

# The smart scenario generator

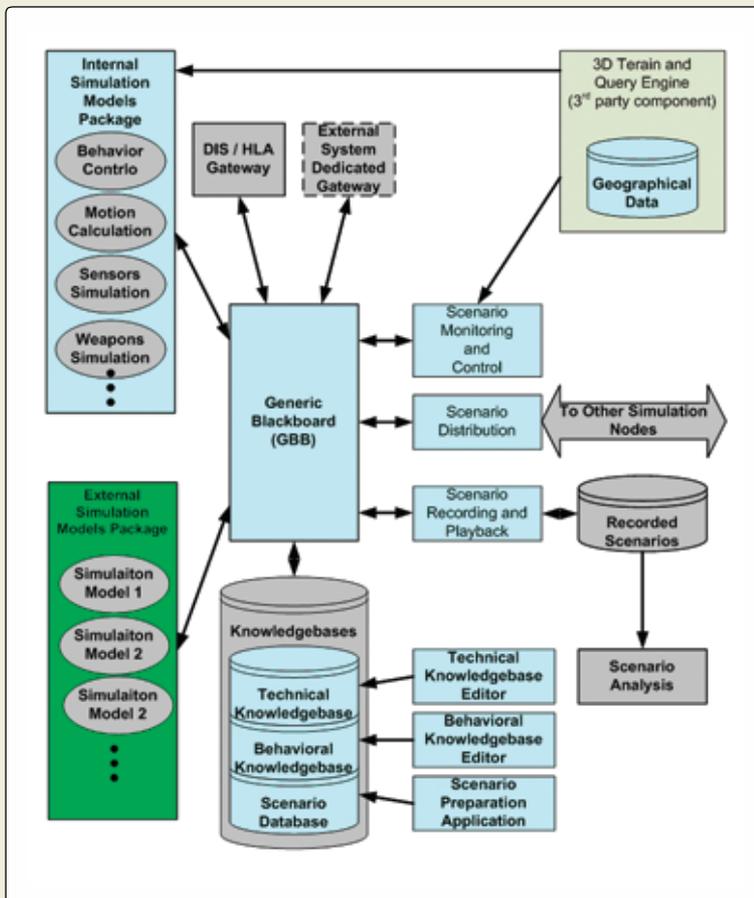


## Simulation Development Framework

Simax - a virtual environment for various types of applications covering many domains within the Training and Simulation Community. These include live, virtual, and constructive simulation as well as the creation of a virtual environment for the development and integration of command and control systems.

In addition to being a ready-to-use scenario generator, able to run, simulate and present a populated simulation environment, the **Simax SSG** (Smart Scenario Generator) is also a software development framework enabling rapid development of advanced simulation solutions.

The **Simax Framework** development environment is a complete package that enables the user to develop his own applications based on the Simax Framework, while utilizing all the code, features, and models already available within the **Simax Framework**.

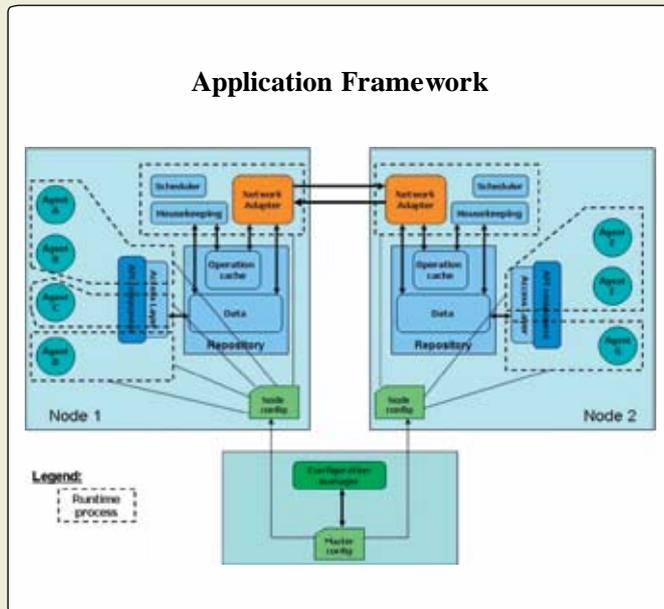


The **Simax Development Framework** is based on a Generic Blackboard (GBB) which enables the development of Distributed Multi Agent Systems (DMAS). The development is carried out in C++ in a natural development environment.

The development framework enables utilization of existing components such as: Simulation Model Repository, Technical and Behavioral knowledge data bases, System Logger and Player, Multi node distribution mechanism, DIS-HLA gateway, and the graphical Scenario Editor and Scenario Monitoring and Control System. These are used in concert with newly developed components by the user.

The **Simax Runtime Framework** is responsible for all object management, object distribution and synchronization. The resulting simulation applications leverage on the baseline Simax simulation models while introducing the specialized simulation models and applications introduced by the developers.

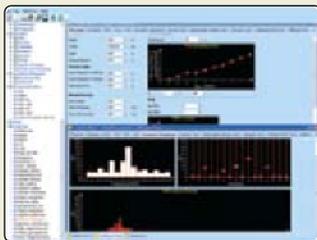
The user friendly development environment expedites the development process leveraging on existing infrastructure components.



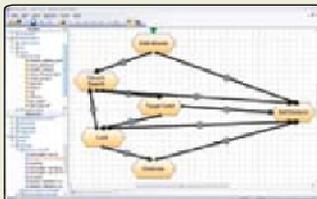
The GBB Distributed Multi Agent application development framework enables the developers to:

- Develop simple software modules which easily integrate with others over a distributed application.
- Support Multi-Process, Multi-Thread, and Multi-CPU development.
- Reconfigure the application by moving Agents from one process to another without affecting the system integration.
- Develop advanced and complex modules which easily integrate with a running environment with no need to modify it.

The **Simax** baseline product can be used as part of the user's developed application thus enabling leverage on existing products and capabilities which enhance and expedite the development of new applications.



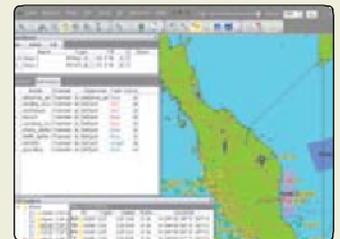
The **Technical Knowledgebase Editor** (TKE) is a unique graphical editor used to define the different entities which reside in the simulated environment. Allowing the definition of: Platforms, Sensors, Weapon Systems, Communication Devices, Electronic Counter measures and more.



The **Behavior Editor** (BE) is a graphical user interface enabling the Domain Expert to represent operational knowledge in the form of a State Machine to the CGF's decision making engine.

The execution of the decision making is done in real time by a unique engine supporting the management of individual platforms as well as aggregated forces

The **Scenario Editor** (SE) is a dedicated tool for editing simulated scenarios. The tool enables the user to graphically place different forces on the scenario map and setting the scenario starting conditions including: Environment, communication, force deployment and command hierarchy.



The scenario is simulated via the **Simax** based simulation engine and can be controlled from the unique **Scenario Monitoring and Control System** (SMCS). The SMCS enables the user to fully control all aspects of the scenario in real-time: Add and remove forces, assign behaviors and change plans for forces, control the environment conditions as well as the communication aspects.

