The Benefits of Vehicle Tracking using Oracle, GPS and Cellular Technologies

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This case study is based on an organisation that is a major operator in the transportation industry. They understood the significant competitive advantage that could be gained by improving the timeliness and accuracy of information being gathered from vehicles and remote devices.

The case study is a working example of how Oracle 9I and 9iAS can integrate with GPS and new network technologies to deliver powerful operational systems that deliver real business benefit.

The client's business requirements for the Remote Vehicle Tracking (RVT) project were based on a need to track vehicles and monitor remote devices. The new data captured from vehicles and remote devices are compiled with existing business data to improve operational efficiencies and increase customer loyalty.

The major business objects delivered from the RVT project were;

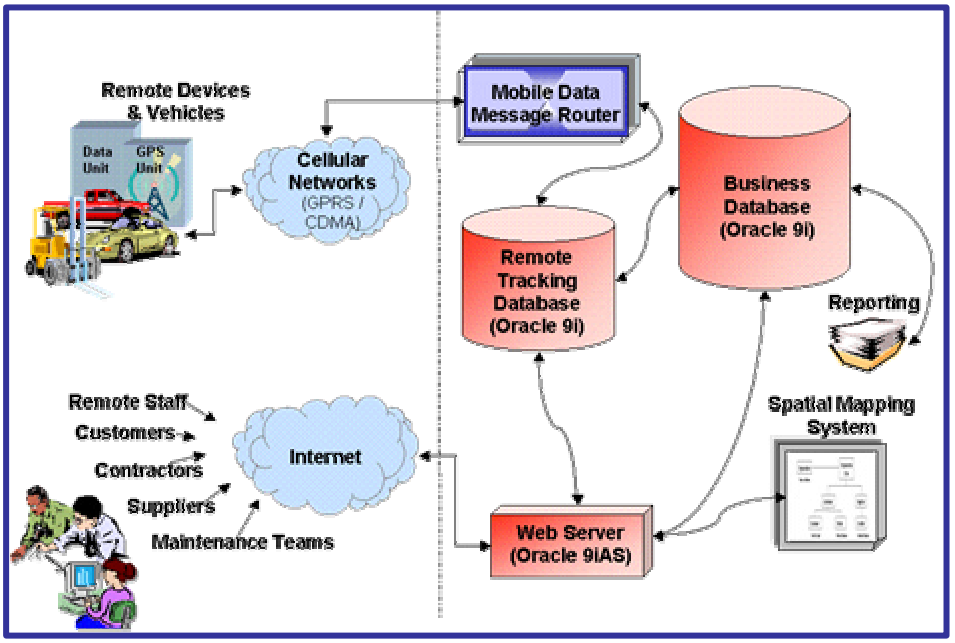
- A Flexible Costing and Pricing System
- Monitoring Of Vehicle Speeds
- Improved Customer Service
- Complete Integration With Existing Systems
- Scalability in Readiness for International Deployment
- Delivery of Improved Margins from Transportation Business

As legacy applications were written in Oracle Forms and Oracle Reports Simpl used 9iAS as the web server. 9iAS was the web server of choice as it allowed for simple and quick web deployment. Therefore, allowing the client to leverage of their existing investment in technology.

This case study will discuss a real example of how a client has used the converging of technologies for smarter business. These technologies include;

- GPS (Global Positioning System)
- Remote sensing and diagnoses
- Data over cellular (CDMA /GPRS)
- LINZ Mapping Data - GIS (Graphical Info System)
- Mobile Data Message Routers
- Oracle 9i Database
- Oracle 9iAS Web Server
- Oracle 9iAS MapViewer functionality

The Solution:



We will provide a detailed look at how data is gathered from vehicles and remote devices, transported over the cellular network (Telecom CDMA), passed through a specialised message router, stored in Oracle 9i and made available to a user browser via Oracle 9iAS.

Simpl will also discuss how Oracle MapViewer and LINZ mapping data were used to build a simple GIS application. This allowed staff to get a near real-time graphical view of vehicles and remote devices. This application is now used with existing information to provide a broader understanding of how assets are deployed in the field. In the future contractors and customers will also be given similar direct access via a user account on the web.

Many of the technical challenges that were overcome by Simpl will be discussed and we will provide insight into the ways graphical data can be used to harness your business information challenges.

A Few Of The Oracle Mapviewer Q&A's We Will Address:

Q. Why has Oracle developed MapViewer?

A This feature of Oracle9iAS has been developed in response to the specific requirements of the Oracle Mobile, CRM and Development Tools groups. Since release 1.0 of Oracle9iAS Wireless Edition, there has been a map visualization component to support the association of mobile services to region geometries. With Oracle9iAS release 2.0, Oracle has extended this functionality to provide generic mapping capability that can be used by Oracle9iAS, Oracle9iAS Wireless, Oracle CRM applications, and the Oracle Developer Suite. The Oracle9iAS MapViewer feature enables application developers to embed a map rendering capability directly into existing e-business applications.

Q. What are the primary benefits of MapViewer?

A For Oracle Mobile and e-Business Suite (CRM and ERP) users, MapViewer will enable maps and location services to be incorporated directly into their solutions. Application developers using the Oracler9iAS OC4J will have a tightly integrated map rendering and map visualization component for location and map data store in Oracle9i with Oracle Spatial.

Q. What features does MapViewer provide?

A MapViewer is a programmable tool for rendering simple maps using spatial data managed by Oracle Spatial. MapViewer includes components that perform cartographic rendering, and a map definition tool to manage map metadata and portrayal information.

Q. How does MapViewer work?

A MapViewer is a simple rendering engine that builds a GIF image for a user-specified map defined in a set of Oracle database tables referred to as "dictionary tables". A user first defines a map by selecting spatial layers (that is, SDO_GEOMETRY column names) they would like to associate with a map. A user defines these maps by populating information into these dictionary tables. The dictionary will also contain metadata associated with symbology, label, and style rules for spatial layers associated with a map. A set of configurable styles and symbols is populated in the dictionary when MapViewer is installed. Dynamic SQL statements that return geometries can also be submitted together with a map display request. The geometries returned from the dynamic SQL statements are displayed on the map rendered in the GIF.

Q. From what programming languages can MapViewer be called?

A Oracle9iAS MapViewer has an XML API that can be called from any programming language that can submit and receive XML to/from Oracle9iAS (HTML forms, Java, C, OCI, Pro*C, PL*SQL, etc.). MapViewer will return an XML string that contains a URL to the map GIF, and additional metadata.