

# Cloud computing for insurance

*Inside the drive toward new business models*



## Executive summary

Cloud computing is a delivery model that you can use to facilitate or accelerate business transformation. The cloud represents enormous opportunities for change in the insurance industry. There is a growing demand for cloud computing among insurers. According to a recent Gartner's CIO survey, cloud computing continues to be ranked as one of the top priorities for CIOs.<sup>1</sup> Insurers across the globe are looking for alternative deployment options to increase automation, improve OPEX spending ratios, improve liquidity by reducing capital expenses and enable geographic expansion.

Cloud computing provides applications, data and IT resources to users as services delivered over a network for self service. It also offers economies of scale and flexible sourcing. With cloud computing, it is possible to manage large numbers of highly virtualized resources to deliver services.

## Transforming the insurance industry through cloud technologies

Across the globe, companies of all sizes are taking a fresh look at how they do business because of the advent of cloud technologies. Cloud is no longer simply the purview of IT; it changes the way business operates on a global level.

Although any change to a business process must justify itself in terms of cost and effort, for the insurance industry, moving to the cloud offers a unique opportunity to fundamentally change the operation of the enterprise. The full potential of cloud computing, however, is about much more than a cost-focused return on investment. It is about creating new ways of operating, creating value for your clients, and growing your business in ways not possible just 10 years ago. As cloud technologies mature, some

insurers are experimenting with cloud to drive revenue, improve collaboration, gain customer insight and reduce time to market for products. Insurers are taking advantage of cloud to:

- Gain access to new markets and new customers, increase customer loyalty and retention and enable new business models and applications.
- Shift transactional workloads to lower-cost and higher-efficiency service providers.
- Capture real-time intelligence about an accident situation through mobile devices and mobile applications.
- Place email and whiteboard applications in the cloud so sales agents, employees, field representatives and developers can collaborate in real time, regardless of the device they use.
- Provision and scale computing resources to meet periodic demand for actuarial and financial workloads.
- Support agent management, including sales document management and application submission.
- Support critical functions such as billing and underwriting.
- Preserve data for audits.

Demand slumps, distribution challenges and increasingly complex risks are taxing insurer's bottom lines. Customers want customized products that provide higher value delivered through coherent interactions across every channel they choose to use. Converging regulation in the wake of the worldwide financial crisis is driving a rapid increase in competition across borders as well as emphasis on effective management of capital. Insurers need the ability to adapt and price their products and services in response to dynamic markets and competitive changes. The complex applications, data warehouses, server software and new business solutions designed to meet these challenges require a great deal of computing power. You need a new, scalable service delivery model that can support your business application requirements and speed your products to market. That delivery model is the cloud. Cloud can help you reduce costs, drive efficiencies, create new relationships with your customers and better manage fraud and risk.

Forward-thinking companies in industries across the globe have already begun to migrate to the cloud. In a study by Gartner, 59 percent of all new spending on cloud computing services originates from North American enterprises. This trend is projected to accelerate through 2016. Of all spending, Western Europe is projected to be at 24 percent.<sup>2</sup>

### Create a customer-focused enterprise

When providing cloud services to customers, the user experience is important. It must include access to the cloud from a wide variety of devices, from anywhere, and as seamlessly as possible. You need to understand customer behavior to develop innovative and relevant products and to optimize claims and policy servicing capabilities. Doing so can result in improved customer retention and profitability. Most insurers already possess an enormous amount of extremely valuable exclusive customer information. Cloud technologies allow you to apply analytics to better understand customer behavior. You can then deliver personalized marketing campaigns and insurance opportunities that are relevant to each customer. This customer-focused approach, combined with analytics, helps you align service levels, products and customer interactions. You can make better decisions regarding good and bad risks and predict which clients are likely to move to another insurer and why.

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#### A dental insurance company creates a customer-focused enterprise

A dental insurance company in the United States sought to improve visitor tracking on its website so that it could optimize site design and performance. They also wanted to improve visitor acquisition, online marketing campaigns, search engine optimization and marketing capabilities. By implementing IBM® Unica® Netinsight®, they were able to identify and monitor key performance indicators (KPIs) to understand which website pages and sale paths played a role in persuading site visitors to submit a lead form.

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### Increase flexibility and streamline operations

Because of distribution channel pressures and evolving consumer demands for mass customization and hybrid products, business agility is now a necessity. Consolidating core systems and technology, such as policy administration, underwriting and claims can lower costs and improve agility. You can create a more flexible enterprise by streamlining product development processes, addressing workloads that ebb and flow, building a “product chassis” of common components and adopting agile technologies. Cloud computing technologies can help you make these changes to your operations.

