



WE GUARANTEED HERTZ RENTAL FLEET STAYED SECURE



<p>Objective</p> <p>Develop a fleet tracking solution for Hertz Security to better secure, maintain and manage its line of Hertz Prestige Collection (HPC) luxury rental vehicles.</p>	<p>Solution</p> <p>A custom software back-end and security web administration system to provide Hertz Security with a tracking solution designed to fit their specific requirements.</p>
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LEVERAGED TECHNOLOGIES

- Red Hat Linux
- Enterprise Java
- Apache
- Telogis Geobase
- CalAmp GPS Device (UDP Protocol)

TOOLS

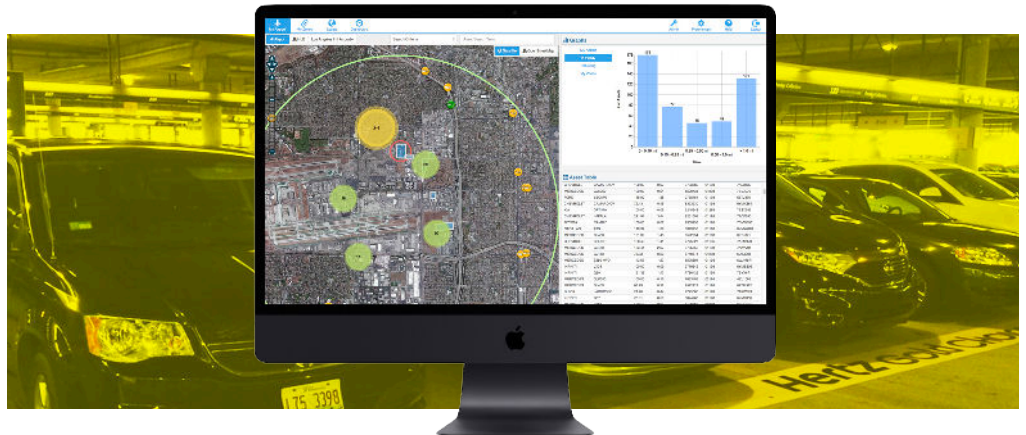
- Eclipse
- SVN
- TeamCity

CORE CAPABILITIES

- Geospatial/Location Based Services
- Big Data
- Custom IoT
- Internet Socket Protocols
- Rackspace Cloud

“The HPC program was a rental car industry first, it provided Hertz with the security solution for a multi-million dollar fleet of vehicles deployed nationally.”

Yazid Kadir, Senior Product Manager, Mobile Resource Management



As one of the most recognized rental car companies in the world, it's safe to say that Hertz has more than a few vehicles to keep track of. And while most off-the-shelf fleet tracking solutions do well to provide a total view of vehicle activity around driver and vehicle behavior, the Hertz Security Division required a tracking solution focused that was specifically focused on asset security.

Working directly with the CalAmp GPS device to correctly identify actionable activity along with geospatial features of Telogis Geobase, Seisan

provided a custom fleet management solution focused on the features Hertz Security was needing, from real-time tracking of incoming/outgoing rental returns to flagging activity that could be indications of major problems or potential vehicle theft.

The location of the vehicle and historical tracking of the vehicle is only a consideration if the vehicle was not returned or potentially stolen; likewise, a security dashboard and reporting system was created to generate forensic information that Hertz could provide to the necessary authorities.

SEISAN'S APPROACH / HERTZ HPC PROGRAM

PROJECT OVERVIEW

Renting cars can be risky business. So it should come as no surprise that Hertz was in the hunt for an intuitive system that could empower its security team to not only identify if/when a theft has occurred, but also to track, locate and ultimately recover stolen vehicles. For this project, the Hertz Prestige Collection (HPC) of vehicles – which includes brands such as Infinity, Range Rover, Cadillac and Mercedes – was targeted.

Seisan acted as a quarterback at the onset of this project, gathering requirements and defining the system solution roadmap with the Hertz team all the while coordinating the technology between CalAmp, AT&T and Hertz back-office systems to make sure all data communication had the effective performance and security to enable vehicle tracking. Additionally, Seisan developed all the back-end services, database warehouses and front-end web dashboards.

The CalAmp device was chosen for its ability to indicate that a car may be stolen (as opposed to just being very late in being returned). For example, the device will alert to being disconnected from the battery and motion sensor, which might indicate that a vehicle is moving without ignition on. The system also provides reporting on devices that have not

called in or that have a low battery so that the security group can locate/fix devices that may be failing GPS or cellular connectivity.

With the device selected, the Seisan team got to work. After coordinating with CalAmp to make sure the required features and data connectivity were configured correctly, Seisan created the back-end server to match the CalAmp device protocol specifications using the UDP protocol. Seisan then worked with Hertz Security and project sponsors to define the desired user experience, document the design specifications for the data warehousing of vehicle tracking records and define the amount of data that would be collected, from which an archival strategy was designed in coordination with Rackspace to ensure the correct server and database sizing would scale to handle the 6,000 device count and nearly 5 million monthly transaction usage volume.

To help make sense of all of this data, a web administration site was developed so that the Hertz Security team can view a vehicle's current position, past tracking history and current device diagnostics. Other features include a the ability to compare tracked coordinate points to determine if state (or country) lines have been crossed, as well as an alert system with SMS notifications to flag suspect occurrences such as when a device has been disconnected from the battery or when a vehicle has crossed a country border.

TECHNOLOGY DETAILS

The platform was developed on Red Hat Linux that comprised a Java-based multi-threaded server process that accepted the UDP messages from the CalAmp device. The network for the CalAmp device and security access from that cellular network was set up in coordination with AT&T, which also provided the message service that's employed for SMS alerts as well as system-to-device communication. (The devices can accept SMS messages for reset, OTA updates and data refresh from the application server via AT&T SMS gateway.) The web administration website was developed with PHP. The back-end database was MySQL that was set up within Rackspace hosting to provide replication set and redundancy failover behind Cisco Local Director load balancer. Both UDP server and web application server utilized the back-end MySQL database – both the UDP Server and the web server were on a replicated application server that was behind the Local Director load balance to ensure high availability. The web application was developed using Telogis Geobase for the map view and base geocoding routines.

RESULTS

"The HPC program has been an invaluable asset for Hertz, leveraged bleeding-edge web, mobile and GPS technology to provide several benefits to Hertz beyond simply securing the Prestige fleet of luxury vehicles. The ability to track and locate a vehicle in real-time not only provides valuable assistance to the Recovery and Maintenance teams, but has also allowed for savings in the millions of dollars thanks to reduced insurance premiums. The Operations team uses the program to quickly locate vehicles on airport parking lots to perform maintenance and to service immediate reservation needs. And thousands of vehicles have been recovered using the program, feeding recovery teams and law enforcement valuable data to perform their duties."

Yazid Kadir

Hertz Senior Product Manager
Mobile Resource Management

ADMIN DASHBOARD

Users can check on the status and location of vehicles in realtime. This allowed dispatch to be aware of higher end vehicles in route back to rental locations for quick turnaround to elite members.

