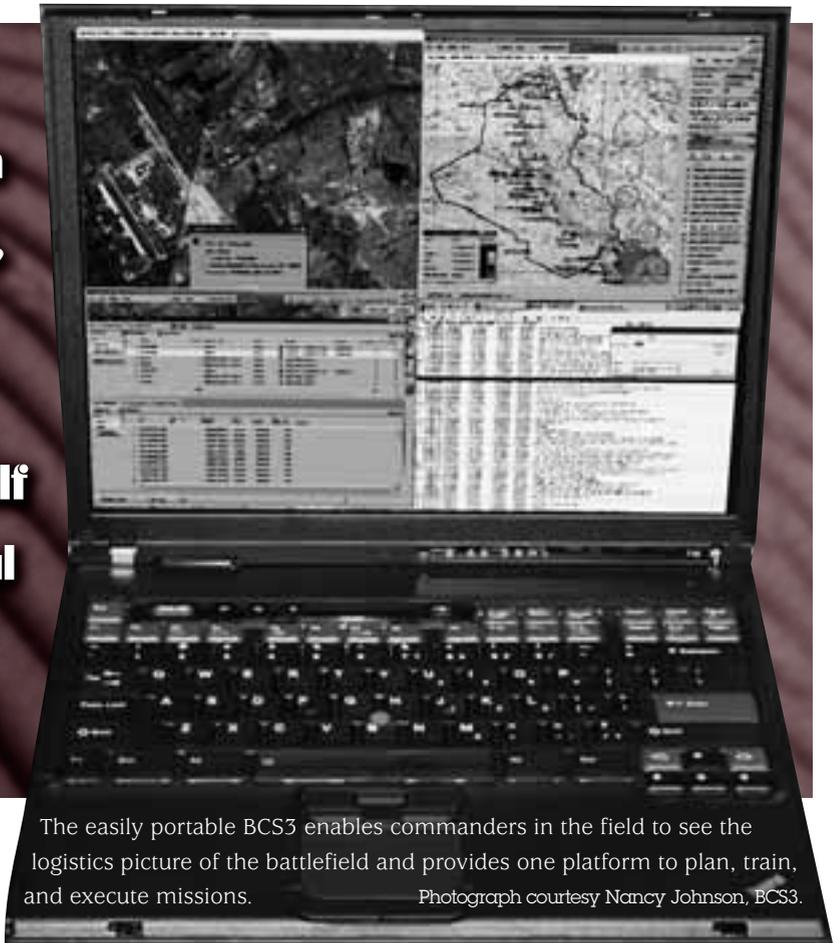


BCS3 Provides Actionable Logistics Information to the Warfighter

A Story of Acquisition Innovation

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BCS3 represents a major step forward in acquisition innovation, combining spiral development, use of commercial off-the-shelf (COTS) technology, and end-user feedback in its design.



The easily portable BCS3 enables commanders in the field to see the logistics picture of the battlefield and provides one platform to plan, train, and execute missions. Photograph courtesy Nancy Johnson, BCS3.

Logistics support systems must support current warfighting requirements and provide a bridge to the Army's future force capabilities. BCS3—Battle Command Sustainment Support System—

is a hardware and software technology insertion into an existing program that provides, for the first time, a map-based logistics picture on and off the battlefield. It is the Army's maneuver sustainment command and control (C2) system, and it fuses sustainment, in-transit, and force data to aid commanders in making critical decisions.

BCS3 represents a major step forward in acquisition innovation, combining spiral development, use of commercial off-the-shelf (COTS) technology, and end-user feedback in its design. Instead of delivering the warfighter a

system *after* development, the BCS3 team gathered and incorporated end-user feedback from several sources. Unit input and lessons learned came from 4th Infantry Division testing and implementation of the Army's former digital logistics systems, the Stryker Brigade's use of the logistics common operating picture (LCOP) process, and user jury feedback from the 3rd Infantry Division. Additionally, students at the Army's Command and General Staff College were given instruction on a prototype version, which allowed for feedback in time to affect the development process.

Modular, tailorable, and scaleable to meet the full spectrum of operations, BCS3 interoperates with army battle command systems (ABCS) and with the emerging single

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Main Features and Benefits of the BCS3

- Provides latest available sustainment C2 on a map-based display
- Interoperates with Microsoft® Office products (Excel and PowerPoint®) to assist users in preparing briefings
- Provides for electronic messaging and data exchange with ABCS and movement tracking system
- Emphasizes interfaces with other DoD data sources employing a data warehouse strategy and access to national databases
- Assists users in executing distribution management and convoy control
- Provides reception, staging, onward movement, and integration visibility and status
- Provides log-related CCIR alerts
- Operates on classified as well as unclassified networks
- Operates in-garrison, enabling peacetime as well as wartime operations
- Provides combat power data to maneuver control system

army logistics enterprise (SALE) architecture. BCS3 is a force multiplier—the precision tool for logistics planning and execution—essential to achieving victory on the battlefields of today and tomorrow.

