



Warrant Officer Angel Santiago, the sustainment automation support management officer-in-charge for the 225th Brigade Support Battalion, 2nd Infantry Brigade Combat Team, 25th Infantry Division, monitors very small aperture terminals during the brigade's Global Combat Support System–Army data validation process.

Proving VSATs Are up to the Challenge

The 2nd Infantry Brigade Combat Team successfully converted to the Global Combat Support System–Army using very small aperture terminals to complete its data validation.

■ By Chief Warrant Officer 3 Jerry T. Loera

For years the Army has been improving its systems to better serve logisticians and help units track their supplies, spare parts, and equipment readiness. In the 1990s, the Army introduced the Unit Level Logistics System–Ground, a database system that allowed users to send maintenance updates through data packages. Each maintenance section had to learn how to process data and send it to the next higher headquarters.

In 2005, the Army released the Standard Army Maintenance System–Enhanced (SAMS–E). The system supported the Army's transition to the two-level maintenance concept and acted as a bridge to link current systems to the Glob-

al Combat Support System–Army (GCSS–Army).

GCSS–Army

For the past five years, the Army has been fielding GCSS–Army, a web-based logistics and finance system developed from best commercial business practices. GCSS–Army replaced several outdated information management systems across the tactical logistics environment.

Every system or program conversion requires data migration. Users must prepare and transfer data from the old system to the new one. Each unit's GCSS–Army conversion takes a year of planning and monthly uploads of SAMS–E backup files.

One of the biggest concerns during

a GCSS–Army conversion is the limited bandwidth of the very small aperture terminal (VSAT). The Army uses VSATs to transmit information on the battlefield. Since GCSS–Army requires a lot of bandwidth, logisticians were skeptical about the VSAT having the speed and reliability to support GCSS–Army.

The Conversion Challenge

During a yearlong data migration, the 2nd Infantry Brigade Combat Team (IBCT), 25th Infantry Division, focused on having the correct information for a smooth transition. Sixty days before the GCSS–Army conversion, the 2nd IBCT initiated the discussion of data validation.

Feedback received from oth-

er units indicated that the VSAT would hinder the validation process and cause GCSS–Army to run too slowly. Because of the limited Non-secure Internet Protocol Router Network (NIPRNET) access in the 2nd IBCT’s motor pool, the unit used a combination of NIPRNET and VSAT to migrate data.

The sustainment automation support management office (SASMO) requested that additional NIPRNET lines be installed in a single area for the fielding and data validation. The additional lines would give the support operations maintenance section and the SASMO better control over connectivity, validation, and user issues.

The Setup Process

The support operations maintenance section and SASMO developed a preconversion checklist that started with the users and ended with a VSAT validation for each unit.

The units started by setting up the VSATs to identify broken or missing parts. Three of the six units identified broken and inoperable VSATs. The SASMO was able to fix two of the three VSATs and coordinated with the VSAT logistics assistance representative to fix the third.

The next step was to identify where the VSATs would be set up during

and after conversion. The direction of the VSAT determines which satellite is available to the system. The SASMO set up a VSAT network hub in the maintenance conference room after the VSAT placements were identified. The internal parts of the VSATs were placed together on a U-shaped table in a conference room. This allowed easy access to the VSATs and the production boxes.

The SASMO collected all of the network routers from the units and configured four production boxes for each of the VSATs. The SASMO was not worried about VSAT ownership but rather keeping units organized for easier management. Once the tactical image was installed on the production boxes, the SASMO placed them on the network and conducted a systems check. All of the required VSATs and production boxes were configured and tested prior to GCSS–Army validation.

Data Validation

There seemed to be little difference between the NIPRNET’s and the VSAT’s speed and accessibility to the GCSS–Army website. Both systems experienced lag time when units tried to run full-scale reports without filtering them down to the battalion level.

The brigade successfully complet-

ed its validation on VSATs and the units continued to run GCSS–Army on VSATs with few issues, proving that the VSAT can handle GCSS–Army’s bandwidth demands. The brigade was able to “go live” three days ahead of schedule. Going live early enabled the clerks to receive three additional days of over-the-shoulder training.

The brigade maintenance managers learned the importance of maintaining their VSATs. They have incorporated VSAT sustainment training and regular preventive maintenance checks and services on their VSATs.

The brigade also learned that the time of day, weather, and cloud cover likely affect the signal speed and connectivity. For the 2nd IBCT in Hawaii, the speeds of the VSAT and NIPRNET systems increase in the afternoon when units in the continental United States are off the GCSS–Army website.

For any unit preparing for the GCSS–Army conversion, the following checks are recommended:

- Conduct preventive maintenance checks and services on all VSATs prior to conversion.
- Configure all routers prior to conversion (match VSATs with production boxes).
- Connect the production boxes and log in to GCSS–Army for a connectivity check.
- Centralize all units into one area; this helps the SASMO to identify and fix issues quickly during data validation.
- Have a VSAT logistics assistance representative present during setup, testing, and conversion.



Members of the 2nd Infantry Brigade Combat Team, 25th Infantry Division, review and validate their data during the brigade’s Global Combat Support System–Army conversion. The brigade used four very small aperture terminals and 16 production boxes to complete the data validation process.

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