The ability to respond quickly to new opportunities or roadblocks is critical to the idea of flexibility. With cloud, you can rapidly deploy small utility applications. Provisioning time often is a constraint in servicing these requests, but with the cloud it is drastically reduced. In most IT departments, it takes longer to provision a usable system than it takes to develop the solution. With the cloud, applications such as short-term segmented marketing campaign applications or customer polls are typically designed, developed and deployed in hours or days instead of weeks or months. In addition, IT departments typically are not able to acquire, provision and reclaim the infrastructure for these types of applications. Cloud technologies can help ease the burden on your IT department, while enabling your line of business users to develop timely, creative business solutions.

Using cloud, you can transform your business model to become more competitive. New, scalable service delivery models on a cloud platform support your business application requirements, speed products to market and simplify architectures while eliminating inefficiencies across your enterprise. Using cloud technologies, you can rapidly assemble services to create one-to-many policy administration and other core insurance systems.

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### A French insurance company streamlines operations

A French insurance company was in need of a solution to share best practices across all of its global business units. The company also lacked the platform for sharing process knowledge throughout the entire group. By implementing IBM Blueworks Live™ they increased quality and the efficiency of operational processes companywide. Additionally, the company has realized higher cost savings than it expected.

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### Optimize enterprise risk management

At the infrastructure layer, cloud offers clear benefits by helping lower IT costs and enabling greater flexibility. In the insurance industry, cloud also can help manage risk and fraud. Integrating all risk data, such as risk and control assessments, loss events and key risk indicators within a single environment is now possible with the cloud so you can make better decisions about the business risk and regulatory context of IT breaches. With cloud, you can easily:

- Run complex risk, interest rates and reserve requirement calculations without investing heavily in otherwise idle server farms.
- Improve sales with cloud-based analytics of customer behavior and opinions, especially if information is pushed to the mobile devices of agents.
- Measure, aggregate and report risk-based solvency capital to regulators and other key stakeholders in a repeatable, auditable fashion.

Cloud technologies can help you identify fraud and undesirable behavior. They also can help you isolate recovery opportunities throughout the claims process. You can identify and mitigate

claims that have a higher likelihood of being fraudulent and undertake this detection earlier in the lifecycle across a wider range of fraud schemes.

The additional computing power in the cloud can support more sophisticated risk modeling to improve financial planning, actuarial reserving and risk management activities. It can enable creation of a complete risk profile by using your client's real-time and historical data to improve productivity in the actuarial department and cut losses.

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### A British multinational improves risk management

A British multinational insurance company was required by the Financial Services Authority—the body responsible for the regulation of the financial services industry in the United Kingdom—to demonstrate that it has a process in place for calculating exposure to risk (for example, Solvency II). The level of exposure is used to determine the amount of ready capital that must be put on one side. In order to meet this requirement, the company selected the IBM Algo® suite of applications, including the risk calculation engine, reporting (ARA) and Igloo. The solution enabled the company to make the necessary risk calculations and meet the regulatory reporting deadlines.

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### Optimize multichannel interaction

By taking advantage of cloud technologies, you can transform your distribution channels, grow revenue, enhance marketing effectiveness, improve customer service and increase employee productivity. With a unified distribution channel, you can capture real-time opportunities and drive improved customer experiences. In addition, many insurers frequently supplement their onshore development with offshore development, which can add complexity to the development process. A cloud-based collaborative environment lets you to reduce the cost of

providing collaboration tools to your workforce. Moving to the cloud also can reduce the affects of geography and changes in user involvement.

For your customers, cloud-based collaboration allows advisors to answer questions about products and services around the clock and entirely independent of location. Customer information is available when needed, and combines the know-how of multiple experts across multiple locations.

With the cloud, start-up insurers or insurers in emerging markets can use proven applications and resources, which can lower the cost of entering new markets. Business process as a service (BPaaS) can help automate systems and workflow, standardize processes, and optimize information input and retrieval to facilitate audit preparation or to meet specific compliance requirements. Also, the scalability and dynamic provisioning that cloud computing provides can help you meet periodic demands for actuarial and financial workloads or the computational services needed for regulatory compliance. You can ramp up to handle service peaks without a significant difference in service.

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### **A workers' compensation company boosts multichannel interaction**

A provider of workers' compensation insurance in the United States had multiple vendors that were providing electronic data interchange (EDI) with document outputs in different formats. Workflows pertaining to key processes were manual, and there was no contingency for workflows if the user was unavailable or out of the office. They chose IBM WebSphere® Cast Iron® Cloud Integration portfolio to implement a “no coding” approach, which junior staff members easily learned. It eliminated gaps in manual workflow and data entry and improved worker efficiency and productivity that boosted incremental revenues due to increased customer satisfaction.

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### **Reduce costs through improved processes**

Insurers are under pressure to cut costs regardless of the state of the economy. To preserve corporate health, you need to manage money wisely. Cloud computing can significantly decrease your operating and capital investment costs. Because of the scalability of cloud technologies, you have no up-front expenditures for services.

Cloud computing provides greater flexibility in IT function and scale at a lower cost and in shorter time than traditional IT systems. You can simplify architectures and processes and eliminate inefficiencies across the enterprise at the same time. Moving labor-intensive processes such as data collection, business analytics, archiving, monitoring, application test and development to the cloud can reduce your IT costs as well.

