

# The Next Big Wave - Location Intelligence in Insurance

It has been a boom time for Business Intelligence (BI) vendors and solution providers over the recent few years. Today, more Insurance companies are relying upon Analytics as a strategic technology to promote faster and effective decision making than ever before. While the leading BI platforms have proven their efficacy in helping translate raw data into actionable intelligence, there are many scenarios where the two-dimensional arena of the generated spreadsheets and reports can have shortcomings. This is especially so when the user is dealing with relatively large data sets, which is not a technical shortcoming rather a human one. Scientific studies have proven that our short-term memory is generally considered to have a capacity for just around 7 elements at a time. So, if you are trying to analyze a report with tons of rows and columns, it does not take long before you are left feeling lost!

The other equally significant factor to be considered is the quantity of data present within these generated reports, which pertain to location – the spatial environment in which a given business transacts business and interacts with its customers. The location-sensitive data here can pertain to anything that can be

associated with a place on a map, be it a person, business, geographical entity or even natural phenomenal like tornados and earthquakes. Given the location context, it could be a lot more intuitive to visualize and query the data using location intelligence platforms rather than via report-based BI products.

## Which brings us to the question, what exactly is Location Intelligence?

Location Intelligence (LI) can be defined as the capacity to organize data and analyze complex phenomena through the use of geographic relationships inherent in most information as well by leveraging technologies like Global Positioning Systems (GPS) and Web 2.0. By combining geographic and location-related data with other business data, organizations can gain critical insights, identify a trend or recognize a pattern amongst customer and demographic information, empowering themselves to make better business decisions. In fact, this is the most common application of Location Intelligence, as indicated by the leading advisory services firm Ventana Research (Figure 1).

