TLC Solutions Inc.
USER FIRST TECHNOLOGY

UMTS (3G) Network

Deployable
Network-In-A-Box

- ***Software Defined:*** *supports any UMTS band*
- ***Long Range:*** *Up to 20km*
- ***Easy-to-use, simple management GUI***
- ***Variety of form factors including Desktop, Suitcase, or Rack Mount versions available***
- ***Multiple Power Amplifier options—wideband or fixed frequency***

TLC Solutions' UMTS Network is the smallest, fully-specified UMTS network solution on the market today. This system can provide every major available feature in today's commercial UMTS networks including voice calling, Short Message Service (SMS), high-speed data, handovers and mobile authentication.

The TLC UMTS Network is available in a number of different form factors and with a variety of options including support for multi-media, email and chat.

It is ideal for supporting remote, rural, tactical, public safety, and homeland security applications.

The TLC UMTS Network can operate in a variety of modes, including as a single base station subsystem or as a larger, networked base station subsystem with multiple nodes. Optionally, each node in a multiple node system can be configured to operate independently should the IP backhaul lose connectivity.

All communications between the components of the TLC UMTS Network are accomplished over IP connectivity, resulting in flexible network deployments that can be easily integrated into existing network infrastructure.

The TLC UMTS NobdeB is software defined and supports any one of the following UMTS Bands. Frequency can be changed **in the field** with a GUI command and swapping of a filter box:

Band	Name	Frequency
1	IMT	1920MHz UL 2110MHz DL
2	PCS	1850MHz UL 1930MHz DL
4	AWS	1710MHz UL 2110MHz DL
5	CLR	824MHz UL 869MHz DL
8	E-GSM	880MHz UL 925MHz DL

TLC Solutions, Inc.
Products & Services

- Wireless Networks
- Systems Integration
- Product Development
- Custom Fabrication

Other Products Available

- 5G Networks
- LTE Network
- GSM Network
- UMTS Network
- EVDO Network
- CDMA Network
- Multi-standard Core Network
- ChatterBox Cellular Traffic Generators

SMALL CELL FORUM
SMALL CELL INDUSTRY Awards 2014
WINNER
Social impact – promoting small cells for social/ economic/ environmental development

