



iDirect Government's Tactical Hub Tested in Saber Guardian Exercises

INTRODUCTION

The Series 11000 Tactical Hub was field tested as part of the Saber Guardian joint exercise, which is conducted every two years at numerous locations throughout Germany, Bulgaria, Hungary and Romania.

Co-lead by Romanian land forces and the U.S. Army Europe, Saber Guardian is primarily focused on vehicle road marches, live fire exercises, medical training and air defense artillery (ADA). The joint exercise enables the evaluation of new and emerging technologies in a joint task force environment across numerous locations worldwide.

Troops from the 35th Signal Brigade (35th ESB), Fort Gordon, Georgia, home to the U.S. Army Cyber Center of Excellence, U.S. Army Signal Corps and U.S. Army Cyber Corps, took part in the international military field tests. As part of the testing, the 35th Theater Tactical

“The new Tactical Hub brings flexibility, agility and efficiency to warfighters, first responders, disaster recovery personnel and field operators.”

Signal Brigade (35th TTSB) deployed iDirect Government's Series 11000 Tactical Hub for the exercise using FIPS-certified Transmission Security (TRANSEC). The hub was connected to multiple iDirect Satellite Routers throughout Europe in six different countries.

Tactical Hub Field Test

Saving rack space is a priority, especially for the military where missions may be anywhere in the world and communications equipment must be transported to the site of the operations. The perfect MILSATCOM solution for such critical missions accounts for ideal size, weight and power (SWaP) specs in design for mobile and smaller environments.

The iDirectGov Tactical Hub is designed with such

SWaP considerations. The Tactical Hub provides a smaller alternative to the much larger – and heavier – 20-slot hubs, keeping tactical operations in mind on the engineering front with this new design. Two new Defense Line Cards, the DLC-T and DLC-R, come embedded in the Tactical Hub, packaged neatly in a single 2RU (rack unit) rack-mount chassis. This design saves precious real estate in smaller spaces without sacrificing the quality of your network.

The Tactical Hub is designed to operate at increased temperatures, humidity levels and altitudes, and it will survive vibration and shock in accordance with MIL-STD 810G. All elements of the Tactical Hub solution (server and layer-3 switch) are ruggedized and reliable.

The Tactical Hub is powered by Evolution software and



Tactical Hub Features:

- Compact hub solution embedded with both a DLC-T and DLC-R line card
- Federal Information Processing Standards (FIPS) 140-2 Level 3
- Embedded RCM-PPS module
- Variable temperature controlled fans.
- Field-replaceable power supply

comes bundled with a small form factor network management system (NMS), protocol processor and layer-3 switch. The bundle used for Saber Guardian occupied 5RU of network rack space with a depth of 20 inches. The bundle includes a four-channel time division multiple access (TDMA) license to enable operators to take advantage of the DLC-R's multichannel capabilities.

Its size makes it ideal for a wide array of missions for military personnel, first responders and disaster recovery personnel. Given that our Tactical Hub comes bundled with needed servers, layer-3 switch and next-generation line cards, no additional components are needed. This keeps rack mount space to a minimum with less weight. Additionally, it makes it much easier to move from place to place.

Transmitting the Message

Connecting as many as 14 remote sites, the Tactical Hub was located in Weisbaden, Germany with its two embedded line cards: one DLC-T and one DLC-R with a four-channel license. The next-generation defense line cards – the DLC-T and DLC-R – enable secure voice, data and video communication links. The DLC-T supports one-way TRANSEC and is DVB S2X ready. The DLC-R has an on-board TRANSEC module and will support as many as 16 channels. The entire package used in the Saber Guardian field test was installed in only two portable transit cases: one with 5RU containing the Tactical Hub solution and the second with 4RU containing a battery backup system.

The Tactical Hub was connected to a 4M GATR antenna for WGS and a 3.8M L3 Harris MAQA. The Harris antenna was set up for a follow-on 35th TTSB exercise utilizing XTAR bandwidth on the same Tactical Hub. Both of these systems utilized iDirectGov e850mp satellite routers.

The e850mp “single board” remote solution includes a satellite modem, Internet Protocol (IP) router, optional encryption, transmission control protocol optimization over satellite and quality of service/prioritization. iDirectGov's board-level Satellite Router easily integrates into a portable very small aperture terminal

Strengthening Security Cooperation

Approximately 8,000 multi-national troops were involved in the Saber Guardian exercise, with the main goals of increased readiness, building on multi-national professional relationships, and most of all, improving overall coordination with Allied countries during times of crisis.

(VSAT) solution, delivering always-on broadband capabilities into smaller form factors that support data, voice and video connectivity in highly mobile military and government applications. Using the most efficient modulations and coding technologies, these remote routers can reach IP data rates of as much as 160 Mbps downstream and 50 Mbps upstream.

Results

In the Saber Guardian military field exercises to demonstrate real environment military satellite connectivity and efficiency, the 35th ESB used downstream DVB-S2 Adaptive Coding and Modulation (ACM) capabilities of up to 16APSK (amplitude and phase-shift keying). This enabled the Tactical Hub to handle remote traffic of data speeds for more than 4 Mbps without increasing occupied space or power on Wideband Global SATCOM system (WGS) transponders.

The Tactical Hub performed efficiently and offered solid data speeds during the exercise, showing that it is well suited for military and government users whenever and wherever they are located throughout the world. It's FIPS 140-2 Level 3 and TRANSEC capabilities were put to the test and performed as designed. No problems were reported with the Tactical Hub located in Germany, and its setup, coordination and configuration of the secured satellite communications field trial were flawless.

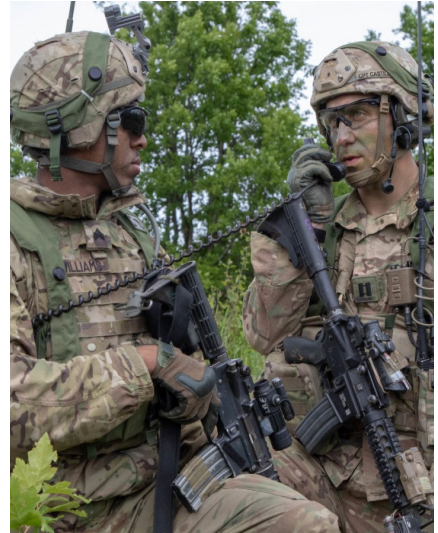
With operational benefits and relevance to DoD and other agencies in mind, iDirectGov's participation in the Saber Guardian field tests closely matches those objectives.

In Perspective

By conducting real-world tests in complex environments, it was demonstrated that iDirectGov's Tactical Hub was up for the challenge of SATCOM security, efficiency and performance to bring the best information sharing to defense and government users wherever they are communicating across land, sea and air platforms.

With the Tactical Hub, military users were able to connect safely and effectively for their field performance, showing how the hub is well-suited for mission-critical applications.

The new hub bundle brings flexibility, agility and efficiency to warfighters, first responders, disaster recovery personnel and field operators through the use of a MIL-STD 810G rated server. Other improvements such as a smaller and lighter layer-3 switch as well as reduced SWaP by integrating both the NMS and PP into a single server.



The Saber Guardian military field exercises demonstrated real-world military satellite connectivity and efficiency.