## Most Important Use of Location Intelligence

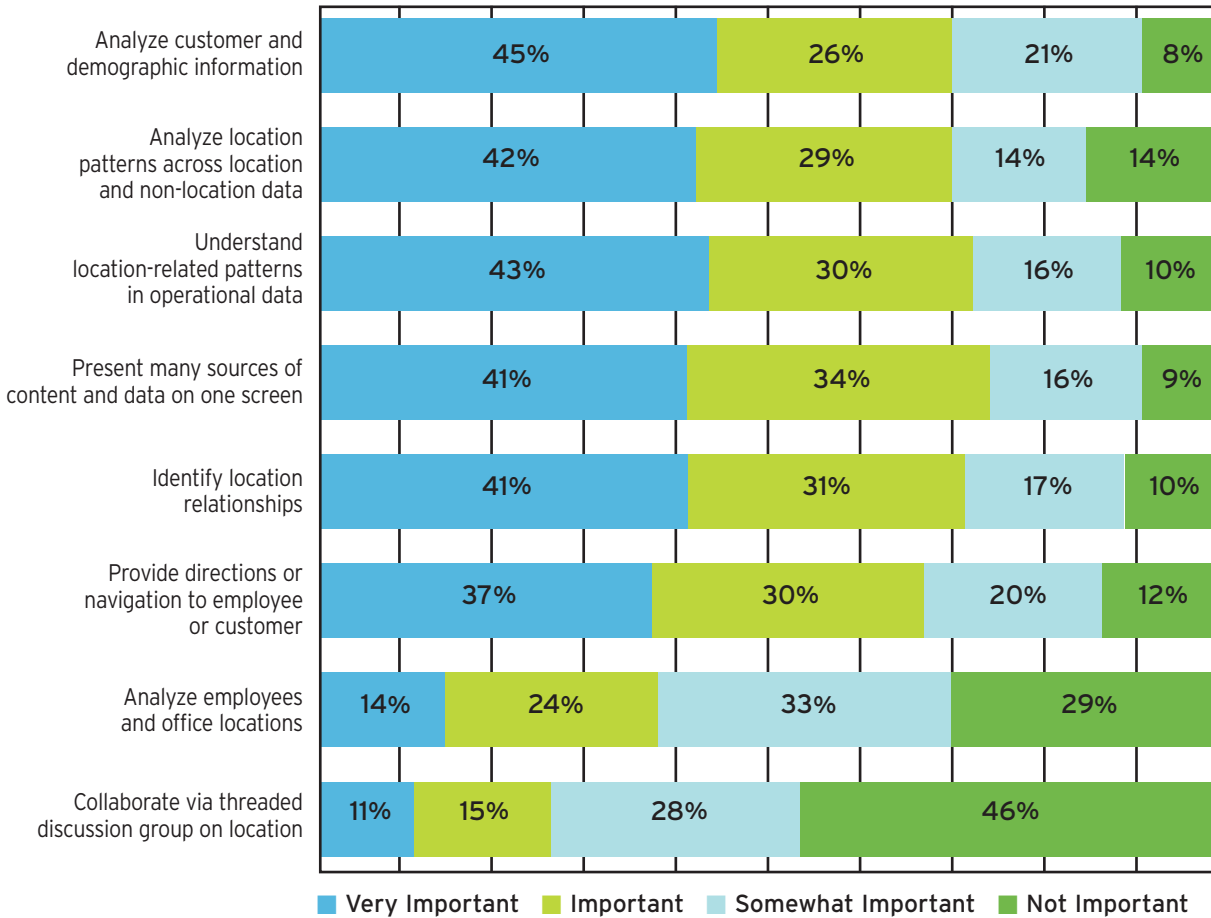


Figure 1: Common applications of Location Intelligence

LI platforms typically use a map-based dashboard for visualization. They also provide the ability to create Enterprise Mashups, providing business users the ability to overlay seemingly disparate layers of location data onto the map-based dashboard. The data being mashed up here can also be the output of conventional Analytics engines, besides public sources of information like census data feeds, etc. Another key feature that is provided by LI is the support for spatial queries.

For instance, the 9/11 attacks on the World Trade Center brought into focus the challenge for property insurers in quickly understanding their risk exposures in the immediate vicinity of the attacks. With LI supported spatial querying, carriers could have simply clicked on a specific target address on a dashboard map to fully understand their exposure not only within that building but also within an indicated radius.

LI technology is perfectly suited for the Insurance domain in particular as demonstrated by the following example scenarios:

- **Catastrophe Modeling and Mapping Services:** Using LI software, underwriters can examine a specific area or "catastrophe zone" that's historically prone to floods, hurricanes, earthquakes, wildfires, etc. on a digital map to see how much business is concentrated within, say a 25 mile buffer zone and get a clear picture of the potential risk. A risk can be pre-screened by the underwriter by simply plotting it on the map-enabled dashboard. If the risk falls in the area shaded red, it means there is already a concentration of risks and they cannot write it based on the current guidelines.
- If a picture is worth a thousand words then a map worth many more! In a homeowner

insurance underwriting scenario, visualizing property information on a map makes a world of difference, especially as it relates to properties located on the borders of different counties. For instance, without a visual perspective, it is impossible for underwriters to avoid inadvertently insuring too many properties within a high risk zone that may overlap multiple counties.

- **Customer Self-service Portals:** LI services can be directly integrated within customer self-service portals to increase customer satisfaction. For instance, consumers can be directed to an agent who is located nearest to their residence by enabling them to perform searches based on their postal code or home address. Providing an intelligent “agent locator” service online can substantially reduce the amount of phone calls received by the help desk. A carrier’s self-service portal can also help a policyholder find the nearest authorized auto body or glass repair facility, including contact information for each shop and step by step driving directions.
  - **Claims Management:** The timeliness of claim processing is always an important differentiator among P&C companies, but especially so when major disasters such as hurricanes occur. However, the magnitude of the challenge for a timely response can be formidable in an emergency. For example, more than 8 million Florida residents (over half the state population!) were affected by Hurricanes Frances and Charley recently.
  - **Nowadays,** information on a hurricane’s path and damaging wind fields is publicly available from agencies like National Oceanic and Atmospheric Administration (NOAA) on a near real-time basis. A carrier can then overlay this data on to the LI platform’s map-based dashboard with the locations of its insured properties to dynamically determine the PML associated with the event. With this type of LI, carriers can analyze geographies likely to be affected on a virtually real-time basis to take preemptive action.
  - **There are multiple other areas** where carriers can act preemptively. Claims departments, for example, can accurately forecast the number of adjusters and inspectors necessary to handle the incident and optimize their routes
- using location intelligence. The forecasting can also help predict if carriers need to add independent inspectors and adjusters and establish contracts well before their competition, avoiding a rush for hard-to-find adjusters post-event. In addition, the claims department can go about proactively blocking hotel rooms and car rentals for policy holders who have replacement coverage much earlier than otherwise, incurring significant cost savings.
- **Insurance carriers can also adjust claims** in areas with no landmarks with LI. For instance, after catastrophes such as earthquakes and hurricanes, some areas may be completely devastated. Without location-based analysis, there is a reliance on street signs and landmarks, which may not exist after such catastrophes. If locations are geo-coded by augmenting them with latitude and longitude coordinates, an agent can simply use a handheld GPS device to locate the affected area and adjust the claim without delay.
  - **LI technology can be utilized by carriers** to optimize routing and workloads for claims adjusters through wireless applications. Call centers can queue First Notice of Loss (FNOLs) within their system, assigning them to the appropriate claims adjusters based on the proximity of the claims locations. If new, more urgent FNOLs arise, the schedule can be re-prioritized, with new routes and assignments provided to adjusters in real-time while they are in the field.
  - **Geo-Analytics for Agents:** As mentioned earlier, it is certainly possible to meld LI platforms with traditional analytics regarding customer segmentation, market penetration, producer and channel effectiveness for any service area. This would help agents better identify and target the best business and consumer sales opportunities.
  - **For instance,** we could easily indicate to an agent that they have 100 clients within their service area that have auto insurance, but don’t have home owner’s insurance. This could prompt the agent to conduct a home owner’s insurance cross-sell campaign in order to get more of these customers’ business. This may be possible even without the carriers maintaining a 360 degree

