

Solutions for Enabling Lifetime Customer Relationships



# You Can See Clearly, Now

How a Single View of Risk Drives Competitive Advantage

WHITE PAPER:

PROPERTY & CASUALTY INSURANCE



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### ABSTRACT

THE ABILITY TO AGGREGATE, VISUALIZE AND MANAGE RISK IS FUNDAMENTAL TO THE PROFITABILITY OF CARRIERS AND REINSURANCE COMPANIES. IN SOME CASES, IT'S FUNDAMENTAL TO REGULATORY COMPLIANCE, OVERALL SOLVENCY AND LONG-TERM VIABILITY.

YET IT HAS BEEN DIFFICULT TO DATE FOR MOST INSURERS TO GAIN A SINGLE, OPERATIONAL VIEW OF RISK ACROSS THEIR ORGANIZATIONS. OPERATIONAL, DATA AND TECHNOLOGY SILOES HAVE OBSTRUCTED A 360-DEGREE UNDERSTANDING OF RISK— AND THE ABILITY TO ACT UPON THAT DATA. THIS SHORTCOMING IMPACTS THE ENTIRE ORGANIZATION.

EXECUTIVE MANAGEMENT IS DENIED THE ENTERPRISE-WIDE INFORMATION NEEDED TO CHART THE RIGHT COURSE FOR THE BUSINESS, UNDERSTAND THE POTENTIAL IMPACT OF CATASTROPHES, AND BETTER MANAGE REINSURANCE AGREEMENTS.

UNDERWRITERS LACK THE ABILITY (AND THE AGILITY) TO MAKE GOOD DECISIONS OR OFFER A PRECISION QUOTE IN NEAR-REAL-TIME.

ACTUARIES CAN'T FULLY UNDERSTAND THE TRUE SCOPE OF RISK EXPOSURE, AND CAN'T DEFINITELY MODEL POTENTIAL CATASTROPHIC EVENTS OR DEVELOP OPTIMIZED UNDERWRITING AND PRICING GUIDELINES.

CATASTROPHE MODELERS' MANDATE —TO ACCURATELY DETERMINE PROBABLE MAXIMUM LOSS—IS COMPROMISED.

CLAIMS MANAGERS ARE HINDERED IN EVENT RESPONSE PLANNING AND IDENTIFYING FRAUD.

DISTRIBUTION, SALES AND MARKETING CANNOT PLAN FOR GROWTH, OR OPTIMIZE AGENT NETWORKS.

BUT NEW TECHNOLOGIES NOW OFFER A SINGLE OPERATIONAL AND MAP-BASED VIEW OF RISK IN NEAR-REAL-TIME.

THIS WHITE PAPER EXAMINES HOW THOSE TECHNOLOGIES ADDRESS CRITICAL RISK EXPOSURE ISSUES FOR INSURERS.

# CATASTROPHE MANAGEMENT AND COMPETITIVE AND REGULATORY PRESSURES DEMAND A SUPERIOR UNDERSTANDING OF RISK.

## A Rising Tide of Natural Disasters and Competition

In late October 2012, “it” finally happened.

For years, insurance carriers worried about the potentially devastating financial impact of a major storm on some of America’s most expensive real estate—in New York City, on Long Island, and along the coasts of New Jersey and southern New England. The value of insured coastal property in New York State alone was estimated to be \$2.7 trillion in 2012.

Superstorm Sandy devastated that coastline for three days, October 29 through Halloween, killing dozens and causing insurers to pay between \$16 billion and \$25 billion in claims, making Sandy the second or third most expensive storm for insurers behind Katrina’s \$47 billion toll.

And, overall, 2012 was a bad year for insured losses in the U.S. It was the costliest year (estimated at over \$58 billion) since 2005—the year of Hurricanes Ike, Katrina and Rita—and the estimate was more than twice the average annual loss nationwide (\$27 billion) between 2000 through 2011.

Hurricanes weren’t the only perpetrators, and the damage wasn’t confined to coastal areas or the Northeast: the worst drought since the 1980s cost \$17 billion; severe thunderstorms took a \$14 billion toll; and wildfires accounted for another \$600 million in losses.

