

SGI[®] “Exercise in a Box” Simulation Solutions

Fully Integrated Compute, Storage, Connectivity, and Software Platform for Simulation-Based Military Training Exercises

Feature Highlights

- Self-contained, small footprint, portable platform ready for field deployment
- Fully integrated functionality (compute, storage, connectivity) to support a broad range of exercises
- With DoD approval and distribution rights, GUI-based software can be pre-configured and pre-loaded to reduce exercise design from months to weeks or less
- Flexible configurations (supporting multiple simultaneous exercises per system) and two versions to suit team requirements
- Developed in collaboration with OneSAF developers and Optimal Technologies International (OTI)¹ to raise the bar for industry-standard exercise deployment platforms

Putting the Focus Back on Military Tactics

As technology has enabled larger-scale simulations for military training exercises, the burdens on the planning teams have grown exponentially. Today, it can take months and even years to design and implement an exercise simulating a comprehensive battlefield scenario. SGI dramatically reduces this time with the SGI[®] Exercise in a Box solutions. The fully integrated, pre-configured simulation platforms replace clusters of PCs that must be tediously connected and tested.

With DoD approval and distribution rights, pre-loaded software will include the new OneSAF software. This revolutionary simulation software can be included within a single, portable self-contained hardware tower that can be set up in minutes. Now military teams can refocus on training objectives and avoid the logistical nightmares that overshadowed past efforts. Support for High-Level Architecture (HLA) and Distributed Interactive Simulation (DIS) networking enables deployment of the solutions in existing environments, while smoothing the migration to OneSAF and the future of constructive simulations. A choice of entry-level and expanded systems provides affordable solutions for exercises involving a single squadron, battalions, multiple branches of the armed forces, and even coalition forces.

The SGI Exercise in a Box solutions benefit from SGI's 20 years of leadership in military and defense technology. Since the inception of DIS and HLA, SGI has played an integral role in their development as a software and hardware solutions provider.

A Compact, Portable, Self-Contained Platform For Field Deployment

The power of up to 28 PCs has been built into a single, portable 15 U rack unit that is easy to ship and roll out to any designated exercise site. Latching covers are easily removed to expose front and rear for convenient component and cable access. Additional cabinet customizations can include table surfaces, display stands, and other accessories. The optimized 1 U server form factor maximizes rack density and minimizes power consumption for fully loaded configurations.

Processors, Storage, and Connectivity for a Range of Exercise Requirements

SGI Exercise in a Box solutions integrate premier processor, storage, and connectivity technology. Integrated dual-core Intel[®] Port Townsend based servers provide the power of up to 28 PCs, and can support approximately 5000-6000 simulated entities. The large, centralized storage subsystem in the expanded version provides up to 2.8 terabytes (TB) of raw capacity per drive tray, and dual RAID controllers ensure availability of mission-critical data. The high-density processing and storage is complemented with high-performance features including 2 gigabytes (GB) per second for Fiber Channel host and drive side interfaces, and increased cache size for random operations.

Pre-Configured, Pre-loaded, GUI-based Software for Fast, Easy Setup

System setup can be accomplished in as little as 20 minutes, including initialization of any integrated storage. With DoD approval and distribution rights, OneSAF software can be pre-loaded and pre-configured. In addition, operating system software, and network-attached storage (NAS) management software speed the setup process and eliminate the need for computer systems experts.

Flexibility and Choice of Models to Suit the Training Objectives

Each solution can support multiple simultaneous exercises, and can be connected over the network with other SGI Exercise in a Box solutions for larger sites. The entry-level SGI Exercise in a Box is affordable for small team exercises, with resulting time savings typically paying for the unit during the first exercise. For example, setup for a company exercise can be reduced from one month down to a week or less. The expanded version of the SGI Exercise in a Box includes an integrated Gigabit Ethernet front-ended NAS, with iSCSI and Fiber Channel back-end connections to storage. With this integrated storage, the platform gives teams an all-in-one solution for both the training and post-exercise analysis. In addition, both systems support USB connections to external DVD or CD devices. Future connectivity options will include InfiniBand connections for direct-attached storage.

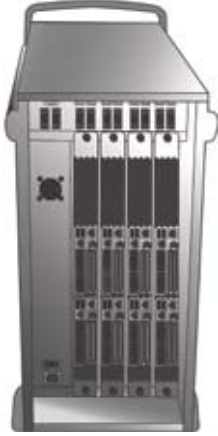
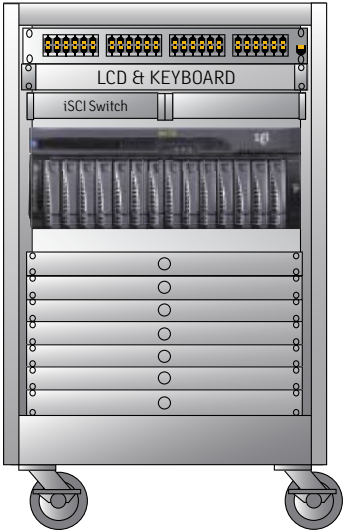
Redefining the Industry Standards

As the first to market with an integrated, all-in-one exercise platform, SGI provides military training teams with the simplicity and power of a solution tailored for today's HLA simulation requirements. Ongoing collaborations with OneSAF developers, OTI, and key military organizations have resulted in a solution design that can improve the learning experiences for today's troops and offer unprecedented scalability for accommodating the exercises of the future.



¹ Optimal Technologies International (OTI) is an SGI solutions provider that specializes in HPC visual intelligence and disaster recovery/operations continuity solutions for government and industry. OTI provides distribution and sales for the SGI Exercise in a Box solutions and can be reached by sending email to sales@oti-c4s.com or calling (407) 352-0256.

SGI® “Exercise in a Box” Simulation Solutions

Technical Specifications	SGI Exercise in a Box Entry-Level Solution	SGI Exercise in a Box Expandable Solution
		
Portability	<ul style="list-style-type: none"> • Pre-configured portable desktop unit (approximately 22.5”H x 13”W x 30”D) 	<ul style="list-style-type: none"> • One 15 U portable (shippable) rack unit; large casters; latching removable cover to expose open front and rear, for component and cable access (approximately 26”W x 40”D x 36”H); cabinet can be further customized depending on requirements
X86 Servers	<ul style="list-style-type: none"> • 8 3000PT1 motherboards each having single socket dual-core Intel Conroe® E6600 2.4GHz 4M 1066MHz processors for total of 16 PC instances • 2 GB memory per motherboard for total of 16 GB 	<ul style="list-style-type: none"> • 14 motherboards each having single socket dual-core Intel Conroe E6600 2.4GHz 4M 1066MHz processors; • 2 motherboards per 1 U height for equivalent of 28 PC instances • 2 GB memory per motherboard for a total of 28 GB • 7 internal 80 GB drives • USB connections for external CD or DVD
Storage	<ul style="list-style-type: none"> • 8 internal 100GB SATA drives 	<ul style="list-style-type: none"> • SGI InfiniteStorage NAS 330 with 2.8 TB of network-attached data storage
Connectivity	<ul style="list-style-type: none"> • Built-in GigE 16-port switch 	<ul style="list-style-type: none"> • iSCSI switch • GigE 48-port switch • SGI NAS 330, with GigE front-end for internal and external servers, as needed; Fiber Channel and iSCSI (InfiniBand in the future) for direct-attached storage
Control	<ul style="list-style-type: none"> • Wireless keyboard and mouse • Built-in KVM/USB switch 	<ul style="list-style-type: none"> • Slide-out drawer with LCD, keyboard, and mouse



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