



Historic virtual joint simulation training

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8/3/2007 - **HURLBURT FIELD, Florida** -- BOOM! An IED, or improvised explosive device, goes off next to a Marine convoy in a foreign country. The Marines dismount and secure the area and conduct a battle damage assessment. Calls for help are sent for eyes in the sky; on the other end of the call is an Air Force AC-130U crew miles away. Suddenly the crew spots several small enemy vehicles approaching for an ambush, quickly there is a flurry of communications with the ending result of five enemy vehicles and 20 personnel destroyed -- the Marines are safe and continue the mission objective.

This scenario and others like it occurred during a three days of virtual joint convoy training exercise involving 23 AC-130U crewmembers from Hurlburt Field, and 20 Marines attending the pre-deployment training program at Marine Air-Ground Task Force Training Command, Battle Simulation Center located at Twentynine Palms, Calif. Additionally, Marine Special Operations Command, participated with an observer who participated in the event to analyze potential training capabilities for future training efforts.

"This is the first time we have linked the AC-130U gunship with another virtual convoy trainer to conduct armed convoy escort, recon and call-for-fire training using live forces driving and flying the simulators with real-time voice communications in a Joint National Training Capability event. Linking sim centers together from two separate geographic locations was accomplished using the Joint Forces Command, Joint Training and Experimentation Network and couldn't have been accomplished without the outstanding technical support from the Network Operation Service Center based in Suffolk Va., and the 19th Special Operations Squadron AFSOC Aircrew Training and Rehearsal System distribute mission operations technical support contractors," said Ken Taylor, AFSOC's Training Transformation, Joint National Training Capability program and technical manager/planner.

V-JCT training was accomplished using the Marine Corps Virtual Battle Space II and the AFSOC AC-130U simulator to conduct different mission types. This consisted of linking geographically separate simulator locations with mission operators (real people) to conduct pre-deployment joint training and unit-level proficiency and familiarization training.

"The value added of this training can not be over stated, we're saving hundreds of thousands of dollars, and we don't have any restrictions on the intensity or realisms of executing combat scenarios that are inevitable with live range training," Mr. Taylor said. "An example is safely training danger close tactics, techniques, and procedures and conducting integrated joint close air support training in an urban environment with human controlled moving convoys and the ability to shoot and see weapons effects in the environment. What we need are more simulators or desktop trainers that replicate crew stations to accomplish this virtual type training for mission ready crews during internal special operations forces and joint Service training more frequently. Finally, using virtual training construct we're not taking up range time in Florida or California to train 43 SOF and joint service personnel in very relevant joint tactical task."

The benefits don't end there, in the middle of the virtual simulation the tactical situation deteriorated for the event and mistakes were made. However, unlike in combat, both sides debriefed face-to-face, using secure video conferencing passing critiques and advice. In a real scenario, the same face-to-face interaction would have happened, but they would leave at the end of the debrief without putting into practice the lessons they learned. However, in the virtual simulator within 30 minutes all forces were in place to engage in a restart armed with the lessons learned.

As the new scenario drove on, the Marines encountered an ambush and received casualties. Immediately an unplanned training scenario was added requiring the convoy commander to coordinate a casualty evacuation and fire support from the AC-130. Suddenly, an Army CH-46 helicopter flew into to rescue the casualties. The AC-130 flew cover, secured the area, and engaged enemy vehicles as they approached the area preventing the enemy from engaging the helicopter along with the dismounted Marines securing the perimeter.

"In the VBS-2 simulations the two separate locations talk in real time, the technicians are able to dynamically change the scenario instantaneously if there is an added training benefit," said Capt. Buddy Lee, 19th SOS. "In



An U.S. Air Force captain, 4th Special Operations Squadron AC-130U electronic warfare officer from Hurlburt Field, Fla., communicates with in real time with Marines during convoy training. He with other crewmembers participate in the first joint virtual simulator training with the Marines from 29 Palms, Calif. and Marine Forces Special Operations Command. These two separate locations trained in real time on convoy escort duty and actively engaged enemy targets from their home station in a mock foreign land. After 1.5 hours both the Airmen and Marines debrief and started a new exercise allowing both sides to perfect training techniques prior to deploying to fight the Global War on Terrorism. (USAF photo by Capt. Joseph Coslett)

a real scenario, this would have to be planned prior to mission execution. Another point to bring up is not only the realism of the simulator but the live radio transmissions that emulate real tactical radio networks ... the Marines under fire were yelling while coordinating with the convoy commander, higher headquarters and at the same time making calls to the AC-130."

When the Marines reached the city to search for a high value target, they once again encountered ambushes, snipers and a realistic enemy. The Marines with stress in their voices called for suppression of the enemy threat via close air support fire as the convoy dismounted squad engaged the enemy. The aircrew members provided close air support and put several rounds on enemy vehicles and enemy forces, controlled by real people, allowing the Marines to complete their mission.

As the final mission came to a wrap, a lot of training was completed on both sides. Three AC-130U aircrew obtained currency and proficiency training as they would in the real aircraft. The Marines got the same convoy training while engaging multiple targets. They saw mission success, got the value of working with an AC-130 crew prior to deploying and saw the benefits of specialized airpower.

"It's good all around training, skills are refreshed, it's next to the real thing with the added benefit of being at home station," said a 4th SOS technical sergeant and sensor operator.

Thirty minutes after mission completion, both sides were in a video teleconference ready to debrief the mission and to give advice in areas of improvement. They reviewed and discussed each enemy engagement and procedures for refining the execution for the next day's event, reducing some of the fog and frictions of war.

"I think the virtual simulator allowed us to work with dynamic flexibility to tailor the scenario not just to the Marines but the many different forces we work with whether it is the Army or Marines," said an AC-130U mission commander captain. "The added benefit is we can accomplish all the training and maintenance is not a factor and we have unlimited ammunition."

Following this scenario, both sides learned many valuable lessons which they will take with them when they deploy. One Marine just returned from a deployment in Iraq and along with others expressed the realism of the training.

"The training was very realistic and I thought we gained the benefit of the guy on the ground working with the crew on TTPs (tactics, techniques, and procedures)," said 1st Lt. Ted Driscoll, convoy commander. Following the scenario, "we could talk about capabilities and limitations."

Several key members made this historic event happen.

"This was grass roots initiative of the Marine Corps' Training and Education Command and AFSOC to make this happen without being told," said Bill Macak, Marine Corps' expeditionary warfare program manager and liaison officer to AFSOC. This is a standing requirement of the Department of Defense and Joint Forces Command to find the best ways to train jointly in the virtual realm.

"The joint virtual convoy trainer, simply put, was the most realistic, intense, and invaluable training tool I have yet to experience," said a 4th SOS major and an AC-130 crewmember. "Having just returned from a 75-day deployment only three weeks ago, I can state without exaggeration that the level of intensity, frustration, and urgency I felt with the sim was the most similar to an actual mission I've ever had."