

VMware + SAIC Joint Solution for SIMaaS

AT A GLANCE

Industry

Government

Key challenges

- Expensive cost of traditional computer hardware to run simulations
- Simulations limited to specific training facilities
- Graphic-intensive applications struggle over the cloud
- Need for high-fidelity training experience across devices

Solution

- SAIC and VMware SIMaaS solution deployed on VMware Horizon® 6 and VMware vCloud® Air™ provides organizations with high-quality simulation training solutions that don't require expensive on-site hardware. Organizations can use both computers and mobile devices to access simulation programs.

Business Benefits

- Provides advanced training simulations on any device in both public and private sectors
- Offers flexibility in training solution delivery
- Increases training availability to more personnel worldwide

VMware and SAIC Join Forces to Deliver Immersive Simulations via the Cloud Affordable Access Anywhere On Any Device

Introduction

Simulated training is a core part of preparing teams for demanding missions in both the public and private sector. Government agencies across the world employ advanced simulated training for warfighters, first responders and critical missions. However, simulation training is a complex and expensive undertaking with many programs requiring expensive and specialized computer hardware to function, thus limiting training locations and ability for users to learn. Additionally, the graphic nature of many simulations requires maintaining expensive infrastructure and extensive computer graphic processing units. These systems are often hosted on-site, limiting training to large facilities that can support this type of hardware. As a result, simulated training is simply out of reach for many agencies.

Science Applications International Corporation (SAIC) has a successful track record of delivering training and simulation solutions that improve training proficiency, reduce operating costs and maintain compliance for individuals, groups and large, complex organizations. SAIC's structured training, education and simulated environments bring together the skills, subject matter expertise and technology that defense and civilian organizations need to succeed without the risks of actual field training.

When first responders, military members and defense personnel need to develop skills for real-world scenarios, many of them turn to SAIC for its simulation training programs. To ensure these programs are as realistic as possible, simulations traditionally require powerful computer hardware systems. Historically, SAIC has attempted to execute simulations through cloud-based platforms, but many could not support the graphical demands these simulations required. SAIC sought a virtualized solution capable of delivering high-fidelity simulation trainings from the cloud without requiring expensive on-site equipment.

To solve this challenge, SAIC joined forces with VMware to develop a Simulation-as-a-Service solution (SIMaaS) that removes cost and access barriers. The joint SIMaaS solution, deployed on VMware Horizon 6 over VMware vCloud Air, is capable of delivering simulated trainings to any device without requiring powerful computers on-site at customer locations. SIMaaS can deliver training programs similar to what organizations receive in a dedicated training facility minus the prohibitive costs.

Simulation-as-a-Service

The joint solution is built on multiple VMware products for a comprehensive virtualized solution. The solution breakthrough is virtualization of both the backend and the end-user computing device (desktop or mobile) which can support the high Graphics Processing Unit (GPU) requirements.

SOLUTION COMPONENTS

SAIC Footprint

- Cloud Migration Edge
- Training On-Demand
- Simulation and Game Engineering

VMware Footprint:

- VMware Horizon 6
- VMware vCloud Air / VMware vCloud Government Services
- VMware vSphere® 6

Other Solution Partner Footprint

- NVIDIA GRID vGPU

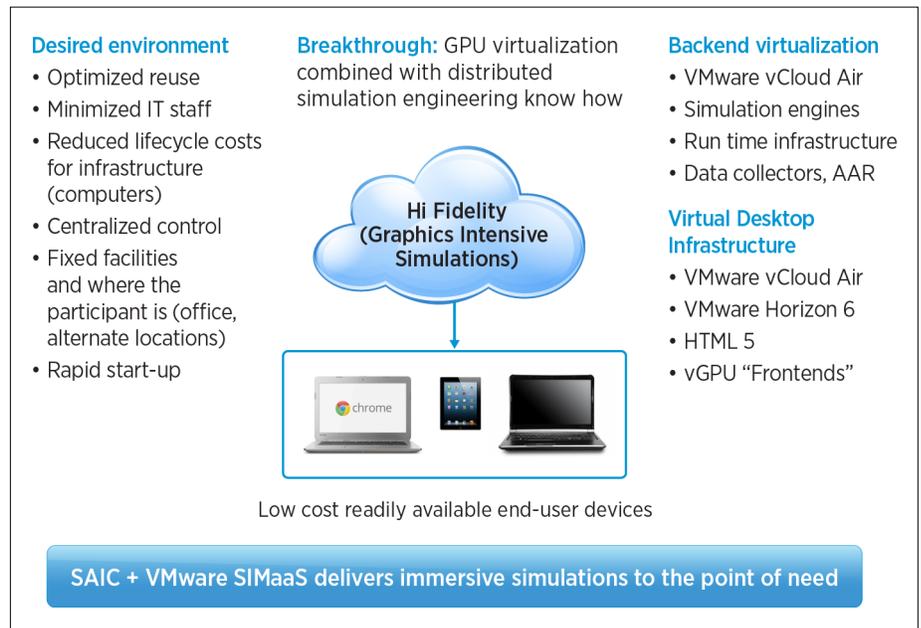
Platform:

- iOS, Android, Windows, Linux

The flexible, performance-driven VMware vCloud Air platform is built for quick, secure cloud deployment of large applications, and a FedRAMP compliant version is available for US Federal Government customers. A virtualized solution means workers in remote areas around the world, such as distant military bases or outposts, can gain real-world virtual training previously only available at major training facilities. Users no longer need to travel away from their home station locations to develop skills through simulations.

