

# The Mobile Industry's First All-In-One Network Solution Supporting WCDMA, HSPA+ and LTE



Tecore's multi-technology Network In A Box (NIB) is the industry's first all-in-one, transportable and ready-in-minutes network solution capable of supporting WCDMA, HSPA+ and LTE in addition to GSM and CDMA. By delivering multiple access technologies and streamlining the network through an IP-based architecture, the NIB provides operators with the most compact, adaptable and cost-effective platform for deploying, extending and evolving their networks.

Tecore has incorporated nearly 20 years of industry leadership in scalable wireless systems into the design of the NIB architecture. The NIB leverages the patented iCore portfolio of 3GPP-compliant software-defined core network elements, available as a completely integrated core or as individual elements capable of supporting network scalability across multiple locations. The iNodeB delivers the 3GPP-compliant access portion of the network.

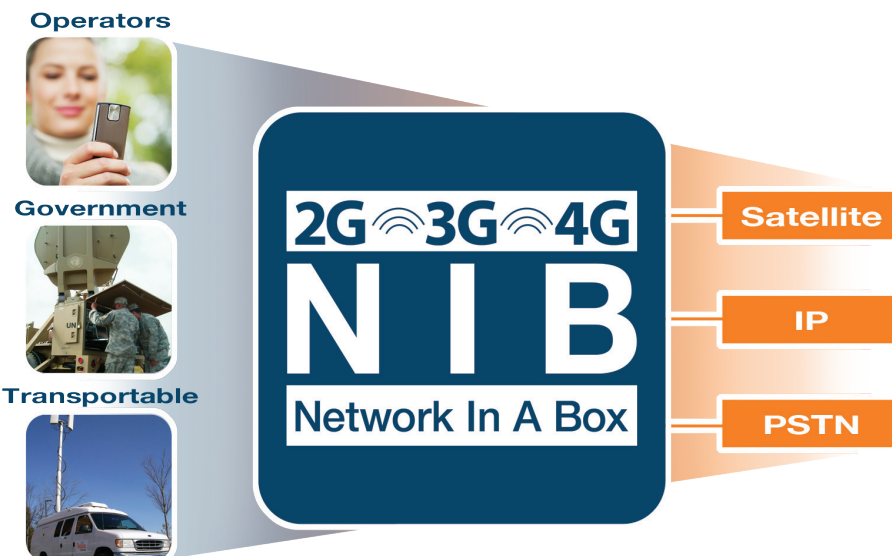
The robust capability set, compact form factor and cost-effectiveness of the NIB enable a broad range of deployment scenarios for remote and rural operators, larger operators, emergency management, armed forces or peacekeeping missions, and mobile communications networks in transit.



## Features

- All-in-one network solution, space-optimized as small as 22 cm
- Packet data support from WCDMA to HSPA+ and LTE
- Full suite of voice services, text and multi-media messaging
- Multiple operation modes including standalone private networks, multi-site, or roaming interconnect with commercial operator's network
- Self-organizing network (SON) features
- Interworking / connectivity with existing infrastructure such as corporate PBXs and LANs
- Localized information security including encryption of communications between users and between locations

## Application Scenarios



## Operational Modes

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

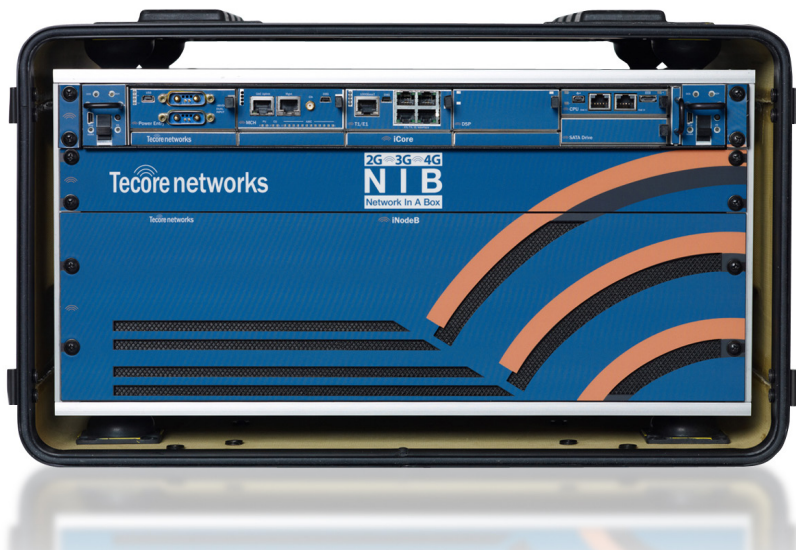
### Standalone Operations

In standalone mode, the 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 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 Automatic Subscriber Provisioning (ASP) feature enabled, allowing open access to the use of the system.

### Integrated Communications

With the baseline of the NIB system leveraging the feature set capabilities of the iCore, the capability to extend the network and provide meshed communications between NIB systems is possible using standard protocols and interfaces. Several 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 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.



## 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

- Self-Organizing Network (SON)
- Platform-Independent User Interface
- Local or Centralized Management
- Fully Operational in 30 minutes