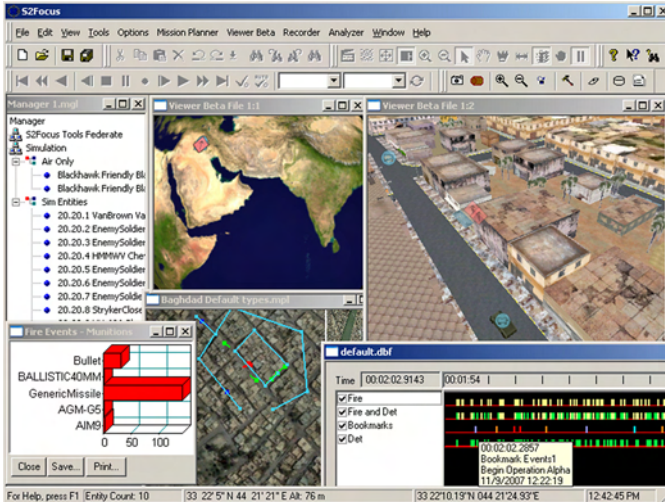


S2Focus™

High Level Architecture (HLA) Simulation Management Tool Suite



Integrated Tools in a Cohesive and Easy to Use Environment

Network Interface Layer

2D and 3D Visualization (Viewer)

Data Capture, Analysis and Debrief
(Recorder, Analyzer & AAR)

Exercise Control (Manager)

Mission Planner

S2Focus™ is an all-encompassing Distributed Simulation tool suite for project development and run-time. S2Focus™ is object-oriented software built to run on the Windows® and Linux Operating Systems and designed specifically to support High Level Architecture (HLA), with continuing support for Distributed Interactive Simulation (DIS) interoperability.

Benefits

Low Cost

- Commercial-Off-The-Shelf (COTS) Tool Suite lowers risk and shortens development schedules
- Host and Site licensing available via USB dongles

Ease of Use

- Cohesive local and distributed control of components from one common Windows environment
- Windows 2000®/XP® environment including customizable tool bars and pull down menus
- On-line help
- Developer and user documentation
- APIs and example code (plug-ins)
- Developed under a Trusted Software Development Methodology (TSDM) environment
- Components can be embedded into custom solutions

Extendibility

- Object-Oriented Design
- C++
- Easy to use Development Class Hierarchy Infrastructure
- Modular components independent of Network Protocol and/or FOM

Features

The Network Interface Layer

The Network Interface (NI) provides the link for client programs to connect to any simulation network.

- HLA - centric
- Protocol and FOM flexible
- HLADirect™ protocol can be used in place of DMSO RTI for increased HLA performance and reliability
- Supports DMSO RTI 1.3 NG, Versions 4, 5 & 6
- Legacy DIS support Versions 4, 5 & IEEE 1278
- Supports MATRIX RTI V4.2
- Protocol bridge capability for joining concurrent simulations
- Maintains Object Database
- Supports simultaneous execution of multiple federates, FOMs, and simulation protocols

Benefits and Capabilities

Features (continued)

- Built in GUIs provide the mechanism to manage the RTI configuration, simulation configuration, and NI performance
- Development environment is provided, enabling customers to develop protocols, FOMS and middleware extensions
- Set of development tools to help component writers developing NI components. Coordinate conversion is supported including WGS84, Geodetic, Geocentric, UTM and UTM offset
- Dead Reckoning Algorithms (DRAs) with position and angular smoothing
- Enhanced Middleware Interaction and object support including Simulation Management, Emission and Radio interactions

2D and 3D Visualization

The Viewer provides multiple two and three-dimensional views of a simulation exercise. Using these views, a user can unobtrusively navigate a simulation exercise, while displaying varying levels of simulation information. The Viewer provides the total visualization solution for live monitoring of exercises and playback of log files during debrief. Key Viewer features are:

- 2D, 3D and World Views
- Same Window Quick Transition between 2D & 3D Views
- Multiple Concurrent 2D and 3D Windows / Views
- 2D Entity "Lock-On" or Track Capability
- Multiple 3D View Modes
- Controls
 - Panning, zooming in, zooming out, rotating and selecting / deselecting entities
 - Time of Day & Weather (fog, clouds, etc.)
- Bumper Labels
 - Custom User Labels via API
- Dynamically updating Tool Tips
- Weapons Effects
 - Smoke, Flames, Fire, Muzzle Flashes, Dust Trails
 - Explosions (debris)
- Military Maps & Symbols (Option)
- Terrain Paging (TerraPage™)
- Integrated Image and AVI Movie capture for AAR and Debrief Tools
- 3D Ground Clamping
- Extensible via API to provide custom effects, view controls or graphical overlays
- 3D Visualization requires a high performance graphics card for improved visualization (NVIDIA GeForce-FX or better recommended)

Military Symbols Extension

The Viewer may be optionally configured to display:

- Military Symbolology
- Requires additional licensing
- Import of NGA products including DTED, CADRG/ADRG and CIB files

GENERAL DYNAMICS

C4 Systems

12001 Research Parkway Suite 500 • Orlando, FL 32826 • Phone: 866-244-2377
Web Site: www.gdc4s.com/simulation

Data Capture, Analysis and Debrief

The Recorder saves all HLA, DIS or other protocol information provided by the Network Interface. After a simulation is recorded, the information can be played back through the Network Interface.

- DVD Player-like controls:
 - Record, Stop Play, Rew, FFwd, Skip
- Customizable start and stop times
- Customizable play speeds
- Automatic replay of log file at completion of log
- Quickly jump in time using Checkpointing Technology
- Remotely Controllable

The Analyzer provides an event detection plug-in module architecture that allows the user to program trigger conditions for an event of interest from the simulation data provided by the Network Interface. When an event is triggered, a tick mark is placed on an event timeline, which the user can navigate and review. Debrief database reports, graphs, and charts (AAR) are compiled from event data. The Analyzer tool provides an evaluator tool for reviewing progress during runtime and for presenting debrief material after the training exercise has been completed. The Viewer is utilized during AAR for the purposes rendering live and recorded scenarios.

- Report generation to Microsoft PowerPoint®
- Event data stored in Microsoft Access® Database
- Event Detection Module plug-in architecture
- Remote capability to conduct debriefs while a live exercise is being monitored provides instructors the ability to debrief students before an exercise has ended
- Real-time automated chart generation
- Customizable timeline
- Remotely Controllable

Control

The Manager allows the users to filter, control and display simulation objects / entities.

- View entities in exercise
- Filter based on user definable criteria
 - Example: Filter based on type, force, status, speed, etc.
- Focus on geographical location or Force-ID
- Remote Control of tools and/or simulation objects
- Extensible to provide custom criteria or controls

Mission Planner

The Mission Planner provides:

- Force lay-down of entities and routes
- Simulates entity movement along routes
- Fire Control via user interface or remote commands
- Local and remote control of entities, like start/stop
- Support for "Above" and "Below" real-time simulation
- Extensible to add new vehicles and behaviors