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# AtlasMobile SDK White Paper

## About Us

AtlasCT is a leading developer and provider of worldwide mapping solutions.

Our products are designed to supply a variety of mapping capabilities for the Internet and mobile GIS market.

Using unique and innovative technologies our products present high performance and flexibility for a variety of client platforms such as cellular phones, PDAs, Desktop browsers and more.

AtlasCT is a world pioneer in presenting maps on mobile devices using vector streaming technology for fast interactive mapping applications.

For more information about the company, products and technology, please visit our website [www.atlasct.com](http://www.atlasct.com).

## Product Overview

AtlasMobile™ SDK is a rich development package designed for mobile applications developers; it is a client side J2ME™ based set of classes, which implements a variety of mapping and location capabilities.

The AtlasMobile SDK is part of the AtlasMobile platform, a geospatial platform which provides GIS information and LBS services for mobile devices, such as cellular phones and PDAs. It enables quick deployment of mapping and GIS services and implementing variety of geographic related queries and location based functionality.

AtlasMobile platform encapsulate unique technologies which extremely increases the performance of map display on small size screen devices. These technologies, together with a rich SDK functionality are helping developers to easily build and deploy state of the art GIS products.

The platform is an online (off-board) solution, which dose not requires any mapping data installation on the client; the maps are streamed in real-time to the device via the Internet, without compromising the map quality or speed.

Applications based on the AtlasMobile SDK can run on any Internet enabled mobile device which supports Java ME (J2ME™), this is done by introducing three SDK versions (with the same basic API) - UltraLite Edition design for the low end devices such as Nokia S40, and Motorola L2. Lite Edition for the medium range mobile devices and the Standard SDK designed for the High end devices.

AtlasMobile SDK development package has a modular functionality structure enabling high flexibility in application development. The basic bundle provides maps and map manipulation capabilities (zooming, panning and dragging). The enhanced bundle includes plug-ins providing complementary geospatial capabilities such as Geo-code, Route, POI management; GPS interface and complete solution for weather and traffic display.

## Product Architecture

The AtlasMobile SDK architecture utilizes client-server architecture for mobile -based GIS applications via the Internet.

The API consists of Java ME classes which are responsible for the various tasks required to provide mapping and location services.

The AtlasMobile SDK has a modular architecture that is built around a Map Core and Plug-ins, this modular approach enables high flexibility in application developing and deploying.

The Map Core comprises of a URL Builder, Data Loader, Renderer and additional internal modules taking care on displaying the maps.

URL Builder is a tool that creates the URL for the Map Core. This tool builds the URL required to connect the Data Loader to a remote map server via the Internet. It includes the parameters required to import a specific map tile from the map server (map format, tile size, tile coordinates, etc.).

Data Loader is a tool that loads geospatial data from a remote map sever or from any other source (customer database, client's cash memory, etc.) directly into the Renderer.

Renderer is a tool that draws images (map tiles) according to the data received from the Data Loader.

The basic configuration of the AtlasMobile SDK includes the Map Core, with several plug-ins, enabling full customization of the AtlasMobile SDK according to the application requirements.

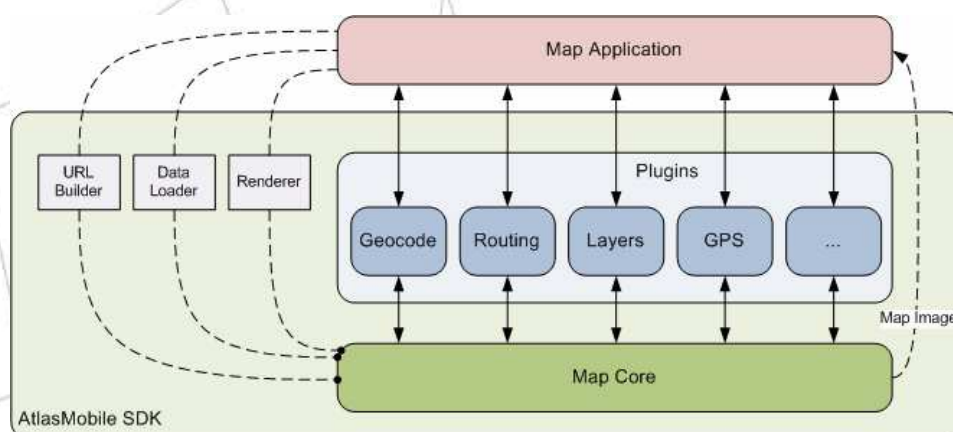


Figure 1: AtlasMobile SDK structure

The AtlasMobile SDK also features open software architecture. This feature provides additional flexibility in application development, making the process of adaptation fairly easy. One of the key benefits of the open software architecture is the ability to replace any component with external modules or Plug-ins developed by 3<sup>rd</sup> parties to achieve superior customization.

