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Using Location Intelligence and Cloud Computing to Drive Underwriting Excellence

WHITE PAPER:
INSURANCE



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ABSTRACT

OPTIMIZING UNDERWRITING PROCESSES —SWIFTLY, EFFECTIVELY, COST-EFFICIENTLY

ACHIEVING PROFITABLE AND SUSTAINABLE GROWTH IS AN ONGOING CHALLENGE FOR INSURERS. THE VOLATILITY IN EQUITY MARKETS AND ROCK-BOTTOM INTEREST RATES HAVE MADE EXECUTION EVEN MORE CRITICAL. WITH EASY RETURNS A THING OF THE PAST, GETTING “BACK TO BASICS” AND OPTIMIZING THE CORE BUSINESS OF INSURANCE—UNDERWRITING — IS NOW THE ORDER OF THE DAY.

SUSTAINED, SUPERIOR UNDERWRITING PERFORMANCE REQUIRES PRECISION, INSIGHT AND RESPONSIVENESS. INSURERS ARE PUTTING A HIGH PRIORITY ON IMPROVING THEIR CAPTURE OF DATA AND RISK INFORMATION AND THEIR USE OF IT TO ENHANCE UNDERWRITING BY ENSURING THAT RISK ASSESSMENTS ARE MORE JUDGMENT THAN LUCK.

ALL INSURERS AIM TO PRODUCE AN UNDERWRITING PROFIT. BUT TO REALIZE THAT OBJECTIVE, THEY MUST ACCESS, AGGREGATE AND HARNESS CRITICAL INFORMATION AND BUSINESS INTELLIGENCE TO DETERMINE THE RIGHT PRICE FOR EACH RISK. IN PARTICULAR, THEY MUST HAVE THE CAPABILITY TO UNDERSTAND AS PRECISELY AS POSSIBLE THE LOCATION OF RISK AND SURROUNDING HAZARDS.

THE ADVENT OF ACCESSIBLE LOCATION INTELLIGENCE

LOCATION INTELLIGENCE ENABLES INSURERS TO VISUALIZE SPATIAL DATA TO MAKE BETTER RISK DECISIONS. ADVANCED SOLUTIONS HAVE BEEN DEPLOYED AT MAJOR INSURANCE FIRMS TO OPTIMIZE UNDERWRITING PROCESSES AND DECISION-MAKING. CONCURRENTLY, SYSTEMS, APPLICATIONS AND DATA ARE MOVING TO AN IT ENVIRONMENT HOSTED IN CYBERSPACE ON A “CLOUD” OF COMPUTERS OR SERVERS. THESE ASSETS ARE NOT ON-PREMISES OR MAINTAINED BY THE IT DEPARTMENT – BUT ARE NOW AVAILABLE TO BUSINESS USERS ACROSS THE ENTERPRISE WHO ARE CONNECTED TO A NETWORK (THE “CLOUD”) VIA THEIR COMPUTER.

THIS PITNEY BOWES BUSINESS INSIGHT WHITE PAPER ADDRESSES THE RISE OF LOCATION INTELLIGENCE APPLICATIONS RUNNING ON NEW CLOUD COMPUTING ENVIRONMENTS AND THEIR POTENTIAL TO LEVEL THE P&C INSURANCE PLAYING FIELD BY ENABLING SMALL-TO-MEDIUM SIZED INSURERS ACCESS TO THE SAME UNDERWRITING AND GIS CAPABILITIES AS THE TOP COMPANIES IN THE MARKET. THIS PAPER ALSO PROVIDES A ROADMAP TO BEGIN THIS TRANSITION TO BETTER PRODUCTIVITY AND GREATER COMPETITIVE ADVANTAGE.

LOCATION INTELLIGENCE ENABLES INSURERS TO IMPROVE PRICING AND SEGMENTATION AND ENHANCE THEIR UNDERWRITING PROFITABILITY.

The Challenge: Gaining clearer insights into risk decisions

No crystal ball

Seemingly, each day brings news of a natural (and sometimes man-made) catastrophe: a tornado, hurricane, earthquake, wildfire, explosion or other calamity. If insurance underwriters had a crystal ball, they could look into the future to anticipate these events, know their severity and understand exactly how each affected insured property would perform, and price them accordingly.