Deployment Options

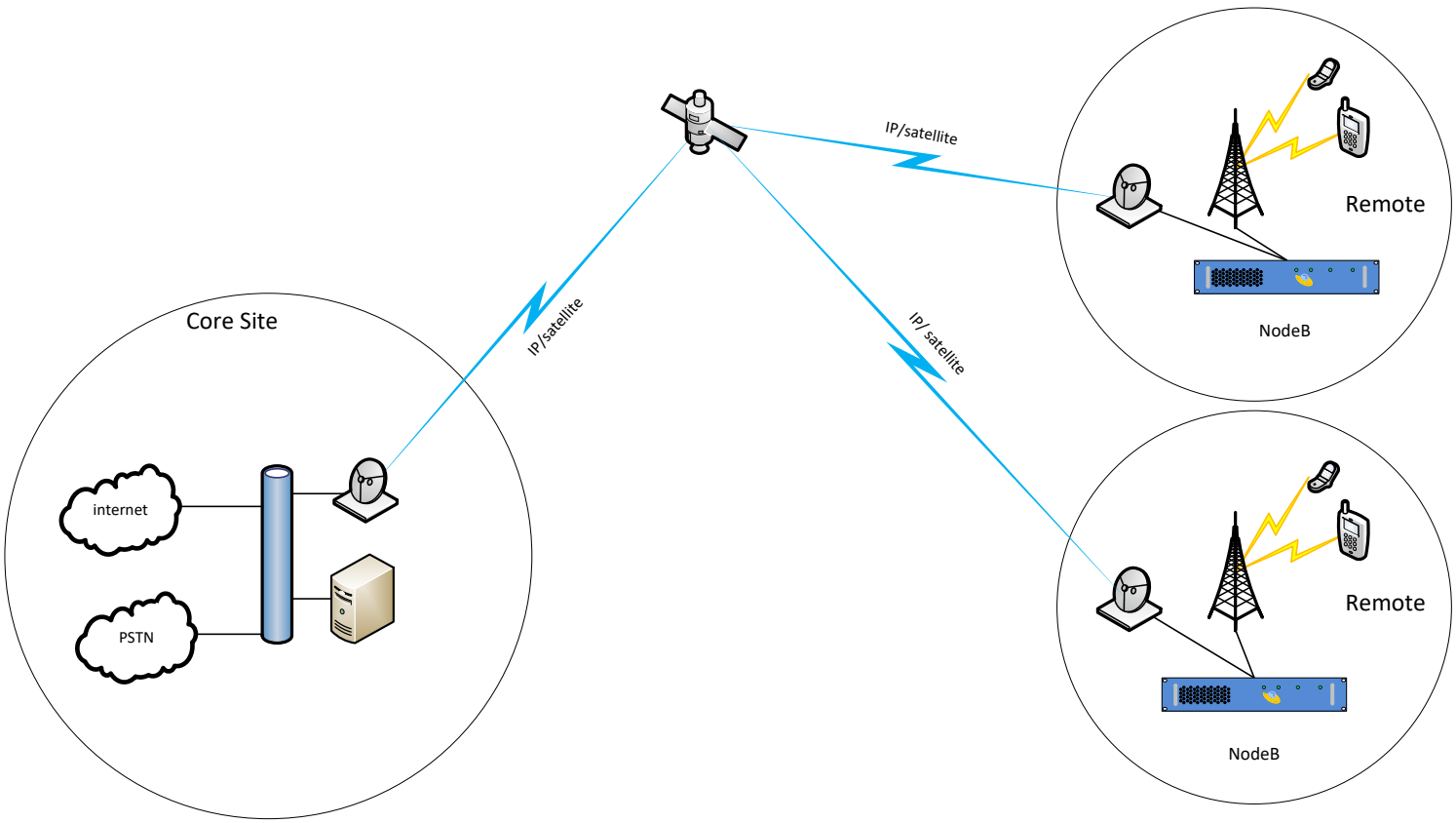
Desktop Lab System

Network-In-A-Box:

- NodeB with embedded network Core

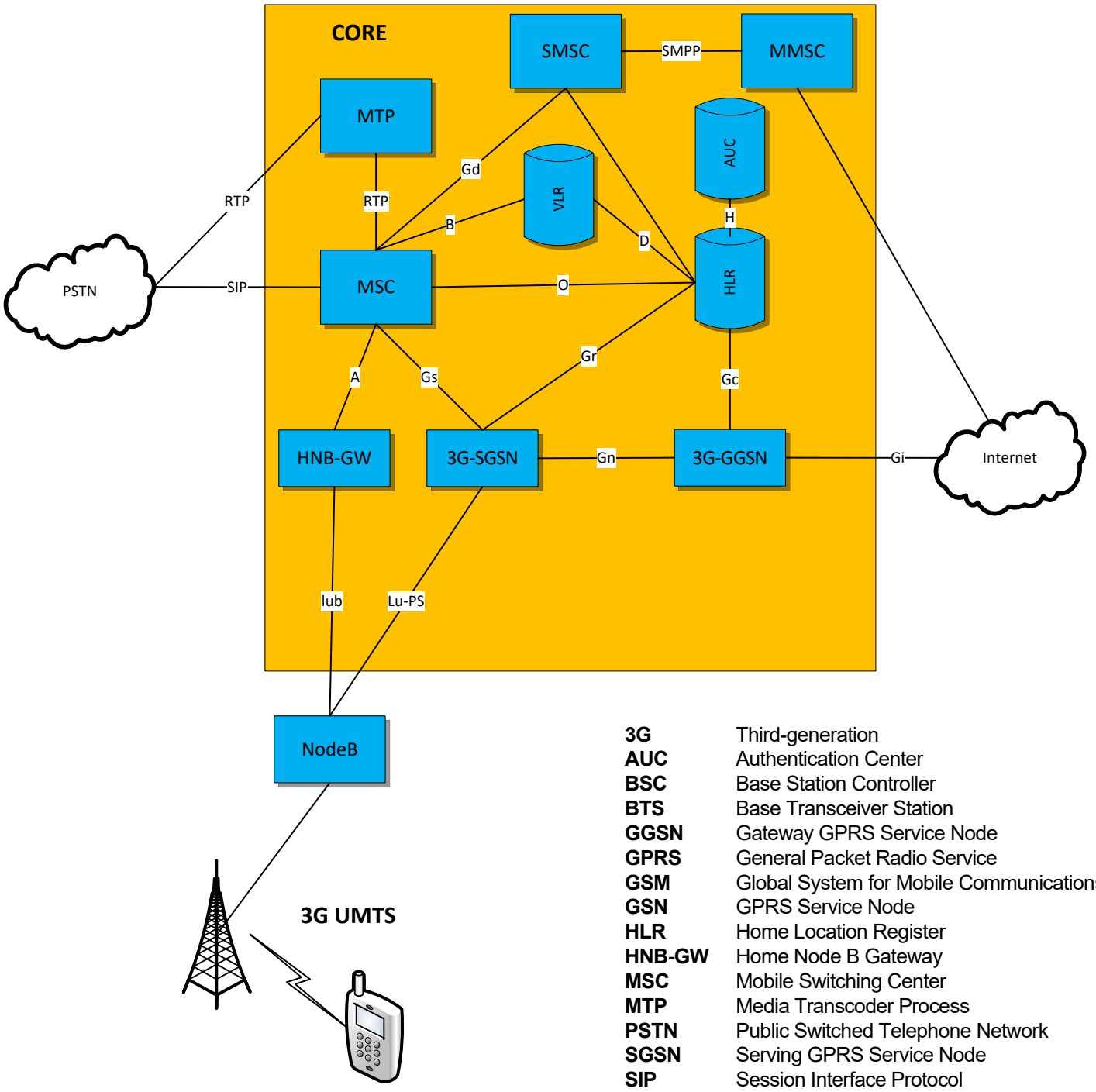
Multi-NodeB with central core:

