

GRAYPATH



by Signify



# Forced Entry Airfield Seizure Communications and the Electromagnetic Spectrum

- Forcible Entry Airfield Seizures represent one of the most daunting combat operations the United States Military, specifically the United States 75th Army Rangers is tasked with completing. The success of airfield seizures relies heavily on the Rangers' ability to rapidly assume control over the airfield and establish a forward operating base where communications can be established permitting the landing of follow-on forces. Joint Electromagnetic Spectrum Operations (EMSO) Management plays a key component in the successful employment of communications during forced entry operations, but analysis of airfield spectrum is not always a permissible luxury depending on the operational environment.

- **AIRFIELD HISTORICAL ELECTROMAGNETIC SPECTRUM ISSUES & THE NEAR-PEER FIGHT**

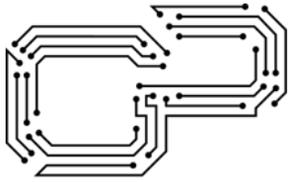


- Historically, communications in third world nations especially around airfields is a complex problem that takes significant time to resolve due to the unregulated environment. In near-peer contested environments, the electromagnetic spectrum is in a constant state of flux due to offensive and defensive electronic warfare degradation. In the rapid airfield seizure scenario, particularly in contested environments, time alleviating spectrum issues can cause delays in the airfield seizure itself, as well as the deployment of follow-on forces leading to failed forced entry and the overall failure of the main mission objective. Reliable communications on the ground allow the assault force to set up key components such as the Tactical Operations Center (TOC), blocking positions, the Forward Air Refueling Point (FARP), and company control points. These key components rely heavily on communications to inform the Ground Force Commander (GFC) maintaining his situational awareness impacting critical operational decisions that may impact the mission outcome. Without communication between the key components, the mission cannot succeed.

- **GRAYPATH + SIGNIFY: AN OBFUSCATED NON-RF COMMUNICATIONS SOLUTION**

Intelligent Waves' GRAYPATH & Trulifi by Signify's technology allow operational forces on the ground to employ communications outside of the electromagnetic spectrum enabling critical communications between dispersed locations without the need for spectrum deconfliction.

GRAYPATH (GP) enables the obfuscated transmission of sensitive data over any transport method native to the 75th Ranger Regiment's current airfield communications package, but also allows for the transmission over host country communication pathways that may be operational during FEAS operations. GRAYPATH also enables the transport via asymmetric routing to combine transmission mediums ensuring the highest level of redundant communications utilizing all transport paths simultaneously. This allows multiple small form factor, low bandwidth dishes to be combined, ultimately increasing bandwidth enabling high data-rate communications that otherwise would not occur until larger communications packages are employed. This benefits the GFC and other decision-makers allowing the distribution of photos, videos, and other data types providing enhanced reporting to commanders.

