Tomorrow's SOF operators will continue to operate at the edge of communications and logistics networks, plagued with bandwidth and signature constraints. (Photo: USAF)

Providing communications systems to SOF is no small feat. With personnel frequently on the move, the demand for consistency of service and low SWaP is keeping providers busy in their bid to offer a range of solutions.

By Henry Canaday

HOLDING THE LINE

"A SOF operator, and by operator I mean any of our teammates executing tasks under the conditions we work in, be it direct action, logistics or information operations, is faced with an increasingly difficult task of making more and more accurate and timely decisions than ever before," observed Gen Raymond A. Thomas III, Commander, USSOCOM, at SOFIC 2018. "At the same time, they're operating at the edge of communications and logistics networks, plagued with bandwidth and signature constraints."

What does all that mean in practice? Broadly speaking, special operations personnel want: bigger communication "pipes" in smaller and more portable packages; satellites and other equipment to fill those pipes with secure data; and all of this to be interoperable with partner forces.

Consistent capability

Stav Gizunterman, VP of R&D at Orbit Communications Systems, said: "SOF users must have the same communication capabilities on the move as they do in stationary position, for all operational stages," This must be ubiquitous.

Today's satellite architectures support consistent, uninterrupted service everywhere in the world. Gizunterman believes using commercial satellites to back up military ones is better than fixed transponder leases with pre-commitments of bandwidth based on guesses about where, when and how much will be needed.

In the air, SOF pilots should be able to fly across multiple satellite beams without losing connectivity or manually repointing antennas. The Orbit executive said SOF aircraft also need a single, stabilized very small aperture terminal (VSAT) that can deliver broadband to helicopters, tankers, trainers, fighters and unmanned aircraft. This VSAT must fit into tight spaces and, in rotorcraft, withstand constant vibrations and be able to self-cool when placed behind exhaust systems.

The latest advance in airborne audio is the Dual IP Ring, which supports 3D audio, adaptive noise reduction and voice-activated detection. 3D audio provides: 360° clear audio; increased situational awareness and safety; and a reduction in work and fatigue.

Gizunterman argued that line-of-sight (LOS) ground systems must be self-contained and portable by two operators. He recommended they include elevation-over-azimuth positioner units with built-in tracking controllers and a mounted directional antenna and data link.