

# iGMLC

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Enabling TSP's To Fully Utilize The  
Hidden Potential Of Location Service.





PertSol is a leading Telecom and IT solution provider for Telecom/  
Internet Service Providers, Government and Law Enforcement Agencies  
providing explicit offering of capabilities starting with specialized solutions,  
customized software applications, professional and project management services  
with dedicated cross functional agile teams.

Our solutions have been shaped by our deep domain knowledge,  
built by harnessing our strength in next generation technologies across  
Telecom Regulatory Compliance Management, Telecom Core Network,  
Emergency Response System, Big Data Analytics & Internet of Things (IoT).  
Backed by our superior delivery experience with a key focus on quality.

**9+** YEARS OF  
OPERATIONS

**60+** R&D  
EXPERTS

**25+** FUTURE READY  
SOLUTIONS

**60+** PROJECTS  
DELIVERED

**65+** HAPPY  
CLIENTS

**23+** LOCATIONS  
WORLDWIDE

# LOCATION BASED SERVICE

## Introduction

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Location Services provides information about the Geographical Coordinates location, enables the system to collect, share location (latitude and longitude) information to UEs and support location services.

Accurate location-based services (LBS) is the preliminary requirement for many public & business operations such as disaster management, emergency services, lawful interception, fleet management and various other value-added services to fulfil the market needs.

## BUSINESS DRIVERS

For many years, Satellite based GPS (Global Positioning System), assisted GPS (A-GPS), NAVIK and other systems have been introduced within the mobile devices that utilize cellular services to track devices by its Cell ID (CID). These methodologies come with their own limitations and challenges to track devices.

In addition, many Communication/Telecom Service Providers are non-compliant to the LCS requirement for emergency services as mandated by Government Regulators and also have not yet scratched the top of the potential of the location services for commercial activities.

