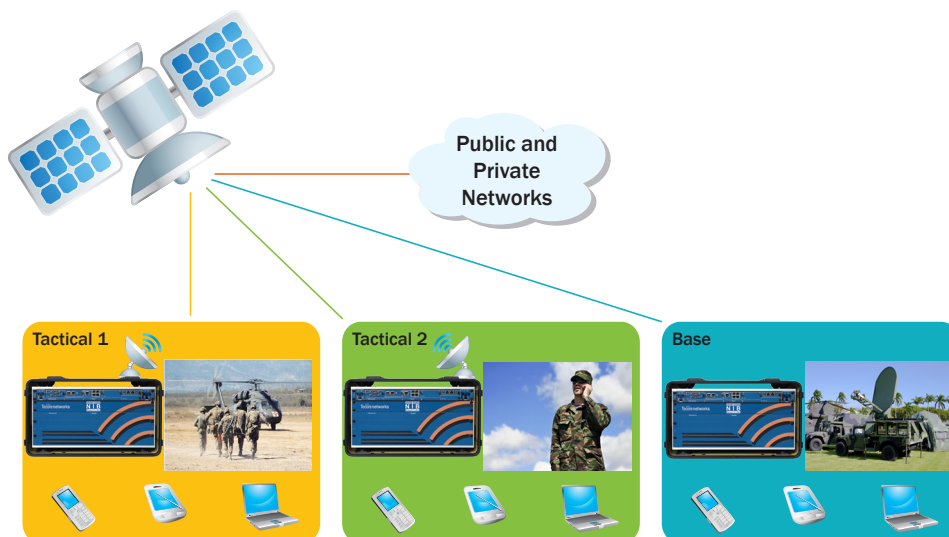


# Leveraging the Power of IP for 2G, 3G and 4G Military Applications



Tecore's Military Secured Network In A Box (MilSec-NIB) is a custom built solution for government and military that implements the features and interfaces required to extend existing communications infrastructure over WCDMA, LTE, GSM and CDMA technologies. The system is scalable and supports both standalone as well as integrated operations making it ideal for everything from embassies to the battlefield.

The functions and features of basic voice, short messaging, and data communications are implemented via the 3GPP and 3GPP2 standard specifications. This foundation of functionality provides the starting point for the implementation of the enhanced features and operations discussed in the next sections.



The key to the technology for the MilSec-NIB is that the entire platform is built on technology building blocks implemented in software and derived from macro based systems. These components are applied to a form factor more suited to a transportable man-carryable or vehicle-mountable solution. The software-based architecture of the iCore Network and Radio Access Network platforms executes and implements the same functionality of commercial systems by providing features such as roaming, dynamic mesh connectivity over IP, and 8TRX base stations capable of 20W per channel. All of this is provided in a system occupying as few as 5 rack units of space.

## Features

- Man-portable
- Ruggedized case
- Macro network capabilities and feature set
- Standalone, centralized, mesh operation modes
- Integrated voice, text messaging and packet data
- Feature set for government / military
  - Type 1 - 4 encryption
  - Precedence and preemption
  - Auto subscriber provisioning (ASP)
- Extensible to LMR systems
- Integrated RNC / NodeB / eNodeB / BSC / BTS
- Supports up to 1,000 subscribers

## MilSec-NIB

The operational mode of the MilSec-NIB is determined by the situation and the system configuration. Scalable to support from one to ten base station sites, the MilSec-NIB system supports both standalone as well as integrated operations as detailed below.

### Standalone Operations

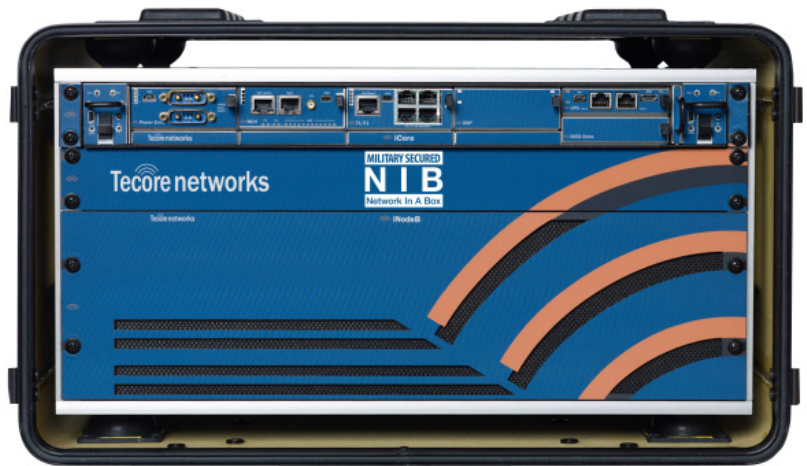
In standalone mode, the MilSec-NIB provides complete multi-technology solution service for handsets on the system. The communications network can operate as an island of coverage and service as deployed. In the case where the MilSec-NIB is deployed as a single unit, the integrated HLR / HSS houses the subscriber profiles for validation. As an alternate configuration, the system can be put in service with the ASP feature enabled, allowing open access to the use of the system.

### Integrated Communications

With the baseline of the MilSec-NIB system leveraging the feature set capabilities of the iCore, the capability to extend the network and provide meshed communications between MilSec-NIB systems is possible using standard protocols and interfaces. As shown in the diagram, several MilSec-NIB systems can network together via IP, thus expanding the footprint and coverage of the system. This networking can be configured to occur dynamically and adjust as the network configuration changes.

Interconnectivity of MilSec-NIBs to each other as well as to a centralized network center is based on standard 3GPP and 3GPP2 mobility procedures. This support allows the network to act as a cohesive unit supporting roaming and movement of subscribers from one system to the next from a common profile repository.

The Tecore Networks MilSec-NIB solution for government and military applications is a comprehensive transportable network with a targeted feature set. Whether using secured communications, basic voice and text messaging, or accessing IP resources, the MilSec-NIB delivers a complete functionality in a size-optimized transportable package.



## Specifications

### MULTI-TECHNOLOGY CAPABILITIES

- 3G WCDMA / HSPA
- 4G HSPA+, LTE
- GSM / GPRS / EDGE
- CDMA / 1xRTT / EV-DO

### INTEGRATED FUNCTIONAL CAPABILITIES

- UMSC / MSC / VLR
- GGSN / SGSN
- MME / SAE Gateway
- HLR / HSS, AuC / AC / AAA
- SMSC / MMSC
- RNC, NodeB, eNodeB, BSC, BTS

### SERVICE CAPABILITIES

- Packet Data Services
- Multi-Media Messaging Services
- Voice services
- Short Messaging Services

### INTERFACE CAPABILITIES

- Standards-based 10/100/1000 Ethernet
- Standards-based SIP / VoIP
- Standards-based T1 / E1

### FREQUENCY BAND CAPABILITIES (MHz)

- WCDMA – 850, 1700, 1800, 1900, 2100
- LTE – 700, 2500, 3600
- GSM – 850, 900, 1800, 1900
- CDMA – 450, 800, 1800, 1900, 2100

### RF CAPABILITIES

- Omni or multi-sector
- Pico / Micro / Macro
- Milli-watts up to 20 watts Output Power

### POWER CAPABILITIES

- AC Power - 120-240 VAC
- DC Power - 48 VDC

### OPERATIONS & MAINTENANCE

- Platform-Independent User Interface
- Local or Centralized Management
- Fully Operational in 30 minutes

### PHYSICAL DIMENSIONS

- 12" H x 21" W x 28" D (30.5 cm x 53.3 cm x 71.1 cm)
- 90 lbs (40.8 kg)