

DARPA System Looks to Provide Artillery Support

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ARLINGTON, Va., June 14, 2002—The original concept was called “Rockets in a Box.” It’s “Net Fires” today, said Brad Tousley, program manager at the Tactical Technology Office of the Defense Advanced Research Projects Agency [DARPA] here. The program takes rocket artillery into new realms of accuracy and portability, he said.

Net Fires is one alternative system the Defense Department is looking at to provide artillery support in place of the Crusader artillery system. Defense officials want to stress accuracy in artillery fire and bring to Army and Marine Corps groundpounders the same capabilities that precision-guided munitions have brought to Air Force, Navy, and Marine Corps aviators.

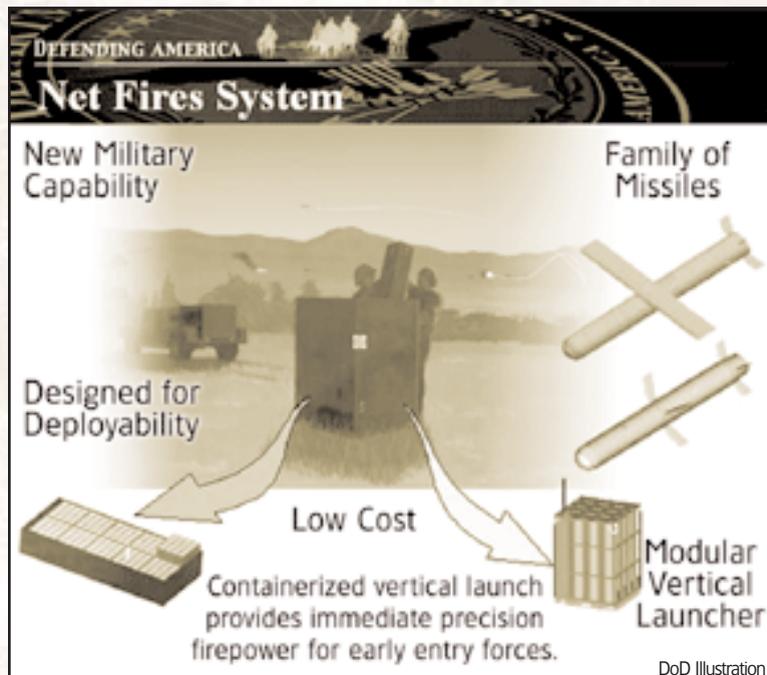
“It is a concept for a vertical-launch set of missiles with a command and control sys-

tem in a box,” Tousley said. “It was designed to be platform-independent.”

Normal cannon and other rocket artillery systems depend on their launch platforms. “We wanted to make a box where much of the engineering work for the munition was taken care of in the factory,” he said. “The round in its launch canister is a complete entity.”

Being in a box means Net Fires launchers can be mounted on a Humvee or a truck, or set up on the ground, he said. The idea is to let the Army’s Future Combat System integrate Net Fires into the different launch configurations.

The system as designed today is a box with 16 sections. Fifteen hold rockets, and the



last contains command and control gear. The box has its own power system.

The rockets fire from the canister like the Navy's Vertical Launch System. Back-blast follows the missile out the front of the launcher so there's no impact on any transport vehicle.

The rocket system is "soft launch," Tousley said, meaning that the rocket doesn't experience high G's as would an artillery shell traveling at high speed. "There's just enough to get [the missile] out of the box and move it forward," he said.

Planners have found that vertical launch is better from the standpoint of tactical deployment. "You can put it just about anywhere," Tousley said. "Traditional artillery today—you have to put those on reverse slopes of hills. You have to put them where the firing location forward is clear."

He noted that if you [position] a box with a vertical-launch configuration, you could pinpoint its impact point: "It's going to go straight up and out," he said.

This also enables the system to engage targets in all 360 degrees.

Net Fires will have two missiles.

The first is a precision attack missile being developed by Raytheon Corp. The missile travels at high speed for minimal time to target or to reach maximum range, Tousley said. It will have a solid-fuel rocket motor, an uncooled infrared seeker, and will mount a substantial warhead. "This is the heavy tank killer," he said.

The second is a loitering attack missile being developed by Lockheed-Martin and Raytheon. It will carry a laser detection and ranging ("ladar") seeker, a turbojet motor, and wings that extend on launch. The missile will have a 70-kilometer range with a 30-minute loiter time, Tousley said.

"This is very achievable," he said. "It will be able to loiter over targets of interest, do automatic target recognition, and attack targets on its own."

Both missiles will have an onboard datalink. With proper integration into the Future Combat System, which is one of the challenges of the project, Tousley said, Net Fires rounds could be directed to the target by forward observers, unmanned sensors, or "whoever is forward."

Any needed target updates could be sent to the missile through the datalink, he said.

The missiles then would be fired into a Global Positioning System "basket." On the way there, the rounds are handed off to forward personnel or unmanned sensors such as a Predator unmanned aerial vehicle.

"When I fire an artillery piece or an MLRS [Multiple Launch Rocket System], it's gone. It's not going to be affected (once it is in the air)," Tousley said. "All my command and control is at the launch point."

"Now we're going to give them the capability to interact so if your target is moving and you want to update the location, you can. If you want to 'lase' it, you can. It gives you more capability, but it is going to mean challenges operationally," Tousley said. "Of course, that's part of DARPA's job to push and to challenge."

Some testing of the system has already taken place. Testing will continue into 2004. The Army then would decide whether to continue the program.

If all goes well, Net Fires could be ready for units in 2008.

Editor's Note: This information is in the public domain at <http://www.defenselink.mil/news>.