Unfortunately, no such magic crystal ball exists.

Instead, traditional underwriting consists of the endless search for meaningful insights into individual policyholder risk characteristics that improve an underwriter's ability to distinguish the good risks from the bad and to accurately price each risk. The pressure to grow profitably—whether in a soft, flat or robust economy—deeply impacts the underwriting process, and there have proven to be few truly insightful underwriting tools that help improve both risk segmentation and pricing discipline.

So, how can insurance carriers develop solutions and enhance business processes that will improve their chances of making an underwriting profit in both hard and soft market cycles?

Location Intelligence: Bringing science to the art of underwriting

Four key processes

Location Intelligence—not a magic crystal ball—is an emerging set of processes and technologies that enable insurers to improve pricing and segmentation and enhance their underwriting profitability.

With Location Intelligence, companies can eliminate the incorrect determinations that contribute to shortfalls in underwriting execution and directly impair company performance.

Location Intelligence consists of four business processes:

1. Address standardization
2. Geocoding
3. Risk profiling
4. Underwriting determination

(1) Address standardization

Addresses—whether entered by agents, call center personnel or the underwriter—can be “dirty.” In other words, they contain misspellings and erroneous or missing information. In the U.S., Zip Codes change constantly. Address standardization technology corrects, cleans and standardizes addresses to conform to the postal service's conventions. Once an address has been “standardized”, it is ready to be geocoded.

(2) Geocoding

The process of associating a physical location to an address is known as geocoding. By precisely defining the location of an address using its latitudinal and longitudinal coordinates, geocoding provides a more powerful, comprehensive, and accurate way to geographically analyze the insurance risk.

No database currently exists that includes the specific and exact geocode for each and every postal address. So the accuracy of a geocode assignment can vary based on the method used. Here are four examples, in ascending order of accuracy:

• Address Level

This method—far more precise than Zip Code-based geocoding—assigns latitudes and longitudes based on the intersection of the block or street segment containing the address.

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• Parcel Centroid Level

By assigning precise latitude and longitude coordinates to a specific address, point-level geocodes offer the most accurate determination. Point-level assignments provide advantages over address-level geocoding when there are long street segments or cul-de-sacs with irregularly spaced addresses. While data is not yet available to pinpoint the exact location of every single business and household, the depth of this type of data increases every day.



Figure 1. A parcel-centroid level view of a subdivision shows both property boundaries (in yellow) and flood areas (in blue)

(3) Risk profiling

Once an address is located and geocoded to an acceptable degree of precision, Location Intelligence begins the process of geographical analysis using the proper risk data sets. These data files contain information in digital form such as earthquake and brushfire zones, windpools, flood zones and coastlines.

Risk profiling analyzes each address against each layer of data and determines if there have been any events affecting this location—or if location is inside the risk data set polygon. (See figure 2).

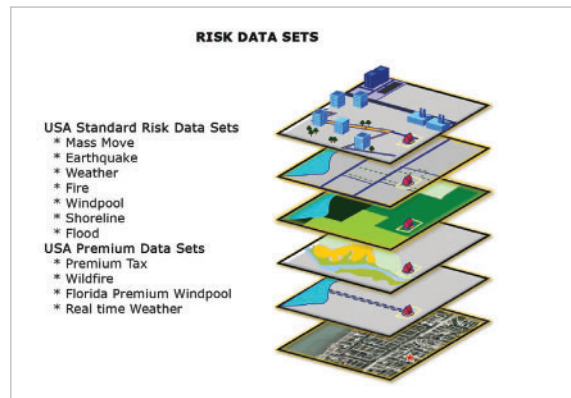


Figure 2: Companies can now analyze every policy location risk against a variety of standard and premium sets

(4) Underwriting decision support

Companies can implement underwriting guidelines to determine if the risk should be rated low, medium or high based on the returned values. Automation technology can support underwriting decision support by:

- Consistently analyzing incoming policy applications and automatically pointing out areas of concern
- Increasing productivity of underwriters by enabling them to focus on tough or exceptional risks, rather than spending much of their day reviewing applications that could easily be automated
- Automatically issuing policies that meet all underwriting criteria
- Further analyzing high-risk policies by reviewing all the risk level detailed information and being able to visualize all this data through a map interface

Business benefits of Location Intelligence

1. Profitable Growth

- Consistent application of underwriting guidelines leads to a better portfolio of risks, and reduces the incidence of claims.
- Better risk segmentation and effective management of markets and portfolio of risks helps in acquiring and retaining profitable segments and markets.

