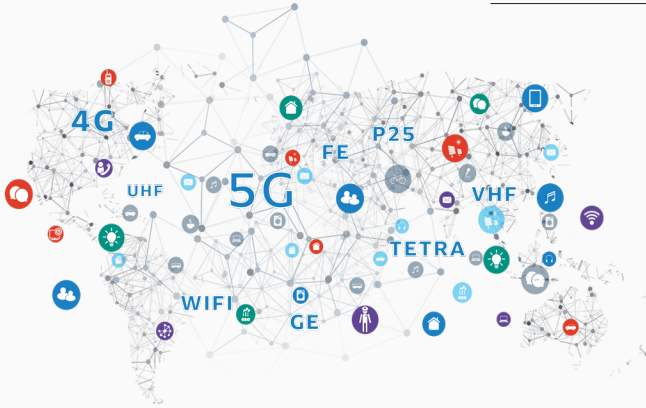


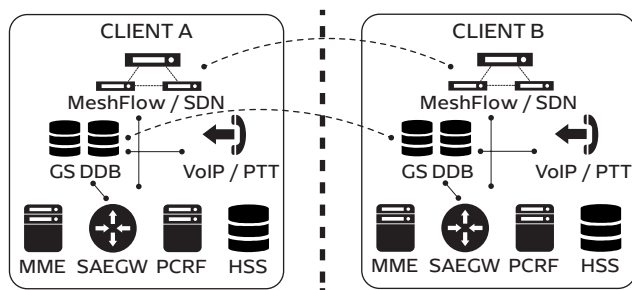
ACCESS INTEROPERABILITY



Requirement for reliable and high throughput data communications is mandatory in the contemporary operating environment. Commercial LTE / 5G networks are ideally positioned to ensure high data rates even in unpredictable situations. GuardStack Platform creates a bridge between different access technologies, providing seamless interoperability with legacy tactical radio systems and voice communications which are always available. The GuardStack EPC / NC consists of all necessary components according to 3GPP, all co-located within an easy-to-use framework.

SECURITY DOMAIN SEPARATION

Additionally, missions require optimal levels in end-to-end security. As a result, GuardStack Platform is designed to enable applications in a zero-trust environment. Vulnerabilities are addressed through a series of enhanced security measures to ensure the integrity of the GuardStack Platform. Measures include protecting access by authentication and encryption, using a group key method without a centralized key coordinator. Furthermore, all confidential data is stored in external and secure hardware elements. With special extensions and customization to support public safety and military communications requirements, our MeshFlow Solution provides seamless service mobility even during handover and backbone connection loss. GuardStack Platform is designed to be used across MANETs and rapidly changing operating environments. The solution is also ideal for dismounted units operating between rural, suburban and urban environments.



KEY FEATURES



4G EPC / 5G NC



Blue Force Tracking



Secure MeshFlow/SDN for Self-forming MANET



Secured Service Domain Separation



Integrated VoIP PBX



Decentralized Push-to-Talk (PTT) and Video (PTV)



Legacy Tactical Radio Integration



Open Transport & Radio Architecture

NETWORK MOBILITY

Often difficult to establish, manage and maintain, complex and heterogenous military communications networks must provide end users with reliability and availability at any time, even in the most challenging of environments.

GuardStack Platform is designed to simplify the administration of entire end-to-end military communications networks through the employment of a single, intuitive user interface. The system design autonomously makes available to end users the full range of network services across a MANET environment. The patented MeshFlow mechanism provides seamless user-mobility between nodes and networks, even in harsh and unsteady environments where network conditions can constantly change.

DECENTRALIZED SERVICES

A user interface for mobile users is provided through the GuardStack Application 'COLLABORATION' which is designed to support the communications requirements of end users operating in harsh and unpredictable environments. Information exchange is crucial for every mission and therefore, information sent via tactical radio or MCPTT must not suffer from any signal delay or loss. End users receive a complete IP PBX which is fully integrated into our MeshFlow design to provide services across a completely decentralized architecture. Our distributed dial plan also ensures signalling via SIP to ensure the availability of an end-user anywhere and at any time.



| | |
|-------------------------------|---|
| SYSTEM | <ul style="list-style-type: none"> - Hardened Debian Linux (with file system protection, recovery functions) - Including system management (alerting, live monitoring) - Configuration via browser or touch-optimized GUI - Update management - Configuration profile management (provisioning and profiling) - Backup and restore functions - System snapshot function |
| MANAGEMENT | <ul style="list-style-type: none"> - Management for users, groups, units, assets, data hierarchies - Device management (devices, security policies and network policies) |
| MESHFLOW | <ul style="list-style-type: none"> - Automated neighbor discovery - Synchronized network path propagation - Seamless service - Cell or node transition support |
| SECURITY | <ul style="list-style-type: none"> - Firewall management for ports, addresses, IPv4, IPv6 and protocol management - Extended logging (alerts to live view, UAM) - Access control user and group management - 802.1X RADIUS AAA - Public key infrastructure (PKI) for MANET operations and runtime option without central system - IPsec for IPv4 and IPv6 in tunnel or transport mode (IKE1/IKE2) - Audit mechanisms |
| NETWORK | <ul style="list-style-type: none"> - 4G EPC Core - Upgrade to 5G NC (New Core) - IPv4 and IPv6 dual stack runtime - 802.1Q VLAN-Support - Layer 2 Tunneling Mechanism - Network bridging - QoS marking of traffic |
| ROUTING | <ul style="list-style-type: none"> - Ad hoc mesh with B.A.T.M.A.N. advanced and OLSRv2 - Routing (static, dynamic - OLSRv2, OSPFv2/v3, BGP) - Multipath situations fully supported - VRRP support - Multicast including Multicast routing and PIM |
| EXTENSION | <ul style="list-style-type: none"> - Internal 3G/4G modem management for backbone extension - WLAN client mode for backbone extension |
| WLAN | <ul style="list-style-type: none"> - User access point management - Ad hoc mesh capable - WPA2 (EAP, PSK), Multi SSID, SSID VLAN association, DFS Support |
| NETWORK SERVICES | <ul style="list-style-type: none"> - DHCP client and server IPv4 and IPv6 - DNS zone IPv4 and IPv6 - Network address translation (NAT) - NTP clock provisioning support as client or server |
| VIRTUALIZATION | <ul style="list-style-type: none"> - Extendable and adaptable VM storage - Import/Export functions - ISO/PXE installations - Snapshot functionalities |
| DISTRIBUTED DATA-STORE | <ul style="list-style-type: none"> - NoSQL (key-value) storage - Ultrarobust synchronization (active-active, active-passive) - Mission synchronization (one way, bidirectional or partial synch mechanism) - Unwanted data altering prevention via authentication, authorization, encryption |

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



10330 Pioneer Blvd., Suite 280
Santa Fe Springs, CA 90670
(562) 298-4030
info@imprestechology.com