



Case Study:

Location Analytics used to Improve Customer Experiences.

SUMMARY:

Challenge:

- ✘ Improve Customer Experiences
- ✘ Overcome competitive changes
- ✘ Reduce guest wait time
- ✘ Understand repeat visitors behaviors
- ✘ Optimize staffing
- ✘ Personalized Promotions

Solution:

- ✘ Use existing technology
- ✘ Take advantage of perishable insights
- ✘ Location tracking of devices
- ✘ Aruba Access Points
- ✘ Geo-fence high interest areas
- ✘ Deployed in the cloud
- ✘ Uses a complex event processor (CEP)
- ✘ Big Data storage solution
- ✘ Integrate with existing data
- ✘ Enriched processing quality

Challenge

Today's hospitality industry is much more commoditized with booking services at the tip of the customer's fingertips through a web browser. One of the top ten hospitality providers worldwide is challenged with providing progressively **better experiences** to set apart their service from other providers.

They were challenged with finding new solutions to reducing the time guests wait for assistance for services, **understanding frequency and patterns of repeat guests** to Food & Beverage outlets, **optimizing the use of staff** to better accommodate the desires of their guests and **providing personalized promotions** to guest that meet their preferences.

Solution

This is a very complex challenge that has many possible solutions. We focused on using technology the hotel already had in place and then augmented it with additional technology to come up with a location analytic solution to provide perishable insights to the hotel that they could act on to improve their guests' experience.

The hotel already had **Aruba** access points installed throughout the hotel. We added Aruba Airwave and Aruba ALE to provide location tracking of devices that were wifi capable. How this works is we **established geo-fences** in locations that were of high interest to the hotel, such as front desk, restaurant, bar, valet area, lobby, main pool and meeting rooms. Then when someone with a cell phone enters the hotel the phone sends a message at a fixed frequency that contains information about the phone to the network and the network sends back a little bit of information about the network so if they decide to connect they are ready to do so. **The ALE is able to triangulate** the signal between access points, which would establish the physical position of the phone within the network. The Aruba ALE was configured to regularly send a OMQ message with this data encapsulated over a SSL connection to a cloud server that accepted these messages.

The received messages were sent through an adapter that transforms the **data into events, which are injected in a complex event processor (CEP)**. This very powerful CEP is setup to listen for location events and then process them based on user defined rules related to the geo-fence's established as well as **store the events in an in-memory distributed memory store** for future use to create historical analytics.

Results:

- ✘ Web based portal
- ✘ Monitor dwell times in real-time
- ✘ Alert management in real-time
- ✘ Analyze traffic patterns
- ✘ Historical heat map
- ✘ 1st visit vs. repeat visit analysis
- ✘ Track meeting room events

The location data is integrated with customer loyalty database data, external systems, administration configuration and historical data to enrich the quality processing.