For streamlined, secure access to training, agencies use the Horizon 6 virtualized desktop platform. The platform enables agencies to run training programs on any device, including personal laptops and tablets. Horizon 6, with its support for NVIDIA GRID vGPU, allows for virtualization of nearly any simulation application, including those requiring high-end hardware-accelerated 3-D graphics. Horizon 6 can deliver these simulations to stateless endpoints (e.g. zero clients and thin clients).

With the graphical performance and acceleration capabilities of vCloud Air and Horizon 6, SAIC is now able to bring three-dimensional simulations to customers and offer multiple options: standalone simulations, blended learning, interactive multimedia instructions and large-scale distributed virtual simulations and gaming. The solution delivers high-quality training anywhere in the world, thus reducing reliance on an off-site simulation center.



The SIMaaS solution ensures graphically demanding simulation programs run smoothly over the Internet, eliminating the need for government agencies to maintain powerful on-site computer hardware. The solution’s rapid delivery means near-instantaneous reconfiguration of training facilities at significantly lower costs. The solution also offers a blended learning platform for game-based training and programs on smaller devices, such as tablets. By offering both types of training over the cloud, the SIMaaS solution delivers broad learning options for organizations in the field.

Business Results & Benefits

The SIMaaS platform brings simulation training to organizations without requiring significant on-site investment. SAIC and VMware can now offer SIMaaS-based training to organizations and deliver solutions to customers in ways that were not possible before.

Hosted Hi-Fi Simulations

With VMware's GPU acceleration, high-fidelity graphics are delivered via the cloud to create very realistic training environments. Defense agencies can now conduct war games through immersive and realistic 3-D simulated environments to help warfighters build the mental and physical preparedness they need for specialized missions. The vCloud Air backend runtime infrastructure ensures a smooth Hi-Fi experience for users even with the most graphically intensive programs.

Immersive Training at the Point-of-Use

Previously, soldiers and personnel had to leave work locations to train at simulation facilities that could support graphically intensive training programs. This was an inconvenience that increased travel costs and caused delays waiting for facility availability. Now, customers can train where they are and when they need it without sacrificing the quality of the simulation-based training.

Platform-Agnostic and Inexpensive End Devices

Organizations are now able to set up cost effective training environments. Customers can replicate the simulation experience found at major training facilities with much more cost-effective computing devices. With Horizon 6, training can be delivered on any device with no operating system dependencies. As personnel can train on base throughout the day, agencies are able to train more users in a shorter period of time. More cost-effective training devices, such as inexpensive laptops, can also be used, meaning organizations are not required to maintain expensive on-site computer equipment. These simpler devices save additional information technology costs and expand opportunities for personnel learning.

Portable Blended Learning for Employees

Government agencies and private sector organizations can now deliver portable training modules to personnel through blended learning applications. These modules use an interactive, game-based approach to provide instructional materials to employees on any device, including iPads® and other tablets. By not relying on a training facility for continued learning, employees can train in barracks and other locations on their own, boosting learning opportunities while on the job. With vCloud Air, the SIMaaS solution delivers a blended learning environment that allows users to have a highly immersive experience on any device.

Blended learning environments also have the advantage of portability. Learning modules can be easily configured per military unit or per user. Blended learning is not tied to any infrastructure, meaning reassigned personnel can take tablets with them without losing access to training. Although many training resources require significant storage space, the VMware cloud-based solution means data can be stored remotely without requiring users to download material to devices. This saves device space for other information users may not be able to access online, such as photos or contacts. When users need to train, the applications are always available through Horizon 6. Hosting training in the cloud means users still have applications available for whenever they reach the next step in their learning process.

Real-time Multi-User Interactions and Team-Based Training

Interacting with others in real time is key to effective training. With Horizon 6 and vCloud Air, all interactions happen in real time. With support for varying levels of interactivity, this form of training supports collaboration and team learning at different stages. Clusters of simulations distributed around the country support simultaneous participation for teams deployed across multiple geographies.

Affordable Advanced Simulated Training

Now government agencies and organizations can provide simulated training once limited to high cost simulation facilities. The SAIC + VMware SIMaaS solution removes the barriers of dedicated facilities, complex infrastructure and high-end workstations, high infrastructure operations and maintenance costs, and the overhead of large, often redundant, IT staff. With these barriers removed, many organizations requiring employees to work on complex tasks and teams to perform at high-accuracy bars can take advantage of simulated learning.

Find Out More

The joint SIMaaS solution is now available to select customers, and SAIC and VMware will continue to expand cloud-based training solutions to customers worldwide. To learn more, visit <http://www.vmware.com/go/gov>.

About SAIC:

Science Applications International Corporation (SAIC) is a technology integrator providing full lifecycle solutions in the technical, engineering, intelligence and enterprise information technology markets. Based in McLean, Virginia, the company employs nearly 15,000 employees who work on projects for U.S. federal government, state/local and global commercial customers.

About VMware:

VMware is a global leader in cloud infrastructure and business mobility. Built on VMware's industry-leading virtualization technology, our solutions deliver a brave new model of IT that is fluid, instant and more secure. Customers can innovate faster by rapidly developing, automatically delivering and more safely consuming any application. With 2014 revenues of \$6 billion, VMware has more than 500,000 customers and 75,000 partners. The company is headquartered in Silicon Valley with offices throughout the world and can be found online at www.vmware.com.

