USING HIGH LEVEL ARCHITECTURE FOR AN INFORMATION EXCHANGE: A DTI'S INTEGRATED APPROACH OF MODELING AND SIMULATION

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Abstract: High Level Architecture or HLA was adopted for system architecture of modeling and simulating infrastructure of Defence Technology Institute (Public Organization) or DTI. This experimental prototype was aimed for an ultimate solution to the lack of integration among simulation and training systems in the Royal Thai Armed Forces, and thus pioneered in DTI's research and development projects of Simulation and Training Master Plan. An interface back and forth between Unity as game engine that published real-time locations along with other vital information of the objects in the scene to HLA, and Google Earth as a map server in which a 2D/3D map application with drawing and marking tools was prepared for displaying scenario, mission planning and reviewing was conceptualized and implemented. The information from the publisher containing time stamps, object locations, object names, and object IDs was periodically updated in form of KML files and reloaded via Google Earth Network Links for real-time viewing. A two-way information exchange between the two platforms was intended but the content discussed herein covers only Google Earth map application as a subscriber and Unity game engine as a publisher of the HLA. However, the result of the information exchange at the other end of the communication is currently under development and expected to come out in public soon. Upon that accomplishment, the seamless integration of ambitious simulation and training systems of DTI will be realized and the combined and joint operation and training dilemma of the Royal Thai Armed Forces which was once an abstract paradigm will be resolved through the research and development projects of the Master Plan.

Keyword: High Level Architecture, Information Exchange, DTI Simulation and Training, System Architecture, DTI Master Plan