



Openwave® Location Express for GSM/UMTS

Rapid Entry into Location-based Services

In growing markets, subscribers of location-based services (LBS) will vary greatly in terms of their service needs and types of mobile devices.

Openwave Location Express for GSM/UMTS is an easy-to-deploy, location-based infrastructure appliance that enables rapid entry into the location-based services market. The solution serves both basic and advanced LBS consumers and businesses.

With Location Express, operators can provide prepaid mobile phone users using voice/SMS-capable handsets with basic location-based services. For example, a subscriber can obtain addresses of restaurants, banking ATMs, or other places of interest (POI) nearest to his or her location—via a SMS text message. Openwave Location Express also provides location services for businesses such as basic fleet tracking. Both long distance passenger buses and freight transport can be tracked at a Cell ID-level of accuracy.

More *advanced* location-based services for professionals and enterprises, such as navigation or advanced fleet tracking, require Location Express' high-accuracy, assisted GPS (A-GPS) functionality.

By leveraging Openwave's expertise, operators have a unique opportunity to identify the best location service strategy for their brand. Furthermore, Openwave offers broad and deep industry expertise, from client to server, in both the mobile and broadband markets. For operators in growing markets, Location Express delivers the benefits of Openwave technologies that power many of the largest LBS deployments in the world.

Operator Benefits

Lower Total Cost of Ownership (TCO): Location Express offers a LBS application interface, privacy policy management, Gateway Mobile Locating Center (GMLC) for Cell ID location and optionally a SUPL Locating Platform (SLP) for A-GPS in a single integrated platform.

Optimized Performance: Location Express selects from available position determination techniques to satisfy a location request, based on required accuracy and handset capability. If an A-GPS device is unreachable, like when a user is in a parking garage, Location Express will “failover” and provide Cell/Sector ID location.

Rapid Market Entry: Location Express' fixed configuration enables operators to rapidly deploy services.

Technology Evolution: Location Express provides an upgrade path to Location Manager Commercial Edition for increased capacity and redundancy. Thus, operators can grow as their market grows.

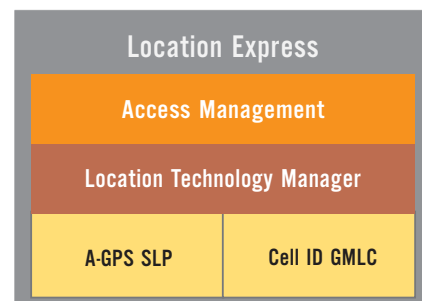


Figure 1. Location Express Architecture



Openwave Location Express for GSM/UMTS

Subscriber Benefits

Subscriber Security: All applications and subscribers are authenticated and authorized.

Privacy Control: Location Express allows subscribers to self-provision access privileges for applications requesting their position. Users can specify temporal filters that only allow applications to obtain position information during a specified time period, a capability that prevents unwanted intrusion.

Broad Ecosystem Support: Location Express utilizes a standard OpenLS and Mobile Locating Platform, ensuring support of a broad range of applications.

Features

Location Methods and Gateway Capability

- Support for 5 Transactions per Second (TPS)
- Cell/Sector ID via MAP-ATI interface
- Optional: A-GPS network assistance as specified in SUPL 1.0
- Integrated GMLC and A-GPS SUPL Locating Platform (SLP) 1.0 functionality

Location Technology Management

- Selects positioning method (for example, A-GPS or Cell ID) to best support application accuracy requirements within handset capability constraints
- Cell ID failover (supplies Cell/Sector location information if A-GPS request fails)
- Stores the latitude, longitude, age and uncertainty of the last-known location in the Location Cache for subsequent use

Application Interface & Privacy Policy Enforcement

- OMA standard Mobile Location Protocol (MLP) and OpenLS support
- Openwave Advanced Application Interface (AAI)
- Authentication of LBS location requests
- Authorization of Applications and Subscribers
- Notification and approval of location requests via WAP/SMS
- Access controlled by subscriber on a per-application basis using WAP portal
- Temporal filters: Subscriber-controlled limit as to time of a day an application may locate handset (for example, during an employee shift)
- Identity protection using aliases: MSISDN/MIN is replaced by an alias in WAP and SMS communications
- Location-generated request for a Location Transaction Detailed Record (LTDR) to support billing

Location Express Hardware

Sun T5220 server

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About Openwave

Openwave Systems Inc. (Nasdaq: OPWV) is one of the world's leading innovators of software applications and infrastructure designed to enable revenue-generating, personalized services, including mobile analytics, content adaptation, mobile and broadband advertising, and a suite of unified messaging solutions.

As the communications industry intersects with the Internet, Openwave software enables service providers to converge services, in an effort to increase the value of their networks by accelerating time to market and reducing the cost and complexity associated with new service deployment. Openwave's unique product portfolio provides a complete range of mobile internet service management, messaging, and location based solutions. Openwave is a global company with a blue chip customer base spanning North America, Latin America, Australia and New Zealand, Asia, Africa, Europe, and the Middle East. Openwave is headquartered in Redwood City, California. For more information please visit www.openwave.com.

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