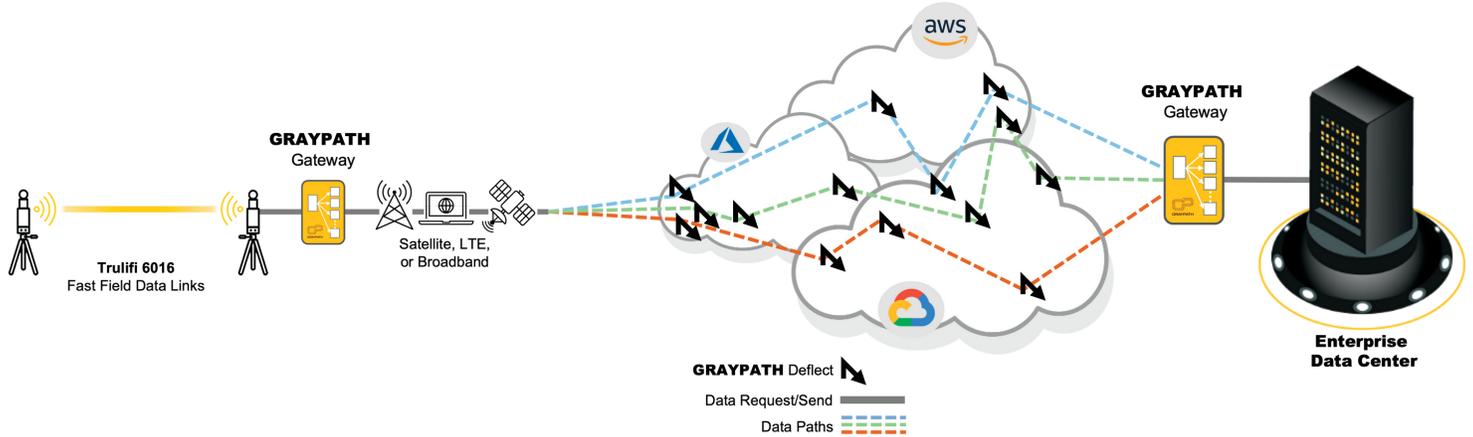


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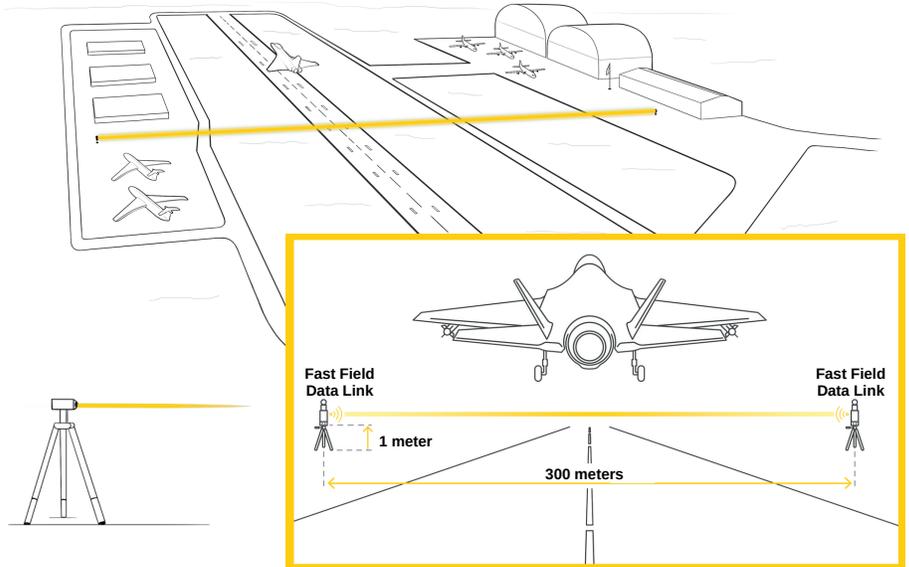


by Signify

INTELLIGENT WAVES LLC  
A SMARTER WAY TO COMMUNICATE



Trulifi by Signify enables reliable high-speed data connections. Due to the use of invisible light for communication instead of radio, the connection is impervious to jamming. Trulifi 6016, the Fast Field Data Link, provides a high-bandwidth, wireless connection between two points via invisible light, allowing dispersed elements such as a Forward Arming and Refueling Point (FARP) or Tactical Operations Center (TOC) to communicate. This communication link utilizes a point-to-point encrypted channel to provide a secure connection up to 300 meters.



Signify's 6016 and 6014 point-to-point LiFi systems allow the employment of a wireless non-RF TOC reducing the amount of equipment and time needed to stand up a TOC. One pair of these units can be used to rapidly connect a TOC offering high-speed data rates. The 6016 offers a data rate of 50 Mbit/s at a distance of 300 meters and a maximum data rate of up to 940 Mbit/s. More information about Trulifi by Signify is available on <https://www.signify.com/global/innovation/trulifi>.



**CMMISVC / 3<sup>SM</sup>**  
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