

NPS...Next: MOVES Connectivity for Modeling, Simulation and Testing

The clear emphasis on warfighter innovation provided by the *NPS...Next* transformation initiative has provided excellent vision and motivation for significant improvement in external NPS engagement, influence and impact. Six students in the Modeling Virtual Environments Simulation (MOVES) curriculum wrote excellent point papers on M+S LVC connectivity as contributions for *NPS...Next*. These were final projects for NPS course MV3500 Networked Graphics. Each makes cogent summaries of important opportunities that MOVES might execute.

1. The first point paper by Justin Frank and Joshua Keeven considered how NPS might utilize the Test and Training Enabling Architecture (TENA) software suite and Joint Mission Environment Test Capability (JMETC) connectivity to emulate and connect to operations on all DoD test ranges. This is especially relevant to NPS field experimentation (FX) at Camp Roberts and the Sea Land Air Military Robotics (SLAMR) beach facility.
2. The second point paper by John Morris and Brian Pugh examines how connectivity to C2SIM/NATO Federated Mission Networking (FMN) might help connect M+S analytic capabilities to diverse C2 systems, robotics field experimentation (FX) and NATO partners. Faculty involvement includes Dr. Curt Blais as one of the principal leads on C2SIM, and Chris Fitzpatrick who has enabled NPS student participation in remote NATO experiments. Concurrent with the students' briefing, the Navy announced how the new Combined Task Force (CTF) 59 led by Fifth Fleet will advance unmanned systems operations in partnership with 60 coalition nations.
3. The third point paper by Matthew Robinson and Max Schlessel examined and tested IEEE Distributed Interactive Simulation (DIS) Protocol, specifically Voice Communications using Calytrix Australia software, demonstrating positive results. They took the initiative to write this up as well, since having simulated tactical voice communications (or even distributed verbal narratives during shared simulations) is a powerful capability. Immediately following their brief, the planned partnership USA-Australia-UK regarding nuclear submarines was announced, further encouraging us to think about standards-based collaboration with Australian allies.

Point papers attached. In each case no software costs or licensing fees are necessary. Some labor will be needed to maintain NPS connections securely and effectively with external parties over public and secure networks. Each fits well with broader NPS teaching, research and field experimentation (FX). We stand ready to help assess detailed costs and benefits.

NPS...Next offers students and faculty major opportunities for influence and impact. All scrutiny of these three specific alternatives are welcome. We offer these paths as ways for MOVES to help NPS broaden, deepen and extend our command's influence and impact, to the benefit of Navy USMC USA defense and coalition partners.

Very respectfully submitted.

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References

- [MV3500 Networked Graphics Course](#)
- [MV3500 Student Point Papers for NPS...Next](#)