

Interoperable BFT from Northrop Grumman

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Northrop Grumman is planning to unveil a new satellite-based blue-force tracking (BFT) system at the forthcoming DSEI (Defence Systems and Equipment International) exhibition in London in September. Visitors to the Soldier Technology 2009 conference in early July were given a preview of the new export system, which Northrop Grumman calls Kodiak.

Kodiak uses a 'hub-and-spoke' architecture to provide a global two-way BFT capability, running over the Iridium L-band satellite network. Vehicle outstations are equipped with circular omnidirectional plate-type Iridium transceiver antennas with integral GPS reception. These are coupled to MOTS terminals such as the Blazepoint 8.4 inches ndura ruggedised tablet PC, used to run a version of Northrop Grumman's C2PC Tactical battle management system application. The outstation (or 'spoke') automatically transmits its GPS location at a specified interval. This is aggregated with the inputs from other subscribers at a central server (or 'hub') to form a global common operating picture (COP). Geo-filtering is employed to ensure only that portion of the COP relevant to each outstation is sent back to it, saving significant bandwidth.

Like the equivalent FBCB2 (Force XXI Battle Command Brigade-and-below)-BFT L-band satellite system which Northrop Grumman has developed for the US Army, Kodiak will be able to be used to exercise battle management functions as well as deliver situation awareness (SA), despite its very low throughput (approximately 1 kbit/s). According to Northrop Grumman, command messaging and overlays can be sent securely in VMF, using Kodiak's AES 256-encrypted link. If no satellite capacity is available, the system could also be rigged to run over long-haul 2.4 kbit/s HF skywave radio links, *Jane's* was told.

The PDT-300i two-way Iridium terminals used in Kodiak have been developed by EMS Satcom of Canada. Some outstations, such as helicopters, can be expected to be fitted with simple one-way (beacon only) BFT systems. For this application, a US NAL Research Corporation beacon, already qualified as part of the UK forces' beacon-only HeATS/GrATS helicopter asset tracking and ground asset tracking systems, is the preferred choice.

Apart from having two-way blue-force SA capabilities and low-bandwidth requirements, a claimed advantage of Kodiak is that it is not only affordable for home station training but that the same equipment can be taken on operations. It can be made to interoperate with both the US FBCB2-BFT system and the International Security Assistance Force Force Tracking System (ISAF FTS) used by coalition forces in Afghanistan (which is also based on C2PC), connected up to the Combined Enterprise Regional Information Exchange System (CENTRIXS) coalition data network. In essence, all that is required is for a Kodiak C2PC Tactical terminal and EMS satellite transceiver to be delivered to the hub(s) of the other BFT network(s) to act as a gateway.

Two of the hardware elements used in the development of the Northrop Grumman Kodiak BFT system are the circular EMS Satcom PDT-300i Iridium transceiver (foreground) designed to be strapped to the roof of a vehicle and a Blazepoint ndura rugged tablet computer (top) running the C2PC battle management software application. (IHS Jane's/IDR) 1347341