

White Paper – JFCOM: The U.S. Joint Forces Command

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I. Introduction

JFCOM is the United States Joint Forces Command, one of the nine unified commands in the Department of Defense (DoD). It's headquartered in Norfolk, VA and it plays a role in transformation, force provision, interoperability, *joint training* and *experimentation*. The term "Joint" when used in the context of the U.S. military indicates the participation of 2 or more services or departments (Army, Navy, Air Force, Marines) of the DoD. JFCOM is comprised of ten directorates, or functional units, which support & manage JFCOM's missions. These directorates are designated like U.S. military staff sections (J1, J2, J3/4, J5, J6, J7, J8, J9, Joint Reserve Directorate (JRD) and Standing Joint Force Headquarters (SJFHQ)). In this paper, I will emphasize the roles, missions and projects conducted by the Joint Training Directorate/Joint Warfighting Center (J7) and the Joint Experimentation Directorate (J9) that I feel are of particular interest to the Multi-Resolution Modeling Group.

II. Joint Training Directorate/Joint Warfighting Center (J7)

Located in Suffolk, VA, the J7 represents the action arm supporting the JFCOM joint force training effort. The JWFC commander also serves as the JFCOM director for joint force training (J7) to ensure the coordination of the overall joint training program through the J7, and its subsequent execution by the JWFC. It is comprised of seven groups, of which, the Simulation/C4 and Systems Engineering groups are of particular interest. To give you an idea of the size of the J7, there are currently 198 people assigned to it.

The mission of the Sim/C4 group is to implement integrated simulation, C4 and information systems architecture, service, development, testing and management solutions for all aspects of current and transformational joint training requirements. The chief of the Modeling & Simulations Branch of the Sim/C4 group is LTC Bill Robinson, who can be reached at 757-686-7272 and robinsonc@jwfc.jfcom.mil. The Sim/C4 group supports software maintenance & upgrades for several simulations, some of which will be discussed.

Of particular interest, the Sim/C4 group oversees and manages the Joint Conflict & Tactical Simulation (JCATS), the Joint Theater Level Simulation (JTLS), and the Aggregate Level Simulation Protocol (ALSP). A brief description and point of contact for each entity follows.

JCATS- a multi-sided, interactive, high-resolution, entity-level, joint conflict simulation that uses Sun & Linux based PCs to portray ground, air & water operations across the entire spectrum of conflict. JCATS can portray small groups in detail and can be used for training, analysis & experimentation. The program manager is Brian Gregg who can be

reached at 757-686-7649 or greggb@jwfc.jfcom.mil; the configuration manager is Seth Pillsbury who can be reached at 757-686-6185 or pillsbury@jwfc.jfcom.mil.

In order to give you an idea of the scale of JCATS driven exercises, the J7 advertises that a JCATS set-up can include up to 60 networked, distributed workstations. Some of the top issues for JCATS as of May 2003 are:

- Creating an HLA link between JCATS & JTLS (see below) – *Funded by DMSO*
- Creating an HLA link between JCATS & the Army's Corps Battle System (CBS) as an interim fix for loss of JSIMS – *Funded by Nat. Sim. Center (NSC)*
- Develop a system of systems to be expanded over 3-4 year period to include other US Army M&S system such as JDLM, TACSIM, WARSIM, and OOT (formerly OneSAF).

The JWFC counts over 100 major JCATS users at over 145 sites. These users are in all four services, 6 unified commands, and 2 non-DoD agencies (Secret Service & Dept. of Energy). The Army is the leading customer agency.

JTLS- an interactive, multi-sided wargaming system portraying a joint and coalition force warfare environment. It models air, ground, and naval combat, with logistical, Special Operation Force (SOF), and intelligence support at the theater level (high level, low resolution). Cal Morris is the program manager and can be reached at 757-686-7649 or morris@jwfc.jfcom.mil. The configuration manager is Seth Pillsbury who can be reached at 757-686-6185 or pillsbury@jwfc.jfcom.mil. Some of the top issues for JTLS as of 2002 are:

- Interoperability with other simulation, particularly JCATS
- High resolution units (HRUs) vs. aggregation
- Expanding the user community – in 2001, JTLS was used in only 2 major exercises

JTLS has a relatively small customer base and is a low-use platform. As described above, it is a high-level, low-resolution simulation that strives to be federated with other, more widely employed simulations. A prototype federation with JCATS has been developed through 2002 and is covered in the literature.