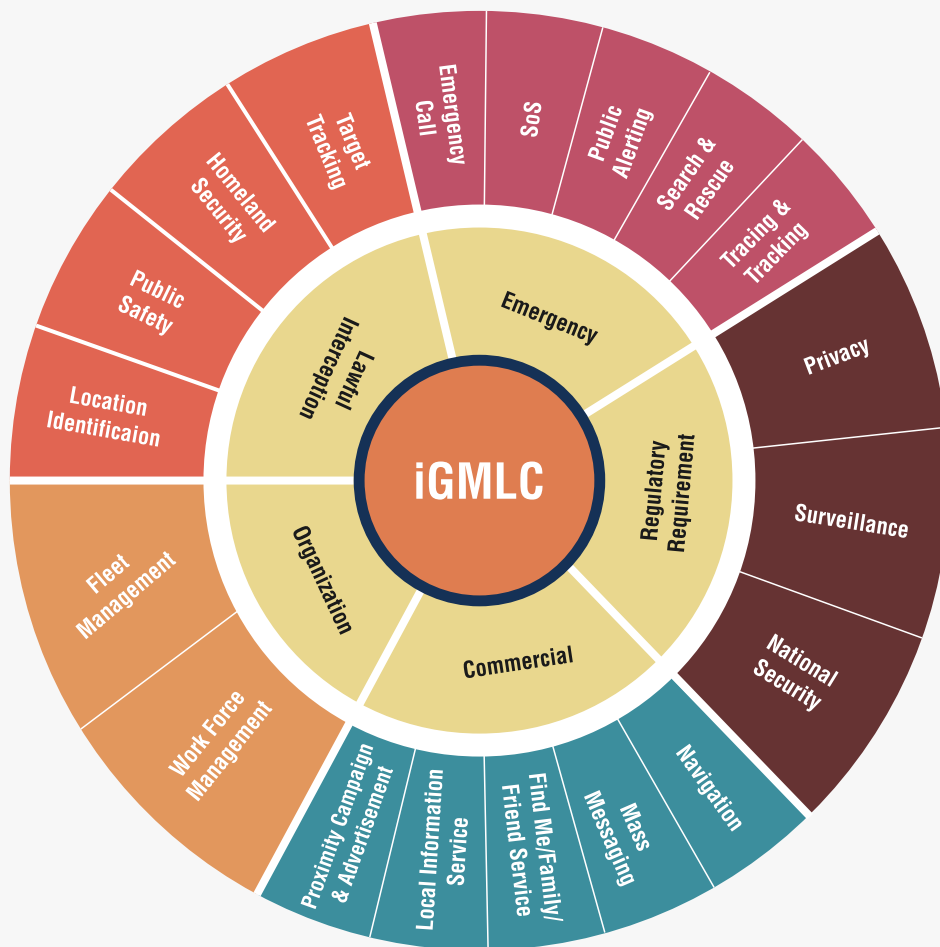
# iGMLC OVERVIEW

## Intelligent Gateway Mobile Location Center

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PertSol iGMLC is a part of PertSol's complete location services solution, which defines the process of mapping of the received coordinates (latitude & longitude) in a well-defined universal format, of the geographical area &

send this information back to the requested services. iGMLC is the first point of contact for an external LCS client in a PLMN. On receiving location request for a mobile user, iGMLC requests routing information from HLR/HSS. After performing registration authorization, it sends positioning requests to either VMSC, SGSN, MSC or MME and receives the final location estimates from the corresponding entity.

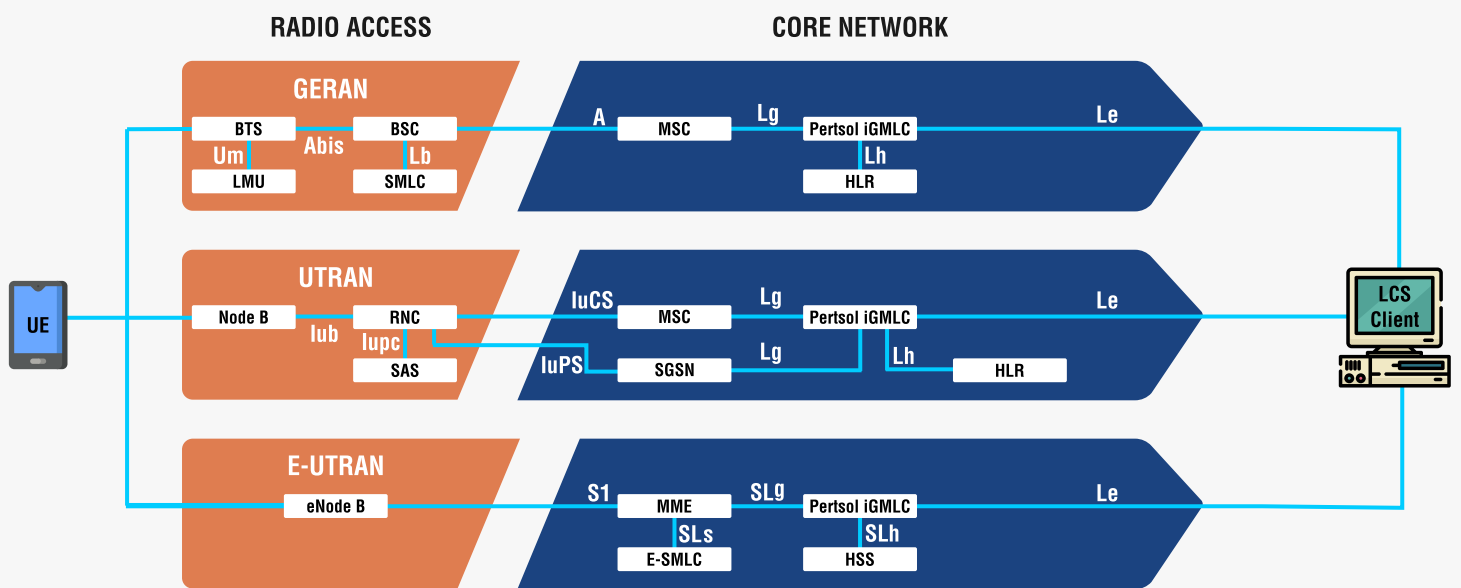


iGMLC's flexible integration adapters allow them to integrate with other GMLCs and identify location of roaming subscribers. iGMLC also has an in-built Location Retrieval Function (LRF) which is responsible for retrieval or validation of location information. It also provides routing and/or correlation information of a UE that has initiated an IMS Emergency session.