perspective of their customers since the auto owner information can be obtained from a third party like the DMV.

- **Fraud Detection and Incident Tracking:** Claims departments can conduct pattern analyzes for fraud detection and provide the carrier with the insights needed to improve underwriting and rating. LI platforms provide powerful tools to spatially analyze and visualize claims data, making it possible to identify geographic trends or anomalies that would otherwise not be apparent.
- For example, a carrier can quickly identify if the frequency of claims for a particular area exceeds expected thresholds just by plotting and analyzing the claims data over any given time period on the map.

Location Intelligence platforms have traditionally been proprietary and expensive to acquire, maintain and develop point solutions under. Traditional vendors in this area typically happen

to be Geographic Information Services (GIS) product companies like Environmental Systems Research Institute (ESRI). However, with the widespread availability of SOA-compliant mapping software from companies like Google, Yahoo and Microsoft, as well as widespread implementation of spatial querying features within many commercial and open-source databases, it is possible to build a relatively inexpensive LI platform that leapfrogs the capabilities of the traditional vendors.

Cognizant's has invested in a consulting group "Insurance Technology Consulting Group (ITCG)" which has focused developing a similar solution called Cognizant Location Intelligence Platform Services CLIPS. CLIPS, is a SOA/SaaS platform built from the ground up, enabling organizations to enrich their data with location intelligence. For example, each of the tiers shown in the Figure 2 below is fully interchangeable with open source and commercial components, allowing a highly flexible architecture.