ALSP- is the software and protocols used to interoperate simulations. It is used extensively to support the United States military to link analytic and training simulations. ALSP consists of three components.

1. The ALSP Infrastructure Software (AIS) that provides distributed runtime simulation support and management.
2. A reusable (and growing) ALSP Interface consisting of a set of generic data exchange message protocols (i.e., formal rules for information exchange) to enable interaction among objects represented in different simulations.
3. Participating simulations adapted for use with ALSP.

The ALSP manager is Michael Bivens who can be reached at bivensm@usfk.korea.army.mil. He is in Korea and cannot be reached telephonically without placing an overseas call, therefore I have not included his number here.

III. Joint Experimentation Directorate (J9)

The mission of the J9 is to develop, explore, test, and validate 21st-century warfighting concepts through aggressive concept development as well as robust joint experimentation. To that end, the J9 is responsible for coordinating such experimental testbeds as Millennium Challenge 02, and the upcoming Unified Course 04, an experiment involving the US Navy & JFCOM. These testbed exercises involve the use of many simulation platforms and technologies, and provide JFCOM with experimental results for proof of concept and platform testing. This year, JFCOM & the J9 conducted 2 exercised – Unified Quest 03 with the US Army and Pinnacle Impact 03. To give you an idea of the scale of these exercises, PI03 involved 110 “players” and 50 support personnel. JFCOM uses these exercises to, among other things, validate M&S methods.

The J9 has three “work spaces” – the Joint Concept Development Pathway, the Joint Prototyping Pathway, and Command & Operations. Within Command & Operations, there is an Experimentation Engineering Department comprised of, among others, an M&S branch. The M&S branch is home to the Joint Experimentation M&S Requirements Working Group, which is chaired by Mr. Tony Cerri. Mr. Cerri can be reached at 757-836-3906 or anthony.cerri@je.jfcom.mil. The Requirements Manager for this working group is Jerry Post, who can be reached at 757-836-2259 or postg@je.jfcom.mil.

Also of interest in Command & Operations is the Experimentation Support department. This department is responsible for the Distributed Continuous Experimentation Environment (DCEE), which is discussed below.

DCEE - a new JFCOM initiative. Simply put, it is an experimentation Internet that establishes a permanent laboratory that is capable of continuously conducting various events, either locally at JFCOM or globally, as required by its users. It is a capability that is focused on military transformation through live (non-automated) or virtual (training, vice analytical) experimentation. Because it is distributed, the participants—the services, combatant commanders, allied nations, and other agencies—may participate at whatever level their specific issue requires.

The DCEE connects a federation of computer simulations from various combatant commanders, service headquarters and military colleges, and interagency and multinational partners. As a result, all parties tied into the network need not leave their workspaces to participate in experimentation activities. Steve Mains is a good point of contact for the Analysis division of the Experimentation Support department at J9. He can be reached at 757-836-2290 or steven.mains@je.jfcom.mil.

I have chosen to highlight these projects as I suspect that they offer promising potential for coercion and coercibility. The contacts listed are essentially mid-level managers in a top heavy organization.

IV. Links

JFCOM maintains a public website, along with JFCOM intranet and several sub-intranets for various directorates. The website is sparsely populated with pertinent, top-level information. Directorate operations, project descriptions & points of contact can be discovered through the intranet and sub-nets. I recommend you begin by starting at **www.jfcom.mil**. Of particular interest to our group are the J7 pages starting at **www.jwfc.jfcom.mil** and J9 pages starting at **www.jfcom.mil/about/experiment.html**. I have included these URLs as site navigation can be somewhat convoluted.

V. Conclusions

With the prominent role that the DoD plays in directing & sponsoring M&S research, the knowledge & domain experts that are affiliated with the DoD and entities that routinely contract with them, and the guidance by DMSO sponsors to actively seek M&S users/customers, investigating JFCOM, their websites & programs may prove useful with regards to various projects associated with the MRM group.

Through my affiliation with the Army, I have been able to obtain JFCOM, J7 & J9 intranet accounts. Anyone requiring further assistance should feel free to contact me.