COAST GUARD
DRUG INTERDICTION

GUARD STACK

MARITIME COMMUNICATIONS

Tasked with conducting counter-narcotics operations, the Coast Guard is required to protect the oceans from those seeking to smuggle illegal substances. Although there have been rapid improvements in telecommunications technology, Coast Guard squadrons operating at sea still lack access to the same telecommunications infrastructure employed ashore. In order to access shore-based telephone and public switched data networks, the Coast Guard requires a secure and dynamic communications infrastructure. Furthermore, the Coast Guard has very stringent requirements before it can establish such a network. GuardStack Software Suite has been specifically designed to meet all Coast Guard operating requirements at the tactical edge.

A TACTICAL NETWORK MUST FOLLOW THE MISSION

During a mission, the Coast Guard must be able to quickly change location, sometimes without notice or preparation. This represents a challenge for traditional and static communication networks. GuardStack, with its patented Secure MeshFlow capability, enables the communication network to be fully mobile and self-adjustable to evolving mission requirements in terms of scale and service availability. This ensures Coast Guard will have the latest C4ISR systems to operate in a highly complex, network-centric environment. GuardStack comprises a network of networks with each node capable of operating and delivering communication services independently or across a MANET. In a MANET configuration, services are adapted automatically to the available backbone infrastructure and available capacity. Voice services are also provided through any available backbone infrastructure.

KEY FEATURES

 Group Key Method without a Centralized Key Coordinator

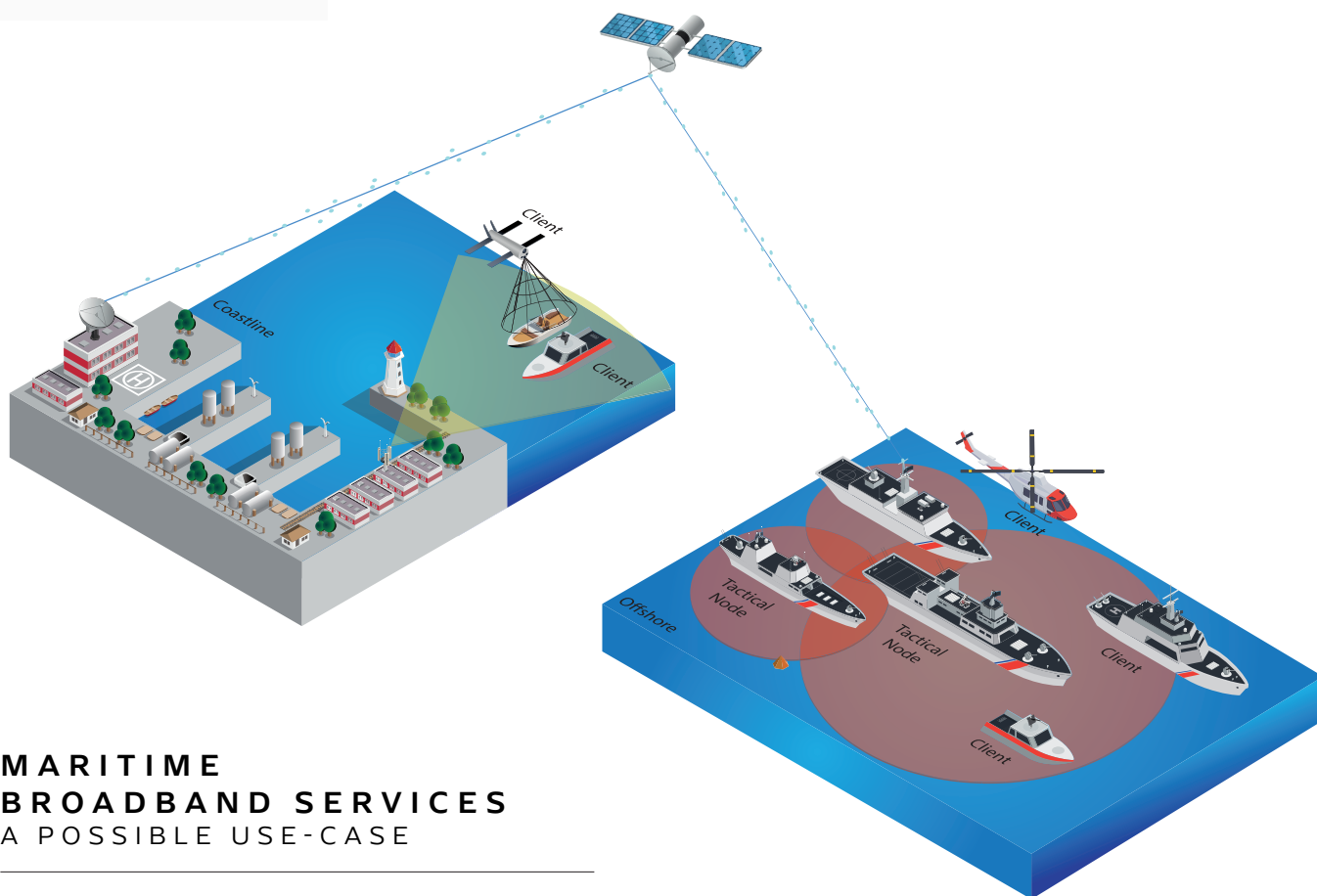 Secure MeshFlow / SDN for Self-forming MANET

INTEROPERABILITY IS KEY

In the past, critical communications have been restricted to proprietary products and solutions, representing not only a challenge for innovation and economy of scale, but also for the operational interoperability between various wired and wireless access technologies. GuardStack is a vendor agnostic and trusted middleware, which allows the integration of all fixed and wireless access technologies at the highest levels of security classification to build a common service layer. This service layer enables the communication between all nodes including legacy narrow band radio technologies and modern broadband technologies such as 4G and 5G.

4G EPC / 5G NC	Blue Force Tracking	Secured Service Domain Seperation	Integrated VoIP PBX	Decentralized Push-to-Talk (PTT) and Video (PTV)	Legacy Tactical Radio Integration	Open Transport & Radio Architecture

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A POSSIBLE USE-CASE

A Coast Guard Squadron is using GuardStack to support its communication infrastructure independently from a satellite. The Squadron consists of an offshore patrol vessel acting as tactical node in the network; multiple response boats; and a small unmanned aerial vehicle (UAV), all of which require communications at the tactical edge. The offshore patrol vessel locates a suspicious boat several miles offshore and requires further information in order to make a positive identification. Utilizing 4G / 5G broadband connectivity, the small UAV equipped with a night vision camera, is launched to capture real-time video feed of the target. With the information received from the live video broadcast, the Coast Guard crew is able to confirm the identification of the vessel before forward-deploying two response boats. With communications protected against interception and disruption, the boats and the patrol vessel are utilizing GuardStack's embedded Push-to-Talk technology to communicate with each other. The GPS location of the response boats and the live video feed of the UAV is visible to every element participating in the mission. The crew is wearing HD broadband-capable body cameras to capture the live scene for additional situational awareness. Upon confirmation that the suspect boat is carrying illegal substances, a maritime interdiction is conducted and crew fingerprints are recorded and transmitted to Coast Guard headquarters ashore to be crosschecked with criminal records. Once crew members are detained, Coast Guard elements return to base.

ABOUT GUARDSTACK

GuardStack Software Suite has been specifically designed to address the most stringent communications and information-sharing requirements facing armed forces at the tactical edge.

Providing a foundation of trusted middleware to enable mission critical communications, GuardStack Tactical Core ensures security, interoperability and network mobility using government open source code to meet national security standards.

GET IN CONTACT

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