## Chapter 7

# Global Broadcast Service Supporting the TI

The GBS allows the division commander to broadcast large volumes of critical tactical information to subordinate units without overwhelming the limited bandwidth of the TI. This chapter discusses the functional description, employment, deployment, reachback communications, broadcast methods, and tactics and techniques of the GBS system in the TI.

## FUNCTIONAL DESCRIPTION

7-1. The accelerated tempo of modern, combined-arms warfare demands rapid processing and transfer of information. Force dominance at tactical levels requires improved battle command systems, increased ability to synchronize direct and indirect fires, faster and more comprehensive access to intelligence data, enhanced SA, and effective force protection. To improve agility, commanders at all levels require the means to gain and use timely battlespace information for making informed decisions consistently faster than the enemy. Making and communicating these battlefield decisions before the enemy can acquire friendly intelligence allows the US commander to keep the enemy off balance with an overwhelming tempo to which the enemy cannot react.

7-2. As the Army continues to digitize the battlefield, inadequate communications pipes inhibit data from being generated or available to the commander. Also, no efficient means provide the right information to the people who need it.

7-3. The GBS solves this problem by providing an efficient and seamless information management infrastructure for the warfighter. The GBS provides the adequate communications pipe required to provide information when needed, in the format needed, and in a timely manner. By combining high bandwidth with data fusion technology and other applications, the GBS significantly improves the warfighter's visualization of the battlespace.

7-4. The GBS broadcasts large volumes of battlefield and national data information from an injection point to receiving stations at designated division, brigade, and battalion TOCs. The information dissemination manager provides an efficient and seamless information management infrastructure for the warfighter and ensures the availability of relevant information across the battlefield.

7-5. Commanders and staffs at all echelons use the GBS system to support the battle command by dominating information operations. Commanders are more proactive by virtue of their enhanced capabilities of decision support, C2, and SA. Staffs are more responsive to the increasing variety of missions, operational environments, and ambiguous threats. The GBS users' ability to receive, access, archive, and retrieve maps, overlays, full motion video, audio, and data provides the force a coherent, relevant, and common picture of the battlefield. The GBS improves force effectiveness before, during, and after conduct of close combat operations.

## EMPLOYMENT

7-6. The GBS support for the TI is employed in the division to achieve broadcast high-volume multimedia data, provide information management capabilities, and relieve TI demand.

### BROADCAST HIGH-VOLUME MULTIMEDIA DATA

7-7. The GBS provides state-of-the art, multimedia broadcast services to support ABCS employment by all commanders and staffs. GBS provides tactical commanders with a real-time, continuous means to receive, access, retrieve, and archive this battle command information. These information products can be–

- Video broadcasts.
- An unmanned aerial vehicle (UAV) video.
- Common ground station sensor data.
- An MCS.
- Blue force data overlaid with ASAS.
- Red force data.
- Other large volume data.

### INFORMATION MANAGEMENT CAPABILITIES

7-8. To effectively support SA, C2, ABCS, and battlefield combat identification requirements, there is a need for extensive data management and integration capabilities. The GBS provides timely and consistent information across the battlefield and a tailorable information management system for each commander. At each echelon, the commander can define the type of information needed, when it is needed.

### TI DEMAND

7-9. The TI cannot support the large volume of information being generated on the digitized battlefield. The GBS off-loads the receive-only type data from terrestrial and space-based communications systems. These capabilities facilitate the allocation of communications assets to critical C2 functions by the divisional commanders and staffs, as required.

## DEPLOYMENT

7-10. Figure 7-1 shows an example of GBS deployment and the connectivity from the primary injection point to the user at maneuver battalion level. The GBS receive suites are located at the division main, division TAC, brigade TOCs, and maneuver battalion TOCs. They function as the receivers at the division, brigade, and battalion TOCs.