Worldwide, there was no catastrophic event in 2012 on the scale of the previous year’s earthquake and tsunami that struck Japan, but a 6.0 May temblor set a record for insured losses in Italy and floods in China cost insurers another \$180 million.

As insurers face the present—and future—natural disasters are only part of the headache. In the marketplace itself, heightened competition and reduced investment income underscore the need for greater underwriting discipline. The pressure to maximize efficiency, reduce costs, and comply with regulations is unrelenting.

## Needed: A Single View of Risk

Underwriters, actuaries, catastrophe modelers, sales and marketing personnel, and executives require an improved understanding of risk to manage the organization’s exposure and reinsurance balance, and to maintain profitability and solvency. They need a clear and highly accurate common operational view of risk across their organization to:

- Comply with new legislation and regulations that mandate corporate-wide risk management.
- Better understand the risk of a policy in context of the existing book of business.
- Better understand Probable Maximum Loss in real time, to model the impact of a catastrophe on the business and optimally allocate resources after an event occurs.
- Gain an easily consumable, near-real-time perspective on enterprise-wide risk exposure.
- Drive insights from customer data for superior customer care, product design and precision pricing.
- Optimize business development strategies and marketing campaigns to align with the risk profiles of potential customers—to ensure that carriers don’t market to people they can’t insure, and that they extend their exposure only where they’re adequately reinsured or have low numbers of customers.

Carriers are beginning to evaluate and implement new technology that supports these goals. These solutions incorporate risk data management to provide a single common set of high quality data; location intelligence for data visualization; and predictive geoanalytics.

Pitney Bowes Software offers the only solution to provide these capabilities on a single platform.

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#### *The Foundation: Highest-Quality Data*

Attaining a single view of risk that can be used by individual departments or executive management is the finish line for P&C carriers. The starting line is data: the most comprehensive set of data that's available, the most accurate and up-to-date, linked and integrated to form the foundation—a “common version of the truth”—for risk visualization and analysis throughout the organization.

Building that foundation is a process that includes multiple steps.

**Data Integration.** Claims history, policy administration, and transactional information must be collected and aggregated from within the enterprise. It has to be accessed across multiple departments and often from disparate systems, applications, data sources or models. Serious obstacles—ranging from breaking down organizational silos to reconciling heterogeneous software and IT systems and disparate data models—often must be overcome to integrate data into one common foundation for risk visualization.

**Data Cleansing and Transformation.** With the rise of online self-service applications and surveys, along with the boom in unstructured data that comes from notes, diaries, emails and social media conversations, data hygiene has never been more important. Data cleansing and correction, especially address validation and standardization, is essential to determining the precise location of properties. Data transformation eliminates redundant records, identifies incomplete records, and creates an enterprise-wide risk database.

#### **The Precision of Point-Level Geocoding**

**Geocoding.** An accurately geocoded property forms the basis for the most powerful, comprehensive and accurate way to geographically analyze risk. Based on the geographical information in the underlying databases and the quality (or “standardization”) of the address, a geocoding engine can deliver successive degrees of precision in determining the location of property. Some geocodes are based on data like Zip and Zip+4 codes, or at the “address level,” which offer latitude or longitude data accurate to the block or street-intersection level.

Point- or parcel-centroid-level geocodes offer the most precise determination of location—especially in comparison with estimates that are based on Zip or postal codes, which often contain inconsistencies. Point-level geocoding provides property location using actual coordinates, including latitude, longitude and altitude, as well as assessors' parcel identification numbers. Pitney Bowes Software offers best-in-class geocoding solutions for U.S. addresses and for 200 countries and territories globally. Its geocoding solutions are used by the Top 25 P&C carriers in the United States.

**Data Augmentation.** Overlaying best in class, third-party information—about risks and perils, demographics and psychographics, landmarks and points of interest, boundaries and parcels—on top of the enterprise transactional data enriches the geocoded internal data. Companies such as Pitney Bowes offer data suites that combine geospatial information with historical accounts to provide insights on areas that are prone to perils—such as floods, earthquakes, wildfires, slides, wind and severe weather, sinkholes, terror attack and criminal activity—as well as data on distance-to-coast, distance-to-fire-stations and other location-based intelligence.

