

Boeing will use an Airborne Warning and Control System aircraft to measure and quantify the effectiveness of network-centric capabilities in battle management and command control functions.



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What's network-centric warfare?

Network-centric warfare is an emerging theory of war—pioneered by the U.S. Department of Defense—that seeks to translate an information advantage into a competitive warfighting advantage through the robust networking of well-informed, geographically dispersed forces.

This networking combines information technology with a robust network for increased information sharing, collaboration and shared situational awareness. This theoretically allows greater self-synchronization, speed of command and mission effectiveness. The theory has four basic tenets:

- A robustly networked force improves information sharing.
- Information sharing enhances the quality of information and shared situational awareness.
- Shared situational awareness enables collaboration and self-synchronization, and enhances sustainability and speed of command.
- These, in turn, dramatically increase mission effectiveness.

'We'll have the data'

Boeing to analyze network-centric ops mission effectiveness for U.S. Air Force

By DAVE SLOAN

The U.S. Defense Department says network-centric warfare will become the backbone for future military operations. But if you're a potential customer for these high-tech capabilities, which ones do you choose? And in a tight budget environment, which ones give you the most bang for your buck?

Boeing will help the U.S. Air Force answer those questions. The company has signed a two-year Cooperative Research And Development Agreement with Electronic Systems Center, Hanscom Air Force Base, Mass., and the Air Force Research Lab Information Directorate. The CRADA will measure and quantify the military effectiveness of network-centric capabili-

ties in performing battle management and command control functions, utilizing an Airborne Warning and Control System (AWACS) platform.

"We're saying to the Air Force, 'you can spend your money here instead of there and be more effective, and we'll have the data to back it up,'" said Kevin Jones, manager of new capabilities development, Boeing Airborne Warning Systems.

Modeling and simulation tools will be used to evaluate the application of these capabilities while executing a variety of missions involving multiple platforms. The goal is to determine which mix of systems and capabilities improves a specific mission and how much improvement is possible.

Paul Metcalf, AWACS systems engineer, said Boeing will be looking at time-critical targets such as a mobile rocket launcher or an enemy on the run: "Mission effectiveness will be determined by measuring whether the number of successful target engagements increases during a given time period or whether the time to successfully engage a given number of targets decreases."

The Air Force and the Pentagon will continue to expand the use of applications that

enhance net-centric operations, Jones said. There's a stated goal that all Air Force systems be net-centric-capable by 2013.

"One of the challenges, for example, is what information will be sent from an AWACS to a fighter jet or to a ground station? Who is going to use that information, and how does the use of that information benefit the mission you're trying to accomplish?" said Jones, noting he hasn't seen any focused effort to address that problem until now.

The Air Force is working closely with Boeing in providing the architecture for the networks and the types of assets in the network. Boeing also is talking to the operators who actually fly the missions.

This cooperative research approach could be expanded to other programs on the Pentagon's modernization roadmap, including the Airborne Maritime Fixed Joint Tactical Radio System.

Boeing hopes this effort will show the U.S. government where to concentrate funding for upgrades most effectively and at the same time guide the company's independent research and development toward optimal solutions. ■

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