United States Army Completes Testing of New Sensor Solution Aimed at Improving Operational Efficiency

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IBM announced the U.S. Army TACOM Life Cycle Management Command has completed testing a sensor solution based on IBM middleware and services to help it improve operational efficiency.

The solution uses embedded sensors in military vehicles that send signals from the field to IBM middleware and Business Partner applications in central locations to remotely diagnose repairs, and to determine fuel and ammunition replenishment needs. Currently, troops are required to make routine in-person inspections of military ground vehicles, sometimes in the field of combat. The successful pilot demonstrates automating the process has the potential to improve troop productivity and safety.

On Demand Access to Mission Critical Data

The new wireless solution is designed to provide the U.S. Army TACOM Life Cycle Management Command's logistics managers real time, on-demand access to its Maintainer's Remote Logistics Network. MRLN is a pilot project that was developed to communicate on-board vehicle diagnostic data to commanders, senior maintenance personnel, and logisticians within the combat repair team and brigade support battalion. IBM Global Services provided the systems integration and designed the architecture for MRLN. The pilot was demonstrated on the Stryker Brigade's tactical wheeled vehicles.

Embedded sensors in Stryker Brigade military vehicles, using IBM

WebSphere MQ Series as a messaging interface, transmit data from IBM WebSphere Microbroker and IBM DB2 Everyplace by relaying information via wireless networks to computers in numerous trucks that transport and replenish parts from various locations. Data from the field can then be transmitted from computers in the trucks, or local checkpoints, to central headquarters locations via satellite. The headquarters can monitor military readiness on numerous business process applications based on IBM WebSphere Portal and IBM DB2 Universal Database software.

When a vehicle is dispatched, the operator can turn on a health monitoring maintenance system which provides data about its readiness. This also triggers a Global Positioning System, that identifies the location of the vehicle. The vehicle operator, contact repair team and brigade support battalion can simultaneously view this information on computers with IBM WebSphere Portal Server. Colored icons will appear if a repair problem arises, immediately alerting the operator to notify a supervisor that there is a need to make a decision to proceed with a mission or to work with the maintenance team to diagnose the problem and automatically order parts. Data on the repair history of the vehicle is stored in an IBM DB2 Universal Database.

"The U.S. Army's TACOM Life Cycle Management Command's sensor solution, integrated with IBM middleware, offers its headquarters staff the ability to gain the same on-demand access to mission critical information that can currently be viewed in remote regional and field locations," said Robert Mayberry, vice president, IBM Sensor and Actuator Solutions. "As a result, it can look forward to improving logistical support and maintenance for military vehicles."

"Transforming a labor intensive, and sometimes dangerous manual process, to an automated process can improve operational efficiency, cut costs, and keep the troops out of harm's way when we can," said

Catherine Jackson, U.S. Army TACOM Life Cycle Management Command.