: how best to deliver Australian Defence Force training. For example, is the training delivered efficiently and effectively, using robust and easy-to-maintain systems? Recently, Blue Connections, Dell Technologies and Daronmont Technologies answered these questions for the ADF.

The Challenge

Just as the ADF demands high-performance from its personnel, it also demands high-performance from its training systems.

However, while the ADF required more training on increasingly-advanced software apps, the system that delivered this training had reached the end of its life. In fact, at five military bases around Australia, these training systems had become inefficient to maintain and inflexible to operate. With their training demands accelerating, the ADF risked lower training standards and increased training costs.

Faced with this challenge, the ADF sought technology partners who could preserve the performance and responsiveness of their existing training system, while upgrading how efficient it was to operate and maintain.

According to Scott Testi, Engineering Manager – C2 Systems, Daronmont Technologies, *"The ADF required a larger degree of automation and more outsourcing of the training systems' operations and maintenance. Better supportability and better sustainability were both crucial requirements."*

The Solution

When Daronmont mapped out a new vision for how the training system could work, Blue Connections got to work to ensure the new training system was achievable. As Steve Brown, Senior Account Executive, Blue Connections, explained, *"Daronmont came to Blue Connections with a plan and a wish-list, which we had to get verified in real-world terms."*

The new training system sounded great on paper. By replacing the old stovepipe setup with thin-clients running from central servers, a host of benefits for the ADF opened up. The new system would boast improved security, better supportability, easier maintenance and more uptime. Plus, Daronmont could manage and maintain these training systems remotely, vastly reducing ongoing costs.

Daronmont Technologies
Creating Enduring Advantage

However, in real-world terms, there was a key bottleneck: the new training system's performance. To match the old stovepipe system's performance, the ADF mandated that users must experience zero-lag. Yet, the ADF's graphically-intensive software needed to run on three monitors per student with a second voice console requiring a touch screen. As well as up 50 students, the new training system also needed to support instructors. There were no keyboards or mice used in the training system, only touchscreens. Creating a Virtual Desktop Environment (VDI) with zero-lag for graphically-intensive touchscreen apps for up to 50 students, challenged whether this solution would work.

The right solution to this challenge would never come straight off the shelf. Instead, it came down to collaboration.

Scott Testi explained: *"To find which combinations of hardware and software met the ADF objectives, we evaluated eight different types of thin clients. We looked outside Dell Technologies. We contacted several vendors. Dell Technologies and Blue Connections were the most responsive people and provided the most assistance to solve our problems. To make touchscreens work without lag in a VDI environment, without a keyboard or mouse, turned out to be a difficult challenge, but they were able to assist with solving the problem."*

Steve Brown also underlined the importance of collaboration: *"The magic ingredient to overcome any sizable technical challenge is trust. Blue Connections and the Dell Technologies architects collaborate. They work together as a team. Rather than Dell Technologies telling Blue Connections what's what, they ask for two and three-way conversations. It's collaboration. If you don't have the right collaboration and communication between everyone, that's where things get missed and get dropped."*

The new training system was designed using a wide selection of the extensive Dell Technologies product portfolio and ensured automatic validation that the products would work seamlessly together.

Examples of the validated Dell Technologies equipment used for the solution include: Dell Technologies servers with NVIDIA P40 grid cards, Dell Rack Servers, a wide range of Dell storage arrays, Dell Core & Access networking, Wyse thin clients, Dell UltraSharp Monitors, VMware Horizon & NVIDIA Virtual GPU software.

Utilising a single vendor (Dell Technologies) enabled the seamless flow from the backend infrastructure through to the end compute allowing major benefits through the validation and configuration stages.

To build this solution, Blue Connections facilitated collaboration between Daronmont, Dell, NVIDIA, CISCO and VMware, plus additional third parties.

The Result

The ADF's new training system performs superbly. In side-by-side tests, the new training system matches the performance of the existing stovepipe training system.

Crucially, the new training system features a host of additional benefits. Thanks to the high-performance VDI solution design, Daronmont can maintain and manage these training systems from their offices in Adelaide multiple locations on and off premises.

Plus, the new training system operates with greater flexibility and efficiency. For example, the new training system no longer needs dedicated trainer machines; instead, Daronmont can quickly turn any student machine into a trainer machine. Also, trainers can now train students remotely from any of the five sites around Australia where the new training system will be installed. Finally, the new training system has greater redundancy and capacity: even if a server fails, it won't reduce the system's performance.

With one training system built and another in the pipeline, this close collaboration between Daronmont, Blue Connections and Dell Technologies has strengthened a partnership that will stretch well into the new decade, and hopefully beyond.