Boeing Demonstrates New Network-Centric Warfare Capability

As part of its Weapon System Open Architecture, or WSOA, program, The Boeing Company has demonstrated an internet-like connection -- between a command and control-type aircraft and a strike fighter -- that allows real-time airborne collaboration for strikes on time-critical targets.

The demonstration was performed by the Boeing F-15E1 Advanced Technology Demonstrator and 737 Avionics Flying Laboratory equipped for command and control, or C2, operations. Aircraft operators shared and annotated target images and intelligence data in real time, using the Department of Defense's Link-16 tactical data link. This allowed the operators to respond to an emerging threat by successfully re-planning a mission during flight.

"Employing Weapon System Open Architecture technology will provide the same level of confidence in dynamic target scenarios as in pre-planned scenarios against fixed targets," said Dr. David Corman, WSOA program manager in Network Centric Operations of Boeing Phantom Works. "It also provides the foundation for connecting current weapon systems to the evolving network-centric battlespace."

An objective of the WSOA program is to demonstrate how mission critical information can be quickly exchanged between strike and C2 platforms in the prosecution of time critical targets by employing quality of service based resource management technologies enabled by open systems.

With WSOA technology integrated into the F-15, the weapon system operator was able to quickly select and download target images and re-plan the mission based on targeting imagery, threat locations provided by a Joint Tactical Terminal, and routing data passed by the C2 platform.

"Useable target imagery was received within the first 20 seconds, and there was no doubt about the target's location," said Rick Junkin, Boeing F-15 weapon systems officer on the flight.

The Weapon System Open Architecture program was awarded in 1999 to Boeing Phantom Works and partners Washington University, BBN Technologies and Honeywell in 1999. Phantom Works is the advanced Research and Development unit of The Boeing Company, serving as the catalyst for innovation for the enterprise.

The Weapon System Open Architecture program is managed by the Air Force Research Laboratory -- Information Directorate. The program is sponsored by the Computer Resources Support Improvement Program, Defense Advanced Research Projects Agency, Open Systems Joint Task Force and the Joint Tactical Terminal Program Office.

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