Lockheed Martin TOPSCENE Upgrade For Navy Delivers Mission Rehearsal Simulations 20 Times Faster

Lockheed Martin has delivered faster mission rehearsal preparation to the U.S. Navy as a result of a recent upgrade to its TOPSCENE(R) mission rehearsal system. The improvement has significantly increased the speed at which the system converts two-dimensional terrain images into accurate three-dimensional workspaces, speeding the system by a factor of 20.

The TOPSCENE system supports mission planning, mission preview, mission rehearsal and mission training. Using real-world images, Warfighters can repeatedly rehearse a mission, taking advantage of visually significant clues and aim points. Knowing exactly what the terrain and built-up areas will look like during the real mission greatly increases Warfighters' chances of a successful mission.

The new software was installed in August at the Naval Strike Air Warfare Center at Naval Air Station Fallon, NV. This "grid-enabled" application, produced by Digipede Technologies, allows a network of machines to work in parallel to process the geospatial environment. Instead of one computer operating at a single speed, the work is farmed out to a set of computer nodes supporting the same objective.

"The Navy's need for high-performance mission visualization simulations is increasing exponentially," said Alan Herod, U.S. Navy TOPSCENE program lead. "We've been very pleased with the performance delivered by the new grid-enabled version of TOPSCENE. It is already one of the fastest tools out there, but this puts us in an entirely different league. We were pushing the edge with commercial tools and individual workstations, but now we've already seen a 20-times speed-up in processing time. This changes the game for us -- we're able to process more terrain with greater accuracy and speed. This is a significant benefit for the operational user."

"When lives are on the line, turnaround time is key. This TOPSCENE upgrade creates terrain simulations closer to real time than ever before," said Mark Wear, TOPSCENE Software engineer at Lockheed Martin Missiles and Fire Control. "TOPSCENE is already known for quickly generating realistic and accurate detailed terrain. This enhancement revs up the pace inside the current infrastructure, so our customers will see large performance gains with virtually no change to their process or training."

Lockheed Martin Missiles and Fire Control produces the TOPSCENE mission rehearsal system for the U.S. Navy, Air Force, Army, Marines, Coast Guard and Special Operations Forces. TOPSCENE converts overhead image data from satellites and other sources from two-dimensional images into three-dimensional walk/fly through battlefield visualization simulations.

TOPSCENE, with its embedded ability to stop, scale, slew and rotate the image, enables the Warfighter at all echelons to study their mission-operating environment in-depth before actually entering a hostile area. Plus, the TOPSCENE system can create a virtual environment from images in about two hours, making it possible to train on "actual terrain" in near-real time.

Headquartered in Bethesda, MD, Lockheed Martin is a global security company that employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2007 sales of $41.9 billion.

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