Dedicated to innovation in aerospace

Mission Training through Distributed Simulation

PRODUCTS & SERVICES

MTDS is a major enabler to prepare the military for future operations

Characteristics of military missions are continuously changing. Nowadays military operators should be prepared for missions in complex, multi-national environments. This asks for flexibility of the military operators and understanding of complex environments which can be gained by analysis, training and supporting technology and tools.

WHAT YOU NEED

Mission Training through Distributed Simulation (MTDS) is a major enabler to prepare the military forces for future operations. MTDS permits warfighters to enhance Operational Readiness by conducting complex mission training within an environment as operationally realistic as possible including interdependent consequences of human-in-the-loop performance with supported and supporting capabilities, all within a lower risk, lower cost and lower consequence environment.

WHAT WE DELIVER

NLR is running a number of R&D projects focusing on the development of a MTDS capability in the Air Domain. The next four years NLR is investing in research topics as Multi Level Security, Dynamic Terrain, cyber threats and distributed simulation architectures. Simultaneously NLR, in close cooperation with the RNLAF is incrementally developing an initial MTDS capability for air operations, with connections to a NATO-wide MTDS network.

OUR CAPABILITIES

The R&D program is divided in a number of smaller projects focusing on developing knowledge on a specific topic. Knowledge, processes and technology regarding to these different topics, so called building blocks, are brought together in an overarching MTDS reference architecture. From the MTDS reference architecture a specific air domain MTDS capability is implemented. This capability is used to test and evaluate the MTDS technology building blocks in relevant (international) operational exercises.

MTDS RESEARCH TOPICS:

TECHNICAL INTEROPERABILITY AND REUSE

- NLR investigates repository technology and a federated approach towards Simulation Resource Management.
- NLR investigates data distribution technologies and methods for integrating simulators or simulation components together, providing low-latency data connectivity, reliability, and a scalable architecture.

MULITPLE LEVELS OF SECURITY

- NLR identifies technological solutions to connect simulations with different levels of classification.

DEVELOP AND DEPLOYMENT PROCESS

- NLR addresses the procedural aspects of planning and executing an MTDS event and develops a CONOPS and recommendations for planning MTDS exercises.
- NLR works out a MTDS exercise management process and supporting technology to run MTDS exercises in an efficient way.

CONTENT

- NLR defines best practices, required methodologies, technologies and information requirements for standards needed to achieve a correlated dynamic synthetic environment in future distributed simulation exercises.
- NLR investigates the needs and possibilities of cyber threats simulation of specific cyber effects (e.g. GPS spoofing) in MTDS exercises.

PRODUCTS & FEATURES

- MTDS capability in the Air Domain
- MTDS technical architecture with agreements and best practices
- Concepts for
  - Repository for MTDS components
  - Data distribution methods
  - Multiple Levels of Security
  - MTDS Exercise Management
  - Dynamic Terrain
  - Cyber threat simulation

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