Defining New Capability to Meet Warfighter Needs

In the late 1980s, the Army created the Combat Service Support Control System (CSSCS) to allow commanders and their staffs to share critical logistics information digitally on the battlefield. Despite over a decade of development and fielding, the system never achieved user acceptability. It was extremely bulky, weighing in at 942 pounds. Lack of a secure guard meant it was unable to transfer data remotely between unclassified and classified systems. It was expensive, costing the Army over \$56,000 to produce each unit, and had a lifetime development cost of around \$555 million. In 2003, the inadequacies of CSSCS became painfully clear in the preparations for Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). Reprioritization in the Army's acquisition, technology, and logistics (AT&L) areas, lessons learned from OEF/OIF unit needs, and the increased capability in COTS hardware, led to a need for program redirection. CSSCS was pronounced DOA—dead on arrival—at the August 2003 Program Review Board. Subsequently, Army Lt. Col. Joseph Grebe took over as product manager and formed BCS3, using a technology

insertion approach to rapidly develop the integrated logistical and maneuver sustainment C2 system. Some of the much-needed functionality is in-transit visibility, combat power reports and projections, and the ability to alert the user to critical logistics-related events.

Early in 2004, Army Chief of Staff Gen. Peter Schoomaker created a campaign plan to highlight the Army's priorities for the future:

- Get to the “good enough” battle command (i.e., capabilities required by the current forces).
- Move from current to future within 18 months (i.e., develop and field the “good enough” solution).
- Increase the use of COTS technology.
- Use redefined Department of Defense (DoD) acquisition policies.

Additionally, the deputy chief of staff for logistics (G-4) recently described four focus areas to create a path forward for all logistics that would:

- Connect our logisticians
- Modernize theater distribution
- Improve force reception
- Integrate the supply chain.

“Good Enough” User Acceptability On Time, Within Cost

To meet the challenges, BCS3 coupled accelerated acquisition methods—spiral development and the use of COTS hardware—to combine multiple software applications from several contractors into a new system that would become ready for testing within eight months.

The BCS3 development team changed the hardware from a 942-pound Unix®-based system into a 6-pound COTS laptop that uses a standard Microsoft Windows® operating system. Now, for the first time, commanders can see the logistics picture of the battlefield using BCS3's map-centric display. With the new software insertion and the ability to operate in an unclassified environment, commanders can plan, rehearse, train, and execute on one system. Most significantly, they do not have to carry disks around the battlefield to move data from unclassified to classified systems; they can conduct logistics operations on the unclassified network and, through the secure guard, migrate logistics information to the classified network to fulfill the logistics portion of the common operating picture.

BCS3 is the primary ABCS system to satisfy the chief of staff of the Army's battle command priority for the running estimate, which it accomplishes through current and future combat power reports, in-transit visibility, and the ability to track logistics-related commander's critical information requirement (CCIR) alerts.

Three-Phase Development and Fielding

Development and fielding will occur within a three-phased strategy:

Phase I. Build BCS3 running estimate to the “good enough” standard by April 30, 2004—this goal was met on time.

Phase II. Achieve complete joint interoperability fiscal years 05 – 09.

Phase III. Interface/integrate with enterprise resource planning (ERP)-based SALE architecture.

BCS3 delivered a product on April 30, 2004, that achieved “good enough” capabilities as follows:

- Running Estimate
 - Combat Power
 - Future Combat Power
 - In-Transit Visibility
 - Log-Related CCIR Alerts
- Display Friendly Locations
- Display correlated enemy situation.

Although the system is undergoing testing at the Central Technical Support Facility at Fort Hood, Texas, an early capability was fielded to the 3rd Infantry Division beginning in June 2004. BCS3 will be fully fielded to the division by the time it deploys to OIF. The 2nd Marine Expeditionary Force is also training on BCS3 prior to deployment, highlighting BCS3’s value as a joint system. BCS3 fielding continues next with the 4th Infantry Division.

While working to achieve running estimate objectives, the team had to redirect its technical focus to the operational requirements document scoped to the “good enough” standard. BCS3 has used a broad concept laid out by Schoemaker and turned it into an acquisition strategy and performance benchmark. The benchmark incorporates findings from OEF/OIF and requires that commanders have a functioning, standardized, interoperable battle command system that will satisfy their C2 requirement across the spectrum of conflict for the next 10 years. Most important, however, the “good enough” standard has allowed the BCS3 team to streamline the development process through software insertion. Without having to perfect the system before actual testing, the team cut the



Maj. Sandy Vann-Olejasz (center) briefs an Army lieutenant colonel on the capabilities of BCS3 during the Association of the U.S. Army Logistics Symposium in Richmond, Va., in April 2004.

Photograph by Nicole Kratzer

development timetable from several years to less than eight months. The product manager also cut costs significantly by operating with 39 percent less government and contractor staff, reducing total life-cycle costs by 28 percent.

A Dynamic Combat Tool

Applying lessons learned from CSSCS and the LCOP process that was used in OIF, BCS3 provides commanders a current view of the battlefield coupled with a logistics picture of unit and supply-point status and in-transit visibility. BCS3 has immediate, high pay-off benefits to warfighters and additional future growth in its capabilities. It links operational planning to logistics status and provides a tool kit that will give users a platform to plan, train, and execute missions.

Through careful management, development creativity, and true teamwork, the BCS3 team has managed to transform a DOA system into a dynamic tool for the warfighter. Speaking before the House Armed Services Subcommittee on Readiness hearing, March 30, 2004, Army Lt. Gen. Claude Christianson said, “To plan and control logistics operations at the tactical level, the Battle Command Sustainment Support System will be the logistics component of the Army’s battle command system.” Logistics planning in today’s dynamic contingency environment cannot be left to stubby pencil planning. BCS3 leverages the best of the commercial world’s current and previously developed software support tools to deliver commanders the logistics portion of the common operating picture.

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