VR-FORCES C2SIM INTERFACE v1.2

Current interface subscribes to a server (default 10.2.10.30) and listens for C2SIM orders. It does not validate the order against an XML schema; simply parses out the necessary information elements.

The interface runs independently from VR-Forces; it functions by exchanging messages with VR-Forces. Using the download provided, the Interface is invoked in Windows by the command-line with up to six optional parameters:
bin64\c2simVRF <serverAddress> <restPort> <stompPort> <ClientID> <skipInitialize> <useIBML09>
where:
serverAddress is an IPv4 address (default 10.2.10.30)
restPort is the server Web service input port (default 8080)
stompPort is the server STOMP output port (default 61613)
clientID will be used to identify this VR-Forces as in the coalition
skipInitialize is 1 to run without the C2SIM startup initialization message sequence
useIBML09 is 1 to read IBML09 orders and send IBML09 reports

The order can have multiple tasks. Data pulled from the order are UnitID, DateTime, and vector of GDC coordinate points identified as latitude, longitude, and optional elevationAGL, presumed to be either a single-point destination or a route.

The order can be sent to the server by a command-line client or by the BMLC2GUI (both available open source on c4i.gmu.edu/OpenBML under C2SIM Client and Servers).

Operation normally starts with an initialization phase where a C2SIM_MilitaryOrganization message is sent to the server for consolidation with such messages from other clients. When the server receives a SHARE command, it sends a consolidated C2SIM_MilitaryOrganization message in the STOMP channel and the Interface uses this message to create VR-Forces objects. (There is a command-line option to skip this phase (see above) in which case the objects are created in VR-Forces when a command for them is received.) After initialization the server is ready to run; when it receives a START command it goes into state running and the Interface starts VR-Forces simulating.

The Interface now listens for order messages. The order as implemented at present directs VR-Forces to move an object with name given by UnitID through the sequence of locations given by the route. The object starts at its initialized point (or, if initialization was skipped, at the first set of coordinates in the order). If a subsequent order is sent with the same UnitID, no new object is created but the original object of that name is sent to a new sequence of locations. The interface also sends "blue force tracking" style reports on the vehicle's location.

The trial C2SIM schema for CWIX, based on the v0.6.8 ontology, is used by this interface. We are working on adding to this Maneuver Warfare data elements that will support more interesting behaviors associated with the MSG-145 CWIX 2018 scenario.