- Supporting larger multi-site or multi-sector deployments with various backhaul options



UMTS (3G) Core

The UMTS Core provides aggregation of multiple NodeB's (base stations), data and voice services, and routing to public voice and data networks. Multimedia Messaging (MMS) is available as an option. It can be embedded with the eNodeB or provided on a stand-alone server.



3G	Third-generation
AUC	Authentication Center
BSC	Base Station Controller
BTS	Base Transceiver Station
GGSN	Gateway GPRS Service Node
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
GSN	GPRS Service Node
HLR	Home Location Register
HNB-GW	Home Node B Gateway
MSC	Mobile Switching Center
MTP	Media Transcoder Process
PSTN	Public Switched Telephone Network
SGSN	Serving GPRS Service Node
SIP	Session Interface Protocol
SMSC	Short Message Service Center
UMTS	Universal Mobile Telecommunications System
VLR	Visitor Location Register

About TLC Solutions, Inc.

TLC Solutions is the leader in providing secure wireless network solutions designed specifically for portability, ease-of-use and tactical communications applications across a variety of standards including 2G, 3G, 4G, 5G, CDMA, and Radio technologies.

As a small business with expertise in systems integration, RF and network engineering, hardware and software development, and custom fabrication, TLC has been producing cutting-edge communications solutions and providing outstanding support to its Government and DoD customers since its inception in 2003.

For more information on any of our products or services please visit us on the Web at: www.toplevelcom.com

3RU Rackmount Chassis

Backed by TLC Solutions' world-class integration and support services, the TLC UMTS Network is self-contained and can be ruggedized to survive some of the harshest weather conditions.

System Specifications

Core :
- 1000+ IMSI Subscriber HLR
- 1000+ IMSI Subscriber VLR
- Integrated SMSC
- Integrated 3G-GSN
- MMS Support (Optional)
- Integrated AUC
- Call Holding, Call Waiting, Caller ID
- Embedded (Linux) or Stand-Alone (Windows)

3G UMTS NodeB:
- 32 Channels voice or data
- 8 simultaneous voice and data (multiRAB)
- 2 Mbps UL
- 14 Mbps DL
- 3GPP Rel. 8/9 compliant
- Any UMTS operating band (1,2,4,5, and 8)
- Range: Up to 20km

Output Power Options:
- Various options available

Input Power
- 110-240 VAC 50/60 Hz
- 10V-48VDC (Optional)

Temperature
- Operating -5° C to +45° C
- Storage -40° C to +85° C

Humidity
- Operating 0% to 95% Non-condensing

Dimensions
- Depends on configuration

Weight
- Depends on configuration

Network Interface Options
- 1 Gbps Ethernet
- SIP

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