

# Lemko Node1<sup>TM</sup> Macro

The Lemko Node1<sup>TM</sup> system is a compact, flexible, expandable and complete cellular system that can operate as a standalone cellular network or as an integral adjunct element to a larger cellular network. The Lemko Node1 system consists of the functionality of a traditional 2G, 3G or 4G core coupled with a cellular Base Transceiver Station (BTS), NodeB or eNodeB. The Node1 architecture leverages traditional (CDMA, GSM, UMTS ) as well as IP based (LTE) networks to provide a system architecture that efficiently integrates current and emerging technologies. Because Lemko leverages a distributed processing architecture, as the system grows, additional network call, data and messaging processing and cellular network capacity is added with each Node1. Flexible expansion enables the system to meet the demands of the network application without requiring a large, up front expense. Each Node1 server has a call processing capacity which exceeds the coverage capacity of the fully loaded and configured subtending radio access network. The Lemko Node1 can be integrated into new or existing national or international cellular networks. Messaging with legacy networks, roaming and hand-off is accomplished by connecting the Node1 to a Node2.



## Pilot Quick Start Deployment Benefits



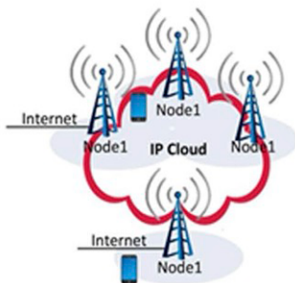
### Benefits:

- 3GPP and 3GPP2 compliant
- Pay as you grow
- Lowest TCO
- Enables satellite connectivity

### Capabilities:

- GSM EDGE, CDMA 1X, EVDO, UMTS HSPA, LTE
- Macro, Metro and Pico Local PSTN connectivity (SIP, ISDN) (ISUP with Node 2)
- Local data offload

## Networked Commercial Services



### Benefits:

- Enterprise, Metro, Rural solutions
- Local data off-load, Local secure access
- Survivable in IP links fail

### Capabilities:

- Inter-RAT calling and Hand-off
- Shared resources (PSTN, reach back, internet)
- Peer to Peer Messaging and calling

## Product Specifications

### Standards Compliant

3GPP: GSM EDGE, UMTS HSPA+, LTE

3GPP2: CDMA 1X, EVDO,

ETSI: ISDN

### Connectivity

PSTN: SIP (RFC 3261), ISDN (E1/T1), ISUP (with Node2)  
R1/R2 Support with external converter

Data: IP V4/V6

RAN: abis, lub, S1, MME

### Interconnect

Any IP: Ethernet, Microwave, Satellite, other wireless, Internet

### Radio Access Network

GSM EDGE, CDMA 1X, EVDO, UMTS HSPA+, LTE

### Computing Platform

X86 or better (option ARM)

Operating System: CentOS

