

NRL ready to deploy virtual mission operations center

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This image shows a sample Virtual Mission Operations Center screenshot.
Credit: Naval Research Laboratory

The Naval Research Laboratory (NRL) is ready to deploy a remarkable capability that has been the focus of a six-year project developed in concert with numerous government and industry partners. Developed by NRL's Spacecraft Engineering Department, the Virtual Mission Operations Center (VMOC) is a web-enabled multi-application service that ushers in a new era for globally-dispersed military users of DoD, commercial, and civilian satellite payloads.

For the first time, requests for satellite services will be available to any approved user who has access to the Secret Internet Protocol Network (SIPRNet). By simply clicking a few selectable criteria, user requests will be immediately prioritized within VMOC based on the Operational

Commander's intent, evaluated for execution based on orbital mechanics and satellite modeling data, and, if approved, autonomously loaded into a Satellite [Operations Center](#) (SOC) upload buffer. "All of this occurs without the need for a single 'man in the loop.' This new capability will dramatically improve satellite utilization as well as speed of command, so critical in today's dynamic battlefield," explains Joel Hicks, VMOC program manager. VMOC is accredited on SIPRNet and ready for operations today.

Specifically, VMOC is marked as the exclusive planning and tasking tool for two operational missions scheduled for launch in the fall. The first mission, TacSat-4, is an NRL-integrated mission that provides 10 Ultra High Frequency (UHF) channels that can be used for myriad combinations of communications, data ex-filtration, or friendly force tracking. ORS -1 will provide electro-optical/Infra-Red capability for the USCENTCOM. VMOC servers are located at NRL to support Blossom Point, Md., operations of TacSat-4, and at Schriever Air Force Base, Colorado Springs, Colo., to support SOC-11 operations of ORS-1.

Further applications in development for VMOC include tasking and planning in support of the iGPS Program, led here at NRL. In this demonstration, the GPS-aiding signals will provide appropriately equipped military users substantially improved capabilities for quickly locking onto and tracking a GPS signal, even while operating in restrictive environments such as urban areas, forests, mountains and canyons, as well as under enemy jamming attempts or amid battlefield radio frequency noise. A final demonstration is also scheduled for this fall, preceding a transition to operations.

The VMOC effort has been a cooperative one and has included the following agencies and companies: NASA, Air Force Research Laboratory, Space and Missile Defense Command, SAIC, Boeing, General Dynamics, Praxis, Space Ground System Solutions, PTR Group,

NRL's Information Technology Division. The primary sponsors for VMOC include the Office of Naval Research and the ORS Office.

Provided by Naval Research Laboratory

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