AS ORGANIZATIONS CAPTURE AND STORE MORE INFORMATION, THE NEED FOR GIS GROWS EXPONENTIALLY.

2. Operational Efficiency

- Reduce operating costs by improving turnaround time.
- Retain knowledge capital in the enterprise and reduce cost of attrition.
- Lower the expense ratio with minimum underwriter intervention.

3. Underwriting Effectiveness

- Stop revenue leakage through standardization of underwriting practices.
- Improve profitability by attaching profit objectives to underwriting decision processes.
- Maintain better premium levels, even in a soft market, through standardized rating/pricing decisions across risk.

4. Employee and channel productivity

- Accelerate underwriting speed for quoting, binding and issuance.
- Increase productivity through the seamless exchange of information between distribution channels and the carriers.

Now, with Location Intelligence enabled by cloud computing, small to medium sized insurers gain access to the same underwriting and GIS system as the top-tier companies and can realize those same business benefits.

Leveling the technology playing field

Cloud computing makes Location Intelligence accessible

Cloud computing—also known as SaaS (Software-as-a-Service), hosted, or on-demand computing—has changed how applications are built and how business functionality is delivered. For many insurers, it could be the ticket to salvaging the technology investments they have made—and enabling new location analysis emerging capabilities—without an additional broad outlay of capital.

In cloud computing, a third-party provider hosts, manages and maintains applications and associated data on behalf of its clients, who access the software remotely and securely

via the Internet. Unlike outsourcing, cloud computing only changes the way in which solutions are delivered, not how or by whom they are used. Dynamic applications such as Location Intelligence are ideal for cloud computing platforms, where data always changes and the data capacity must be able to scale upward.

It's not difficult to see why cloud computing is gaining a foothold in insurance. The use of geospatial information systems has increased pressure on already-strained in-house IT resources. The sheer volume and growing complexity of location data and images necessitate increased capacity and bandwidth. IT personnel are stretched thin and cannot spend hours loading updated data files into on-premises systems. Given these conditions—and users' heightened demand for speed and performance—many organizations are bogged down by obsolete data, inefficient workflows and costly solutions.

Cloud computing, however, solves each of these issues for the underwriter community.

Six reasons for serendipity

While organizations in all industries use and benefit from cloud computing, the approach is particularly well suited to risk analysis and pricing—areas in which applications are complex, costly and increasingly in demand.

Pitney Bowes Business Insight has identified six characteristics of Location Intelligence or risk analysis solutions that make the cloud-computing model an ideal delivery method for such technology.

(1) The increasing volume and complexity of risk data

One thing is certain about the future of data: It will continue to grow. Currently, 80 percent of all insurance business data has a location component. As organizations capture and store more information, the need for GIS grows exponentially.

Geographic risk data is layered: addresses and Zip Codes in spreadsheets, for instance, are linked to complex map files. Geographic data is also in constant flux: Zip Codes change, roads are renamed, or new risk data sets are developed. Making a seemingly small change—like updating the

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addresses included in a specific rating territory—impacts not only pricing but exposure accumulations to which that data is linked. The result is an intricate web of ever-changing information that could easily overwhelm traditional computing resources and IT support personnel.

Because GIS tools process enormous amounts of complex information from multiple sources, speed and capacity are paramount. The unlimited computing power of on-demand solutions and flexible and scalable cloud-based Location Intelligence solutions help insurance organizations solve problems that previously were beyond their reach.

(2) Cost efficiency

In the past, startup costs for implementation would have been an insurmountable barrier for most small and even midsize organizations. Cloud computing, however, has changed the rules of the game. In most cases, organizations subscribe to cloud-computing solutions under “pay-as-you-go” terms based on flat fees or system usage. No capital investments in hardware or long-term software license agreements are required, making the model financially viable for more companies. In addition, there are fewer servers to maintain, there is less data to manage and no need to support constant updates, backups and versions—all of which create savings.