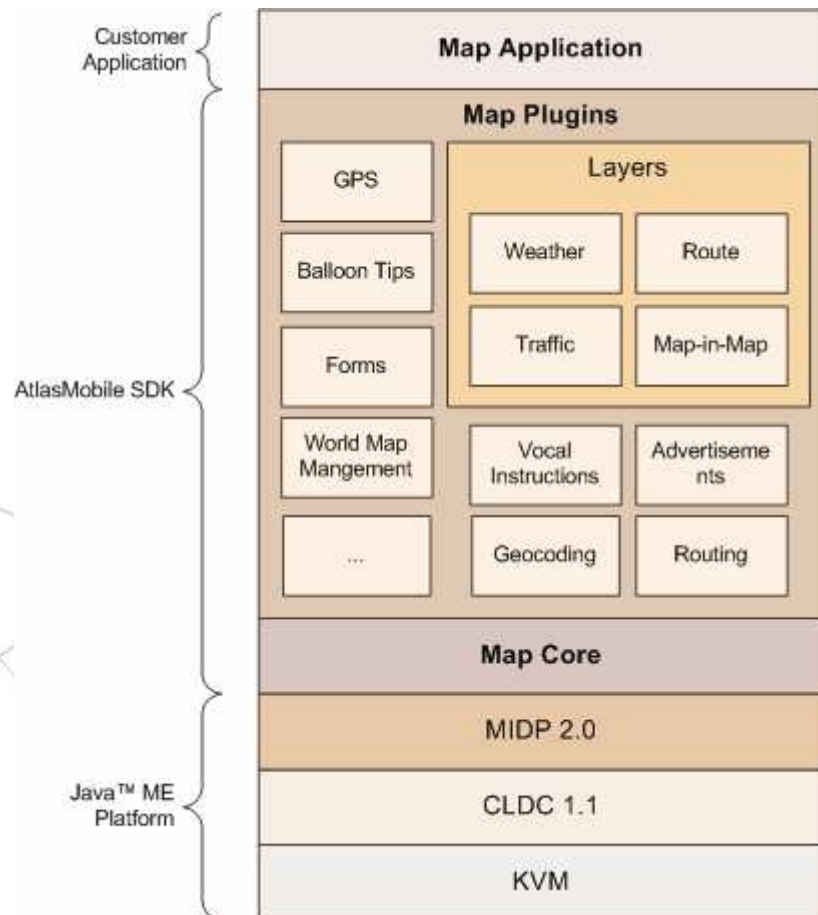


Figure 2: AtlasMobile SDK modular functionality

## Product communication

Based on the client-server architecture the AtlasMobile SDK communicates over the Internet using standard TCP/HTTP protocols. Once the application (including the AtlasMobile SDK) was installed on the end user mobile device it can be operated instantly. The geospatial data is streamed from the map sever upon end user request.

The client communicates with the relevant system servers using XML services. These services are required by the client whenever it needs to perform GIS query (such as Geo-coding, Route, Location information).

Each of the services has a distinct end-point URL which includes standard parameters, which define server service name, service type, map format, map tile coordinates and more.

All transactions between the map server and the AtlasMobile SDK are transparent to the developer.

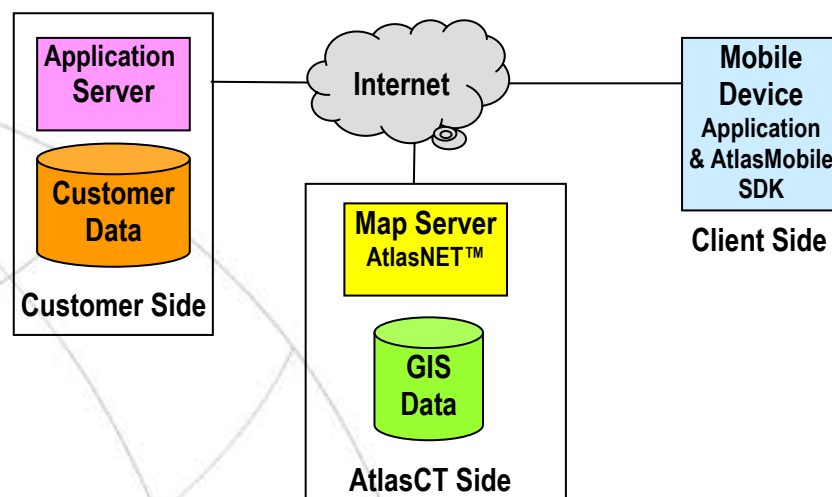


Figure 3: AtlasMobile SDK typical deployment

## Summary of main features

### *General*

- Java ME based mobile SDK
- Modular and open architecture
- Plug-ins based functionality
- Online documentation
- Low memory usage
- Small footprint
- High performance optimization
- User friendly interface

### *Mapping capabilities*

- API to a map server
- Online interactive maps
- Map functionality – zooming, panning, and dragging.
- Quick map navigation
- High quality maps display

### *Location capabilities*

- Geo-Code support
- Route support
- Satellite imagery
- GPS support

### *Rich user information*

- Weather forecast
- Traffic information
- POI look-up
- MIM support
- Advertisement option

### *Multi platform support*

- Various map formats support – vector (SVG, AVS) and raster (GIF, JPG).
- Multiple support of mobile devices – any Internet enabled device which supports Java ME (no Operation System dependent).

### *User Interface*

- Eye catching map graphics
- Smooth text - using ant-aliasing
- Map skins style customization
- On map forms support (menu, template).

The AtlasMobile SDK package provides a complete GIS developing environment for mobile applications. It is a powerful and flexible enabling easy integration of mapping applications and fast interactive display of custom data, supporting multiple formats, devices and platforms.

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