

# Next Generation Threat System



## EXHIBIT FACT SHEET

The Next Generation Threat System (NGTS) is a synthetic environment generator used to support training, testing, analysis, and research and development. NGTS models both threat and friendly aircraft, ground and surface platforms, and their corresponding weapons and subsystems. NGTS consists of three main components as shown in Fig. 1:

- The Simulation Engine, which models platforms, weapons, and subsystems
- The Battle Monitor, which displays entities in the synthetic environment and controls NGTS entities
- The Database, which contains parametric data for platforms, weapons, and subsystems

NGTS, which has been installed at multiple Navy and Air Force sites, is currently being used and/or integrated by the F/A-18 C/D/E/F, EA-18G, P-8A, B-52, B-1, and RC-135 training systems. Also, Distributed Exercise Centers, such as the Distributed Mission Operations Center (DMOC) and the Air Combat Command's Distributed Training Center (DTC) rely on NGTS to provide intelligent threats in support of large scale exercises. Internationally, NGTS is currently being integrated into the Royal Australian Air Force's (RAAF) F/A-18 simulators.

In December of 2012, NGTS v3.0 was released. NGTS v3.0 can support user-defined behaviors, which allows users to utilize the NGTS Behavior Editor (Fig. 2) to graphically define how computer-generated platforms respond to events. Behaviors representing different tactical doctrine can be

Fig. 1 – NGTS Architecture

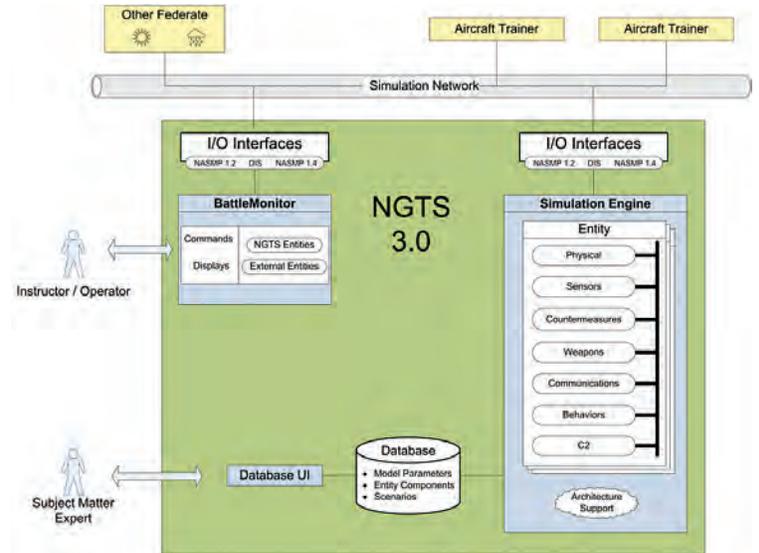
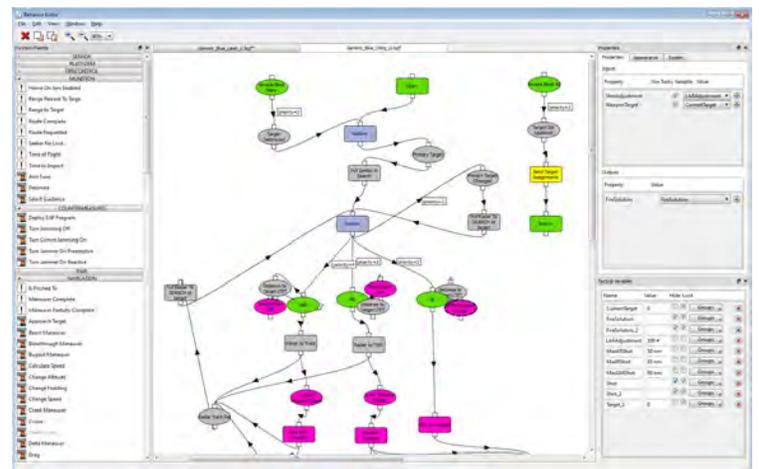


Fig. 2 – NGTS Behavior Editor



assigned to the same platforms, completely changing how the platforms behave.

Other features added to NGTS v3.0 include a “plug-in” architecture that allows externally developed models to be easily integrated with the NGTS framework, and the ability to run at a rate that is much faster than real time to preview complex scenarios and behaviors.

NGTS forms the foundation of the Next Generation Electronic Warfare Environment Generator’s (NEWEG) Software Subsystem Controller (SSC). The goal of the NEWEG project is to evolve the Electronic Warfare (EW) and RF simulation technology to meet the test and simulation needs of current and future EW systems as modular components with well-defined interfaces.

The NGTS team is also working closely with Office of Naval Research’s (ONR) Live Virtual Constructive (LVC) performers, who are expanding NGTS capabilities to better support LVC training.

Additionally, the NGTS team is working with Air Force Research Laboratory (AFRL), Naval Research Laboratory (NRL), and other NAWCAD personnel on the Autonomy for Air Combat Missions (ATACM) effort. NGTS will be used to test the Tactical Battle Manager (TBM) autonomy software, and to identify novel tactics in the use of unmanned aircraft supporting manned aircraft.

In support of P-8A training, NGTS is expanding capabilities in the area of maritime and Anti-Submarine Warfare (ASW), as well as adding large numbers of distracter entities (up to 5,000) that can follow roads and shipping lanes. A significant number of maritime platform types and their associated radars and weapons are being added to NGTS to meet the P-8A training curriculum.

Further development of NGTS is underway with significant effort on both increased capabilities to better represent the tactical environment and the platforms within the environment, and simplified user interface.