Currently, iGMLC supports location based services in GSM (2G), UMTS (3G), and LTE (4G) networks, with roadmap for 5G network support. It supports 3GPP as well OMA standards for Location based services.

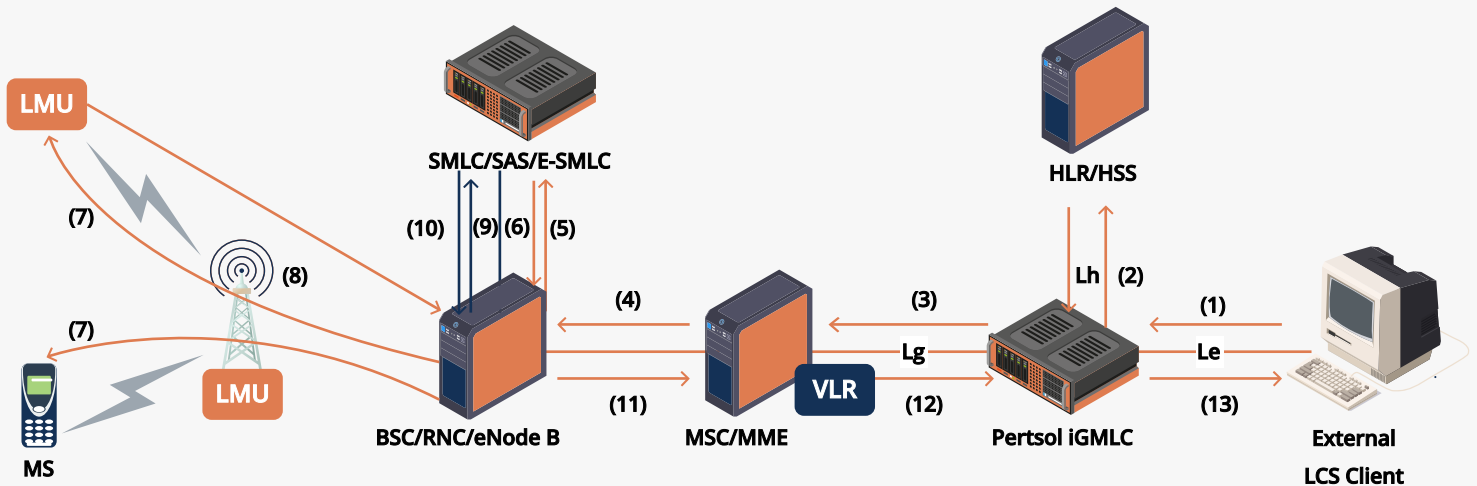
## Location Service Functional Architecture