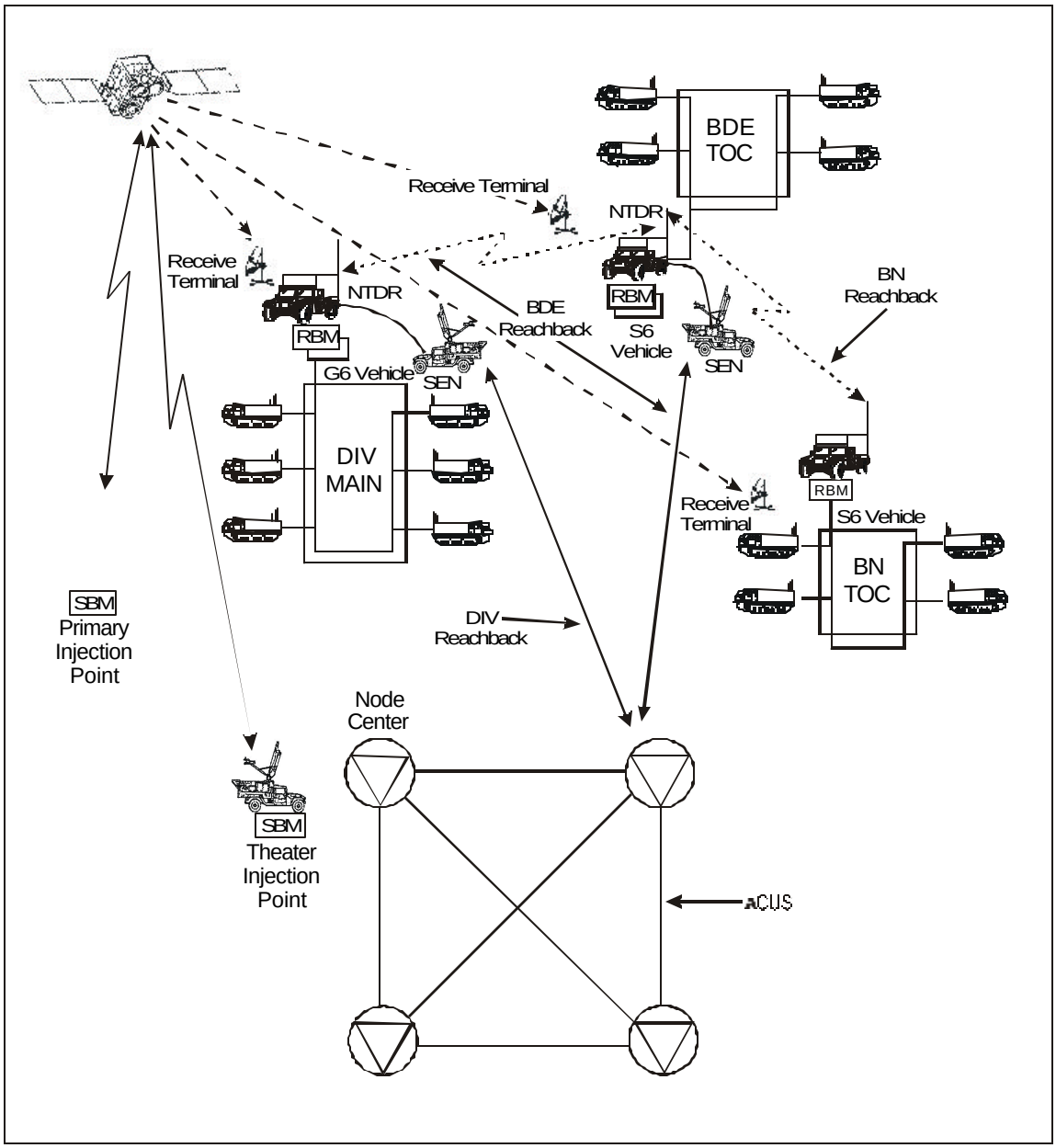


**Figure 7-1. Example of GBS Deployment**

7-11. Data sources are generated at division for broadcast down to the brigade and battalion echelons over the GBS. The information generated by these sources is too large to be passed over the NTDR network, which is the only other link to the battalions. The sources are intelligence-related and include–

- The Joint Surveillance Attack Radar System.
- Moving target indicators.
- UAV video and telemetry.
- Longbow Apache targeting messages.
- MCS overlays.
- Battlefield video teleconferencing (VTC).
- Whiteboard.

7-12. The users at the receive suite set profiles for the time, area, and type of information and query for other information they want to receive through the GBS system. At the receive suite workstations, the profiles and queries are sent to the brigade TOC via the NTDR and to the division via the enhanced MSE system. The profiles and queries are small messages that can easily be passed over existing tactical communications.

### TIP

7-13. The TIP supports the division by providing a transportable broadcast management and uplink system. This system enables the commander to inject near-real time in theater data into the GBS system.

### RECEIVE SUITE

7-14. Signal personnel operating the G6/S6 vehicle install, operate, and maintain the receive suite. The receive suite consists of a receive terminal and one or more RBMs. The RBM is required for each transponder to enable simultaneous reception as dictated by the architecture. The antenna system includes a 24-inch antenna dish feeding a low noise amplifier called a low-noise block converter. This antenna can be set up no more than 31 meters (100 feet) from the receive suite.

## REACHBACK COMMUNICATIONS

7-15. Reachback communications perform essential functions in the GBS concept. Since the GBS is a one-way broadcast system, reachback communications are necessary for the operation of the service. Requests for information from users generally pass through the reachback communications to the information dissemination server for servicing.

7-16. Existing tactical systems provide reachback communications for the GBS system. Enhanced MSE will be the primary reachback system for brigades. Battalions without enhanced MSE support will utilize the NTDR network.

## BROADCAST METHODS

7-17. The paragraphs below discuss the broadcast methods that the GBS system employs to provide required information to users.

### SMART PUSH

7-18. This is the commander's process of preselecting video and data products to support users throughout the area of operation. Smart push takes advantage of the GBS's capability to simultaneously broadcast information to many users.

### USER PULL

7-19. This is when individual users request and receive specific information through normal request channels from information producers in accordance with (IAW) the commander's priorities.

## TACTICS AND TECHNIQUES

7-20. The GBS system provides commanders a tailored information system so they can receive timely information that is relevant to their mission. Once the mission is received, the staff develops the critical information requirements that will be approved by the commander. These requirements become receive suite profiles so that as information enters the system from any source, it will be sent to the commanders that need it. For example, if a unit is moving into a corridor in the next two hours, a profile would be set for the appropriate area for that time, and the commander would ask for intelligence information. If a UAV flew over that area, an icon would appear on the receive suite terminal screen display, and the commander would be able to watch the UAV fly in near real-time.