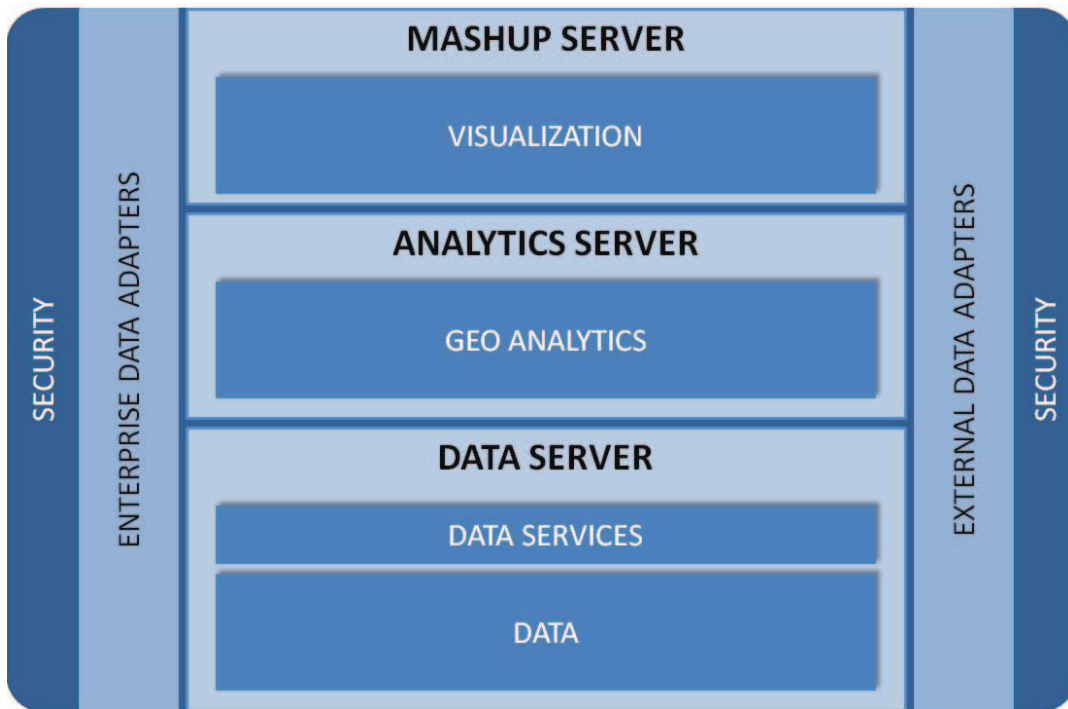


Figure 2: CLIPS Architecture

CLIPS solutions can be accessed by conventional browsers or smart mobile devices like iPhone and gPhone. Figure 3 below shows an Auto Garage locator being accessed from the iPhone.

iTCG has also created numerous POC's using CLIPS for many of the scenarios described in the preceding pages. We invite you to explore CLIPS and realize the power of Location Intelligence!

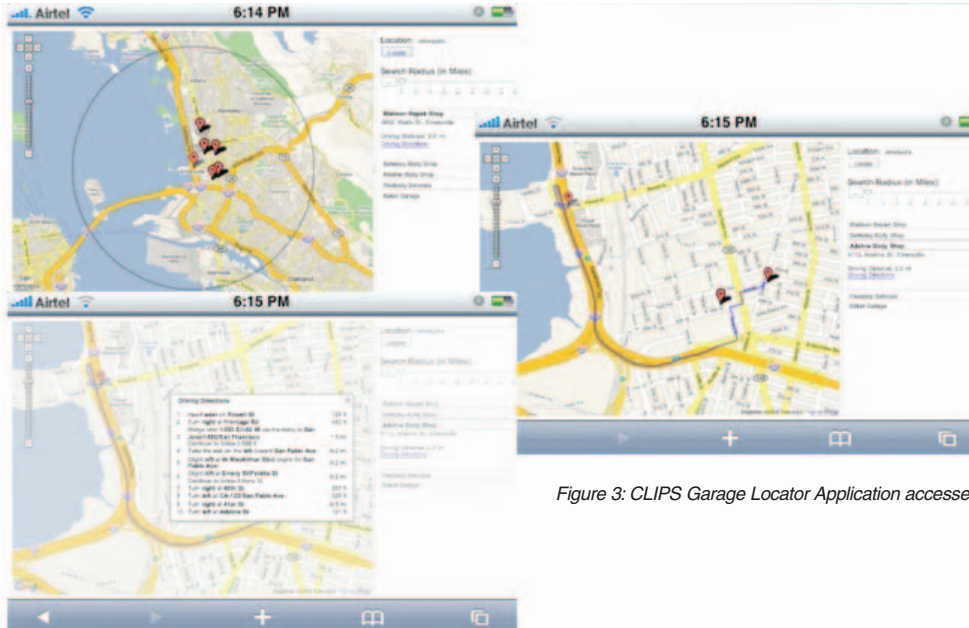


Figure 3: CLIPS Garage Locator Application accessed via iPhone

## About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting and business process outsourcing services. Cognizant's single-minded passion is to dedicate our global technology and innovation know-how, our industry expertise and worldwide resources to working together with clients to make their businesses stronger. With over 50 global delivery centers and 64,100 employees as of June 30, 2009, we combine a unique onsite/offshore delivery model infused by a distinct culture of customer satisfaction. A member of the NASDAQ-100 Index and S&P 500 Index, Cognizant is a Forbes Global 2000 company and a member of the Fortune 1000 and is ranked among the top information technology companies in BusinessWeek's Hot Growth and Top 50 Performers listings.

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