## iGMLC Interfaces

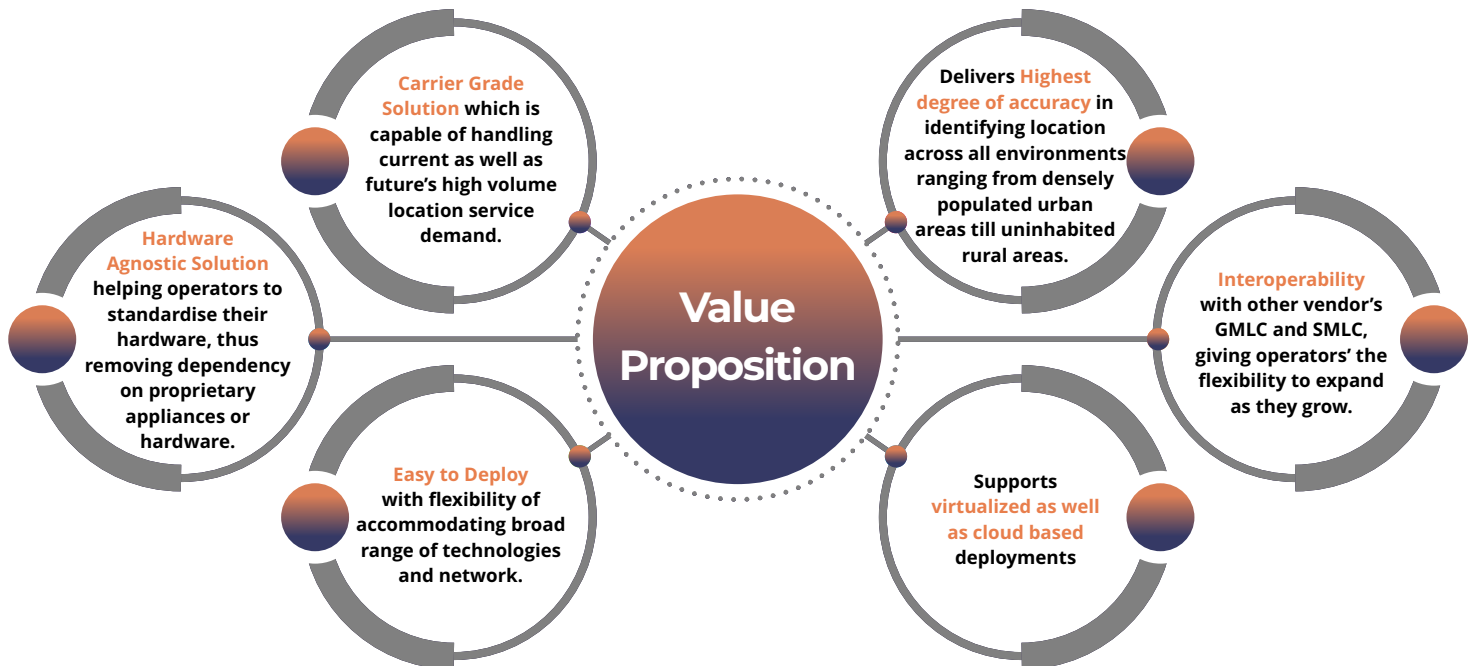
LBS Node	Interface	To (Other Node)	Protocol	Standard Ref.
GMLC	Le	LCS Client	MLP 3.1, 3.2	OMA
GMLC	Lh	HLR	MAP	3GPP TS 23.271 3GPP TS 29.002
GMLC	Lg	MSC	MAP	3GPP TS 23.271 3GPP TS 29.002
GMLC	Lc	gsm SCF	CAMEL	3GPP TS 23.078
GMLC	SLh	HSS	Diameter	3GPP TS 29.173
GMLC	SLg	MME	ELP	3GPP TS 29.172

## Location Service Call Flow



# iGMLC

## Value Proposition



# KEY FEATURES

## Solution With Excellent Capabilities



**Inter-working with external LCS Clients** – iGMLC supports inter-working with both commercial and emergency services to provide location of the target. Supports standard mobile location platform (MLP) API for integration with third party LCS clients/applications.

**Interworking with core network elements** – iGMLC supports integration with core network elements (like MSC/HLR/VLR/SGSN) of all the major NEPs like Nokia, Ericsson, Alcatel, Huawei, ZTE and others.



**Interworking with Peer GMLC** – iGMLC is capable of interoperating with GMLCs of other vendors over Lr interface to obtain the location of out roamers.

**SS7 & DIAMETER Support** – iGMLC supports SS7 for 2G/3G deployments and DIAMETER for LTE Deployments.



**Billing Information Collection** – iGMLC is capable of collecting and forwarding all the information related to the location attempts by User Equipments (UEs).



# PertSol<sup>®</sup>

Simple Solutions for Complex World

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