Operational Environment Scenario Generation Tool (OE-SGT)

For years, military training exercises have contributed to the effectiveness and success of military missions. These exercises, whether in the live, virtual or constructive domain, play a key role in preparing military forces to carry out the missions they are asked to perform. However, with increasing budget pressures, militaries are increasingly focused on using virtual and constructive simulation to address more of their training requirements. One of the primary challenges is the time-consuming process of creating and developing realistic mission training scenarios that encompass both strategic and tactical elements. CAE developed the Operational Environment Scenario Generation Tool (OE-SGT) to provide an easy-to-use human and event scenario development environment which results in reduced time to create realistic mission scenarios.

OE-SGT Overview
The past decade has changed the way military forces prepare to face unexpected challenges from asymmetric warfare, an increasingly complex battlefield, hybrid threats, and persistent conflicts. CAE’s OE-SGT is a Windows-based scenario generator tool used to create initial simulation start-up conditions for training exercises. This tool enables the user to combine military plans (tactical graphics) with human social context and physical characteristics to create scenarios for training exercises that reflect today’s combat and non-combat reality. Users can create scenarios derived from current events, social and religious characteristics in the area of interest, prevailing political situation, economic climate and a range of other factors that can influence the realism of simulation-based scenarios. This combination of strategic-level characteristics with traditional tactical scenario components such as terrain and weapon systems helps create a more realistic and authentic scenario for military training exercises.

The OE-SGT is a simulation-agnostic tool consisting of three primary components:

- Parser
- Scenario Generator Tool
- Military Scenario Development Environment

OE-SGT Parser
The OE-SGT Parser allows the user to collect and integrate structured and unstructured intelligence data into a format that is usable by the scenario generator. The Parser provides a semi-automated capability to collect and correlate unstructured data from a range of sources, including news organizations, current military operational databases and reference resources. The data collected is converted into events and actors, which is then used as part of the simulation-based scenario. The Parser enables the user to search relevant data sources for pertinent information, and quickly and efficiently build the framework for the scenario.

OE-SGT Scenario Generator Tool
The OE-SGT Scenario Generator Tool allows the user to create strategic scenarios based on operational environment data. The Scenario Generator Tool loads the stored operational data from the Tactical Ground Reporting System (TIGR), Military Scenario Development Language (MSDL), and Joint Non-Kinetic Effect Model (JNEM) files. Within the Scenario Generator Tool, the user is able to select an area of interest, actors and events along with their relationships, the mood and cooperation of the various players, and cultural features to create a correlated data set to be imported to MSDL. This data is then ready to be used for later development of full-scale operational scenarios. The user is easily able to customize scenarios for a specific exercise, and can more quickly and efficiently create scenarios at a much lower cost.
OE-SGT Military Scenario Development Environment

The OE-SGT Military Scenario Development Environment (MSDE) allows the user to create tactical vignettes from the strategic scenarios developed using the Scenario Generator Tool. The MSDE is used to specify terrain, order of battle, task organization, tactical graphics and role player characteristics. When completed, the vignettes are exported as MSDL files and can then be used as part of military training exercises developed as part of federates such as OneSAF. Using MSDE, users can quickly create variations of tactical vignettes and combine tactical elements into comprehensive strategic scenarios. The end result is the ability to save time, money and resources in considering various courses of action.

OE-SGT Extensibility

Each part of the OE-SGT was designed with extensibility in mind. As users find new data sources, the OE-SGT can adapt. As simulation scenario formats change and expand, the OE-SGT can keep pace. This provides users with a low-cost way to bring in new sources of information and publish data to new federates without having to learn a completely new tool and user interface. In this way, the OE-SGT protects users’ investments in training and scenario development while providing up-to-date support for the most relevant information systems and simulations.

OE-SGT Features and Benefits

CAE’s OE-SGT solution delivers easy-to-use scenario creation capabilities to the hands of today’s military organizations to meet mission rehearsal needs. Some of the key features and benefits are:

• Integrates available data and intelligence to create events and actors for training exercises
• Imports PalantirTM, RSS, TIGR and JNEM Simulation Database (SimDB) data
• Exports correlated MSDL, Athena, and JNEM scenario files
• Defines events and actors, and their relationships
• Supports visualization of the area of interest
• Provides extensibility for importing new data sources and exporting new simulation file formats
• Reduces time and effort of creating simulation-based scenarios
• Streamlines scenario generation for training, analysis, experimentation and operational decision-making
• Supports faster development of more realistic scenarios
• Reduces scenario development costs
• Incorporates operational environment context into tactical scenarios

OE-SGT Users

The OE-SGT and MSDE are included with the OneSAF software product line as scenario generation tools. The OE-SGT can also be used to create scenario start conditions for the Athena Stability & Reconstruction Operations simulation software and Joint Non-Kinetic Effect Model simulation federate.