As this issue reaches readers’ hands, soldiers in U.S. Army Europe are receiving the latest package of hardware and software systems designed to expand a vital information gateway between tactical and strategic operational command levels.

Designated global command and control system-Army (GCCS-A), the program is one of the key command-and-control systems for military operations requiring mobilization, demobilization, deployment and sustainment of theater forces. In its simplest form, GCCS-A consists of new hardware platforms and software applications designed to provide the commander with critical automated tools that can be applied during both warfighting and peacetime operations. The program combines several legacy systems to provide the primary gateway between tactical systems, such as Army battle command system, and joint service systems like the DoD’s global command-and-control system.

“We’re the interface that’s passing data through in both directions to integrate the theater level, the strategic level and the tactical level,” explains John Osborn, program manager for GCCS-A at prime contractor Lockheed Martin Mission Systems. “We take data that a particular battlefield functional area may want. We filter it for them, and we pass it along based on the need for that particular data. We pass it up the chain to theater or down the chain to tactical.”

Osborn traces the GCCS-A program origins back to 1994, adding that there have been three worldwide deliveries of GCCS-A to date. The first fielding was to Headquarters, Department of the Army and FORSCOM (U.S. Army Forces Command) in 1996 at the strategic level, then Delivery One for U.S. Army Europe, followed by Delivery Two, which was fielded to Combined Forces Command in Korea in late 1999.

Just five days after completion of a major U.S. Army and Korean forces joint warfighting exercise in September 1999, Combined Forces Command accepted GCCS-A as its command-and-control system of record for the planning, execution and sustainment of theater forces. In its Korean implementation, GCCS-A replaced the legacy theater automated command-and-control information management system.

The Korean fielding was followed by that of GCCS-A Delivery Three (Delivery 3.2) capabilities to the U.S. Army’s Pacific Command. It was subsequently identified as that command’s C2 system of record in August.

According to Osborn, the systems were originally based on Unix platforms. “With Delivery Three we broke with that tradition, and we started to embrace Unix and more NT-operating system clients and applications. Within the Army’s battle command system at Fort Hood, Texas, we are the only battlefield functional area [BFA] that is primarily NT-compatible. Other BFAs, such as the all-source analysis system and maneuver control system, are all Unix-based boxes. They have not ported into an NT environment yet, but many of the applications that we are building are all NT-compliant.”

The hardware implications of NT compatibility mean that GCCS-A fielding includes a combination of both Unix- and IBM-compatible hardware boxes.

Osborn is quick to credit the work of the government side of GCCS-A, which is run out of the Project Management Office for the Army tactical command and control system at Fort Belvoir, Va. “The government supplies the hardware,” he says. “When we fielded Delivery Three to U.S. Army Pacific, we sent about 14 Unix servers and about 140 NT boxes. Now we’re getting ready to field to U.S. Army Europe. We’ll send a later version of Delivery Three, Delivery 3.2.4,
and it will include 22 Unix servers and about 200 NT boxes.”

The new boxes are equipped with several new applications to enhance Army command-and-control capabilities. In addition to facilitating information flow through the replacement of the “stovepipe” legacy systems, Osborn highlights several of these new applications. One new application is the commander’s force analyzer. It is IBM-compatible, but it takes data from the Unix side. It provides the commander with the ability to see where things are when the unit is deployed. The commander will know when the units arrived, how much of the force has been marshaled, what pieces are still missing.

Also, anytime they’re moving equipment, the commander wants to know when it will arrive and if it was delayed en route. The system also allows incorporation of another application called movement planning and execution. That report tells the commanders units’ predicted times of arrival and their state of readiness.

Osborn adds that GCCS-A’s flexible capabilities go beyond the complete spectrum of conflict, serving a peacetime application. “We’ve already offered it to organizations like the Red Cross in case they wanted to use it for marshaling resources following natural disasters,” he says.

GCCS-A installation in U.S. Army Europe started in January and is scheduled to run into April. This will be followed by upgrading the existing Delivery Two systems for U.S. forces in Korea during calendar year 2002. Upgrades will include a later delivery, with newer applications and newer hardware. “The hardware complement would be more than 40 Unix servers for Korea and more than 900 NT systems or workstations,” says Osborn.

Reflecting on the benefits that GCCS-A brings to the soldier, he concludes that soldiers are “better off getting this because it provides them with updated software applications and state-of-the-art hardware complements of Unix and NT.”

Future plans focus on GCCS-A Delivery Four. Although still in the concept stage, Osborn notes that Delivery Four will likely involve upgrading some of the infrastructure supported, in terms of GCCS-A databases. A rough time frame for this activity would probably run from late calendar year 2002 through calendar year 2003.

GCCS-A provides strategic readiness, planning, mobilization and deployment capability information to strategic commanders and force employment information to theater commanders.

“We also learned at OCS that sound information management is a major force multiplier.”