

Boeing Tags Shipments to the DOD

Boeing's defense division has begun sending RFID tagged shipments of aircraft parts to military distribution depots.

By Claire Swedberg

May 10, 2005—Boeing Integrated Defense Systems has begun sending RFID tagged shipments to two U.S. Department of Defense supply depots, using the DOD's Internet-based Wide Area Workflow (WAWF) system to send advance shipping notices and electronic invoices.

Thus far, the DOD has two military depots equipped with functioning RFID readers. It is to those sites, in Susquehanna County, Pa. and San Joaquin County, Calif., that Boeing has begun shipping tagged crates loaded with aeronautical equipment such as parts for F-15 Strike Eagle fighter aircraft. When shipping supplies to these two depots, Boeing employees manually attach passive EPC Class 0 RFID tags to shipping crates. Each tag has a unique ID number that can be read by RFID readers at the military depot. Boeing then sends the depot an advance shipment notice comprised of information associated with that tag ID number. That information includes a listing of the crate's contents, the quantity, the point of origin, and the purchase contract. A Boeing worker manually enters this data into the WAWF by reading information printed on the crate's RFID label.

When the military depot receives the tagged shipment, an RFID reader captures the crate's tag ID number, which is used to call up the advance shipping notice sent by Boeing through the Wide Area Workflow. The WAWF acts as a portal for data relating to Boeing shipments as they arrive at their destination, allowing the DOD to automatically track where shipments are and what items are inside them.

"We think RFID offers a great benefit ... to increase visibility," says Boeing supply chain manager Steve Georgevitch, "We are very supportive of the direction the DOD is going."

So far, Boeing is tagging only shipments destined for the two RFID-enabled military depots, but that will soon grow, Georgevitch says. Boeing hopes to have tags on all its aircraft parts shipments to the DOD by the fourth quarter of 2005, with all the tags applied as part of Boeing's automated labeling process.

Boeing also manufactures land attack missiles, direct attack munitions, air-launched cruise missiles and other precision-strike weapons for the DOD. Even though Boeing has the RFID system in place to tag ordnance shipments to the DOD, the ordnance RFID system is on hold until the RFID equipment suppliers gain Hazardous Electromagnetic Radiation to Ordnance (HERO) certification. HERO certification requires that all RFID equipment such as tags, readers, antennas and even power sources be tested and clearly labeled regarding its RF range, how close it needs to be to read the shipment, and how far it needs to stay from the shipment to avoid accidental detonation. Stray electromagnetic radiation can cause explosive devices to activate inadvertently.

"Boeing is ready to generate RFID tags and put them on our weapons system," Georgevitch says, but the entire industry is waiting for HERO certification of the RFID equipment. "This problem affects all of the

RFID equipment manufacturers as well as all potential users of this equipment," Georgevitch says.

Boeing also has pilot programs underway with some of its suppliers to tag their shipments to the aeronautics company. Georgevitch adds, however, that these are pilot programs only. "We're not mandating anything," he says.

Boeing's goal is to eventually integrate its RFID programs with the DOD's own programs. "Although the e-business interfaces with the DOD are unique for government business, we are utilizing like methods and interchanges with our suppliers. We are directing our efforts to [implement] industry-wide methods and e-business systems that will be common to both the DOD and private industry," Georgevitch says.

While the use of RFID currently helps Boeing track the parts it ships to the DOD, Georgevitch says within the next five to 10 years, Boeing plans to use the technology to track its own inventory items. Recently Boeing has gained greater responsibility for shipment logistics with the trend toward Performance Based Logistics (PBL), a DOD system that is intended to increase inventory availability, and RFID tracking can help in the process.

"In today's world, we own the inventory, and we have to patch into the DOD supply chain," Georgevitch explains. That means that if a C-17 cargo plane were to need a spare part somewhere in the world, Boeing would be responsible for locating that spare part, and also ensuring that spare parts are available in case of such a demand. Before that can happen, the DOD and Boeing will work on building the necessary applications and infrastructure to capture data at all key points within the supply chain.

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