(3) Satisfying the growing demand for GIS technology

Cloud computing is flexible and scalable, meaning that Location Intelligence solutions can be accessed by a limitless number of users. Organizations can easily expand and modify services without the financial exposure associated with in-house systems.

Because of its flexibility, the cloud model also enables intelligent collaboration through 24/7 community computing—in any place, across every time zone. When a company-wide network of users begins to demand new features and functionality, the solution providers can meet demands quickly and efficiently in ways that small, in-house development teams cannot.

(4) The utility of mobile applications

Mobile technologies, including mobile apps and wireless communications, are creating many opportunities for innovation. Field-based underwriters can use mobile applications as they visit properties or meet with agents or customers. On site, they can use their mobile devices to access valuable risk data information from the cloud regarding any events affecting the property—like hail storms, flood data, and fire station distance—in real time.

(5) Keeping up with the speed of innovation

GIS and Location Intelligence solutions are evolving so rapidly that internal IT organizations can easily be overwhelmed by the increased pace. Companies that want to lead the market cannot be constrained by long-term licensing agreements when new GIS technology and applications are available.

Traditional hardware and software solutions aren't well suited to fast-paced innovation. Obsolete hardware is expensive to replace; disk-based software updates are burdensome to compile, distribute and install. Cloud computing users, on the other hand, benefit from an ongoing stream of enhancements and upgrades, enabling them to respond to market opportunities quickly. Instead of waiting to receive and implement new releases, users simply log on and take advantage of every functionality improvement. In addition, they're able to use updated and more accurate data sources, as rating territories, streets, fire stations, tax districts are reconfigured and boundaries frequently change.

(6) The mission-critical nature of underwriting applications

Operationally, organizations that choose cloud computing-enabled applications shift the burden of successful program deployment and management to the cloud-based solutions provider—the party with the most expertise in supporting the systems and software. Some organizations may initially be reluctant to entrust mission-critical data and technology to a third party; but in fact, leading cloud computing

THE UNLIMITED COMPUTING POWER OF ON-DEMAND SOLUTIONS HELP INSURANCE ORGANIZATIONS SOLVE PROBLEMS THAT PREVIOUSLY WERE BEYOND THEIR REACH.

solutions providers can offer greater reliability, more secure environments, better privacy safeguards, and built-in redundancies that exceed in-house thresholds.

Choosing the right vendor

Insurers seeking to take advantage of next-generation Location Intelligence solutions should consider a number of selection criteria.

Expertise

Look for a combination of experience and domain expertise—in Location Intelligence applications, IT solutions for insurance, and cloud computing software delivery environments. Determine:

- How long has this provider been in the industry?
- Does it understand the entire cloud-computing universe? Does it host a range of applications?
- Does this provider have well-known clients that hold vendors to high standards?
- Does this provider host mission-critical applications? Is it trusted to handle its clients' most important data?
- Does it have people who understand both your business and how technology solutions can be applied or integrated to optimize its processes?
- Can it integrate its applications with your existing book of business?
- Can it integrate risk data sets with your custom data sets?

Security

In many cases, a cloud-based solution may be more secure than in-house alternatives, given providers' rigorous rules for data check-in and checkout and established procedures for preventing data proliferation. Still, companies considering a cloud computing solution should carefully interview potential vendors regarding security practices. When comparing possible providers, look for:

- Infrastructure redundancy
- Around-the-clock physical security, including advanced measures such as biometric scanners
- Secure portals
- Multiple firewalls
- Intrusion detection
- Encrypted disk partitions and backup
- SAS 70 Certification

Scalability

In addition to being secure, a hosting environment must also be scalable to truly meet customer needs. A vendor should be able to expand and contract with a client as its computing needs change. When evaluating potential partners, ask about:

- Space and processing power: Can this environment meet current and future needs?
- The machine-to-customer ratio: If the vendor uses a "one machine per customer" approach, there likely will not be adequate room for expansion when needed.
- Contracts: If a company's bandwidth needs change, can it negotiate a new contract with the vendor in a timely manner? Generally, SaaS providers will only ask clients for 12-month commitments.

For insurance companies, the move to cloud computing has been a gradual process. Migration is happening more rapidly, however, as companies and organizations see firsthand how this new environment is improving the delivery of Location Intelligence, and can improve underwriting results.



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