



FITEware (Future Integrated Training Environment)



AT A GLANCE

WHAT IS IT?

The Future Integrated Training Environment (FITE) next-generation interoperability capability (**FITEware**) provides extensible services that allow disparate simulator entities and models to effectively and efficiently interact with one another in real-time. The services act as the “ground truth” arbiter for the facilitation of a “fair fight” between dissimilar simulators.

HOW DOES IT WORK?

FITEware combines a) easy-to-use tools to facilitate the setup and execution of training events that involve multiple USMC training capabilities, and b) smart adapters and adjudication services to increase interoperability and reduce fair fight issues.

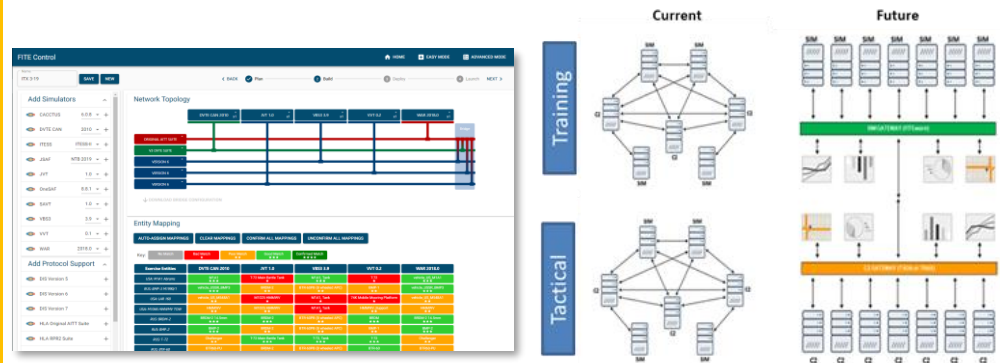
WHAT WILL IT ACCOMPLISH?

FITEware provides a robust and efficient capability that allows the integration and interoperability of legacy, current, and future USMC training information technology assets to enhance warfighter capability.

Ongoing efforts are exploring approaches to tightly integrate Command and Control Systems (C2) / Information Systems (IS) to Simulation environments, as part of ONR's SEAMS program.

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FITE facilitates interoperability between fielded training capabilities, enabling integrated exercises that have previously not been possible.

FITEware enables a wide range of users (expert to novice) the ability to rapidly configure and execute Live, Virtual, and Constructive (LVC) training activities, maximizing simulation interoperability and protocol compatibility through consistent / optimal enumerations mappings.

FITEware automates the manually intensive enumerations mapping process that has traditionally required experts and ad hoc approaches (e.g., CSV files and sneaker-net) to make it: **Easier** (expert → naïve), **Quicker** (weeks/months → minutes/hours), and **Better** (improve the quality of the mappings). FITEware provides these improvements through:

- **A tool set** provides a robust user interface enabling instructors to configure and deploy USMC training exercises from a simple to understand web browser UI. This cloud-ready web application provides assistive aids to the user to configure and address common interoperability challenges significantly reducing the M&S knowledge required by the user.
- **Smart adapters** enable pair-wise coupling of simulations through an adjudicator, facilitating optimal interoperability and therefore reducing the least-common-denominator effects of traditional gateway approaches. The adjudication service can override or modify the simulation's results to achieve the desired cross-simulator consistency, and can be deployed as a traditional application and/or as middleware.

Under ongoing development in coordination with the Live Virtual Constructive Training Environment (LVC-TE) as part of Project Tripoli, FITEware is receiving enhancements to improve the integration between live and virtual training environments. The enhancements aim to provide streamlined connections between C2 and virtual simulation systems to provide realistic representations of the virtual battlespace within program of record C2 systems and to provide control surfaces to enable integration with live electromagnetic sensing and emitting systems deployed in live training areas.

RESEARCH CHALLENGES AND OPPORTUNITIES:

- Achieving “Fair Fight” among disparate simulator entities and models effectively and efficiently based on what each simulation requires for the training event
- Bridging Simulation capabilities and USMC Command and Control (C2) / Information Systems (IS) to enable Train as you Fight.