## VISUALIZATION OF RISK DATA LETS EACH USERS ACROSS THE ENTERPRISE MAKE BETTER, FASTER DECISIONS.

### One Data Foundation, Multiple Uses

Using a comprehensive common data foundation enables carriers to make risk decisions from the simplest of use cases to the most complex.

Underwriters can assess risk for a single policy, mapping a single location against peril data. Distribution, marketing and sales can evaluate single locations against demographic and psychographic datasets as well as peril information.

Actuaries can analyze ratings territories, regions, counties, and states or provinces against multiple layers of risk data. Catastrophe modelers can get a clearer picture of risk accumulation in near-real time. And executive management can assess their entire book of business to make critical business decisions.

However, their ability to quickly analyze this data foundation—and make decisions based on it in near real time—is greatly enhanced by their ability to *visualize* it.

### Empowering the Business User: Risk Visualization

The ability to leverage the highest-quality operational risk data is crucial for both day-to day-operations as well as split-second decision-making and long-term strategic planning. Location intelligence enables carriers to map and visualize risk data—about single policies or aggregated risk across the enterprise—in the context of critical spatial and geography-related information.

A single, clear visualization of risk puts greater decision-making power into the hands of actuaries, underwriters, claims executives, chief risk officers and upper-level management. Carriers can:

### Make better risk management decisions

- Analyze risk exposure down to the individual policy-holder level
- Develop detailed catastrophe simulation models for better exposure management
- Get a clear view of crucial data—and discover unanticipated, “hidden” risk
- Drive reductions in combined loss ratio

### Improve responsiveness and productivity

- Identify potential losses from and respond swiftly to catastrophic events
- Reduce decision latency and accelerate quote to bind performance

### Customizable Views of Risk for Decision Support

Users can harness comprehensive data on risk and location intelligence to gain an easily understood and customizable view that lets them quickly grasp information about a location, and act upon it.

Underwriters can visualize the proximity of locations to perils like wildfires.

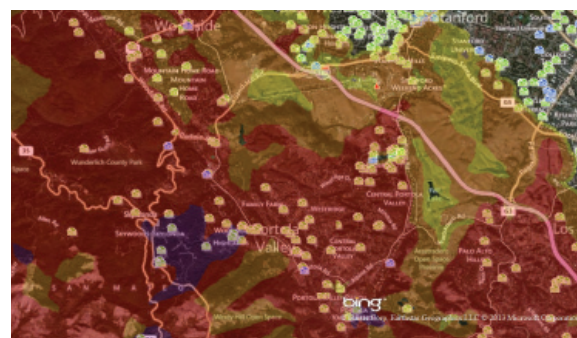


Figure 1. This view maps data about insured property in San Mateo and Santa Clara counties, California, to wildfire risk zones, with purple indicating “extreme” and red meaning “very high” peril risk.

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Catastrophe modelers and claims managers can plot the path of an oncoming tornado on insured property:

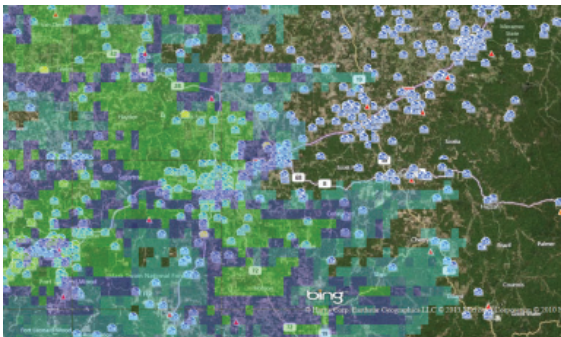


Figure 2. This view shows the potential impact of a severe weather event across multiple counties in eastern Missouri. Areas shaded in purple are once more prone to “extreme” risk.

### Better Upstream Decisions: Geospatial Analytics

Over 80 percent of data has a location-based aspect. Geospatial analytics explore the relationships of risk data that can be linked to a specific geographic location, to drive insights and model potential scenarios. Geospatial risk analytics is driven by the single view of operational risk that comes from high quality and complete transactional data, precision geocoding and location intelligence, and superior visualization tools.