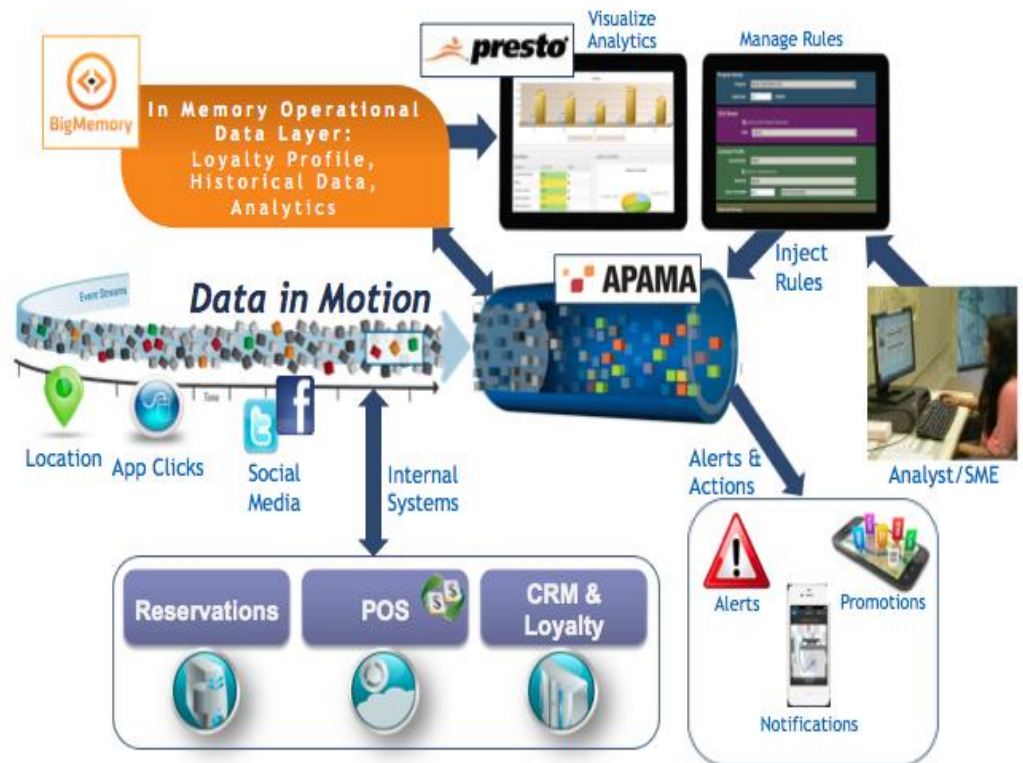


Figure 1. Architectural components of Geo-fence solution

Results

A solution with a web front end that provides the hotel with a rich set of real-time and historical data that helps them:

- **Monitor dwell time of guests vs. staff** (in real time) to adjust staffing by sending alerts directly to staff and management.
- **Alert management (in real time)** of unattended guest in locations that service is required.
- Provide management with **historical analysis of path traffic patterns** of guest and employees over a 24 hour period.
- Provide **analysis of average dwell times** and device count of specific areas of the hotel.
- **Historical heat maps** to show the concentration of devices over a period of time in the network.
- Compare analytics of **1st vs. repeat visitors** and understand their traffic patterns.
- Track **individual events in the meeting rooms** and provide analytical data about the dwell time and device count during the event.



Crossvale Inc.
www.crossvale.com
5050 Quorum Drive #325
Dallas TX 75254
(866) 472-7945

- Compare analytics of 1st vs. repeat visitors and understand their traffic patterns.
- Track individual events in the meeting rooms and provide analytical data about the dwell time and device count during the event.

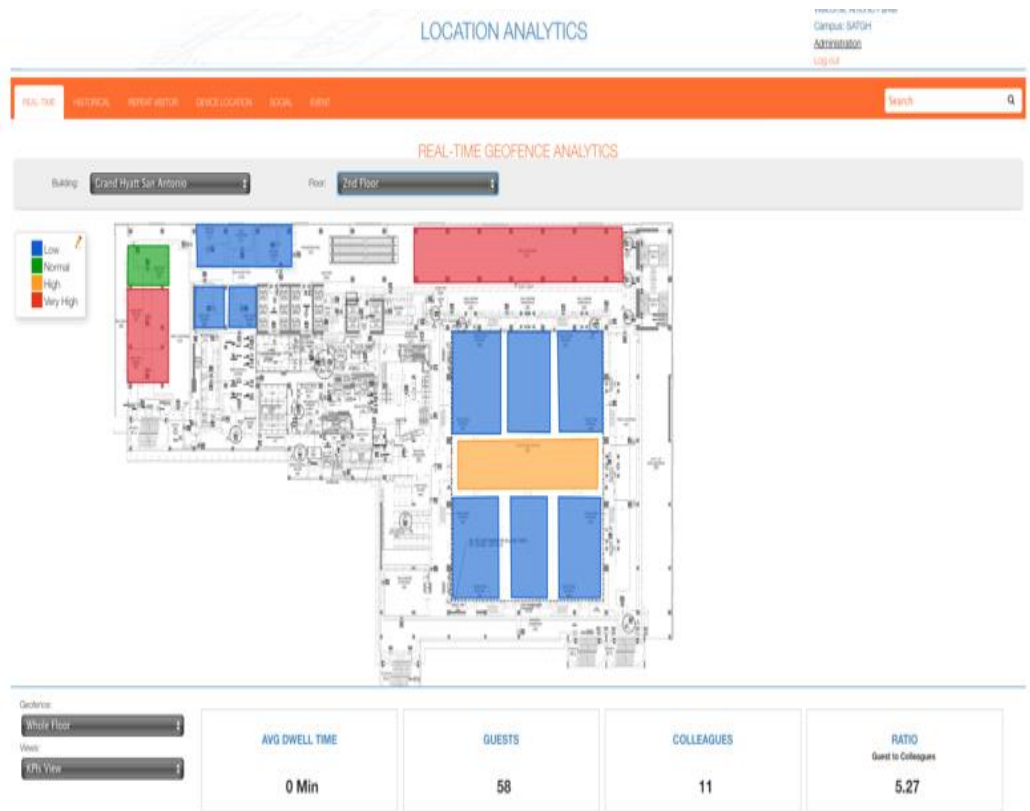


Figure 2. Geo-fence location analytics display