Predictive analytics models are developed for risk management to help determine tolerance capacity within specific geographic areas, as well as catastrophe planning and Probable Maximum Loss analyses based on different types of events—and based on real-time peril information, like the track of an onrushing hurricane, tropical storm, tornado or severe thunderstorm.

Predictive risk analytics can also transform underwriting processes and improve risk avoidance because insurers can model the potential impacts of peril events on insured properties during the quoting process—*before*, rather than *after*, the policy is issued. And it’s especially valuable for strategic marketing/distribution planning.

### The Benefits of a Single View of Risk

The ability to visualize operational risk has multiple benefits across the P&C carrier organization.

**Executive management** gets the clearest view, in near real time, of risk across their entire book of business. They get a clearer handle on aggregated and geography-based risk exposure and Probable Maximum Loss scenarios and can better monitor processes like underwriting performance, claims adjustment, customer acquisition and retention and other factors that influence overall profitability and competitive position. With a granular, accurate and updated understanding of their risk portfolio they can optimize their relationships with reinsurers and comply with regulatory commissions where they operate.

**Underwriters** can better assess risk at the policy level for both individual and multiple locations. They can model potential losses based on location-based hazard data before they issue a quote, or quickly determine if risk thresholds in areas are in danger of being exceeded. They can deliver faster and more accurate quotes and better ensure that the policy is based on the right coverages and the right pricing.

**Actuaries** can better assess actual, aggregated risk exposure to develop the appropriate rating structure, improve underwriting guidelines, model events and outcomes, and perform other analyses that are critical to risk management, corporate governance and other issues.



## A COMPLETE UNDERSTANDING OF RISK IS ESSENTIAL TO A COMPETITIVENESS, PROFITABILITY AND VIABILITY

**Catastrophe modelers** can manage exposure to Probable Maximum Loss due to a natural disaster such as a hurricane, flood or earthquake. They can better understand the impact of natural and man-made catastrophes on the built environment and in near real time can plot the path of a pending weather event like a hurricane, and its potential impact on the book of business.

**Claims** personnel can expedite adjustment and claims processes and optimally plan for catastrophic events by precisely determining areas (and insured properties) likely to suffer losses. They can better manage the aftermath of those events, helping them get “boots on the ground” to allocate claims-unit resources, prioritize claims, get adjusters to the site of damaged properties as fast as possible, set up triage units, or route customers to the closest possible branch office or auto repair facility.

**Distribution, sales and marketing** strategists can optimize agency networks, align distribution with actuarial and underwriting appetite, improve customer acquisition and retention processes, and optimize customer relationships through predictive modeling, a high degree of accuracy and responsiveness, and efficiencies in policyholder communications.

### A Single View of Risk on a Single Solutions Platform

Insurance carriers have implemented policy administration systems and now are grappling with the magnitude of the “Big Data” challenge—managing the information generated by their own transactional systems and the massive amounts of unstructured data they collect from emails, diaries and social media conversations. Many carriers implemented—or are still implementing—advanced policy administration systems as the backbone of their Information Technology systems.

Attaining an enterprise-wide view of operational risk—the “single version of the truth”—is the next challenge that will drive differentiation and competitive advantage based on better decision-making, greater responsiveness, and superior execution.

Pitney Bowes Software has developed a risk aggregation, visualization and analytics system that —on a single platform—helps carriers meet this new challenge.

Designed to integrate seamlessly into existing policy admin software, data repositories, and other systems, Pitney Bowes Software’s solution supports risk analysts at multiple levels of the organization, each with their own data assets and dependent systems.

The most complete risk aggregation and visualization solution available, it includes:

- Data quality, address validation, and data cleansing
- Best-in-class geocoding in the United States and Canada, with geospatial data for 200 countries and territories
- Data enrichment solutions including peril risk data sets for the U.S. and Canada
- Visualization and enterprise location intelligence and mapping solutions

With extensive experience in the Property & Casualty Insurance industry—25 of the Top 25 U.S. carriers use our geocoding solutions, Pitney Bowes Software has a team of experts that understand the magnitude of the challenges that carriers face in managing risk. We welcome the opportunity to explore with you how our solution can help you meet your unique requirements and help your organization thrive.



Every connection is a new opportunity™

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