With cloud, you can scale existing IT services such as storage and actuarial computation to keep processing time to a minimum. You also can use dynamic provisioning to optimize service levels. Using the collaboration and email services that are available in the cloud also facilitates faster, more efficient customer service. For insurers in emerging markets, cloud email, collaboration and infrastructure services can help you respond to customers, so you do not have to spend the capital you need for developing products and services.

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### **A financial services company uses improved processes to trim costs**

A large US insurance and financial services company had 3,000 inefficient and costly distributed servers. To increase business agility and halt growing costs, they started a virtualization journey that ultimately led to the cloud. They consolidated their distributed server landscape to Linux virtual servers running on IBM System z® mainframes, creating a multi-platform private cloud optimized for all its different workloads. This cloud deployment reduced power, cooling and floor space requirements by 80 percent and reversed expenditure on a distributed server landscape, saving an estimated USD15 million over the first three years.

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### **Cloud concerns for the insurance industry**

Although cloud computing solutions have many benefits, you need to address concerns before you embrace the technology. Before moving to the cloud, insurers need to understand the challenges related to security, data privacy, regulatory compliance and customization. In highly-regulated industries like insurance, you need to ensure compliance with regulations related to data storage locations and access in addition to addressing the strict data privacy regulations of many countries.

#### **Security**

For large enterprises, security remains a key area of concern. When you adopt a cloud-based platform, the cost of security failure could quickly exceed the benefits of cloud computing. If you are interested in moving analytics services to a cloud-based infrastructure, for example, you must seek assurances that the cloud service providers have processes in place that help ensure the physical and logical security of your data. By using encryption technologies with enterprise-owned keys to store and manage data, you can alleviate concerns that unauthorized physical

access to the cloud infrastructure would compromise data. For enterprise data, you should emphasize and require documented and auditable processes in services delivery from the providers.

#### **Data governance**

Data governance is a defined quality control discipline for assessing, managing, using, improving, monitoring, maintaining and protecting your organizational information. It is an important concern for enterprises who are considering adopting a cloud environment. Poor data governance often means poor business decisions, reduced results and greater exposure to compliance violations. You can mitigate data governance issues by requiring the service provider to provide an access policy and a governance structure that articulates the desired organization behavior. You also need to enforce methods to measure, improve and certify the data quality and integrity.

#### **Interoperability of analytics**

The interoperability of cloud-based analytic services is another area of concern. A cloud-based analytics service might offer you significant economic benefit, but concerns over lack of standards can result being forced to use a specific vendor. What if you need to switch service providers or bring your analytics back in-house? You should select service providers that adhere to standard interfaces and provide services offerings that help you move in and out of the cloud. The vendor also should adopt standards that make it easy for you to access the cloud-based services through standardized interfaces.

#### **Application integration**

Integrating cloud-based solutions with on-premise enterprise applications and data can be a challenge. If applications are integrated poorly, you may not be able to realize the benefits of externally hosted cloud analytics services. When you integrate cloud services, you must blend data from traditional on-premise applications with public and private cloud systems. You can alleviate concerns by selecting service providers that support hybrid architecture for the cloud-based services. With the hybrid

architecture, you can logically extend your company intranet to cloud-based services to integrate, monitor and secure the access of your applications to cloud-based analytics services.

**Data federation**

Data federation in the cloud is the integration of disparate sources of business critical data for analysis. The information needed for analytics is often stored in multiple databases within your enterprise, on the cloud and in different geographic locations. Consolidating the data into a single physical data store for analytics can be a good way to achieve this integration, but often it is not practical because of high costs. When moving to the cloud, you can alleviate these concerns by insisting that the service provider employ good data management practices. The provider should have tools and guidelines that are consistent with those of your enterprise.

**Reliability**

Reliability and performance are key concerns for any enterprise that is considering moving to a cloud-based service hosted by a third party provider. Latency, quality of experience and performance issues can have an adverse effect on your business. To ensure cloud reliability and performance, you should require that the service provider include metrics and policies that meet the requirements of business-critical applications in their service level agreements.

**The cloud versus other options**

Cloud computing is transforming the insurance business. Cloud-based applications and solutions are available across the spectrum of industry-specific business processes. Applications are available for everything from front office to back office, compliance and investment.

When you are trying to determine if a workload is suitable for cloud versus other options, such as outsourcing or an application service provider, it is useful to examine the characteristics of the workload. For each workload, consider the advantages and disadvantages of using a cloud model. If the workload is a generic

one that is not considered absolutely essential to differentiating your business competitively but still takes a great deal of time, resources and computing, then it is a good candidate for the cloud. Some workloads to consider:

- New product development and pricing
- Customer retention
- Marketing applications and software
- IT support services for risk management
- Document management systems and all other support systems for claims
- Databases, modeling systems and predictive analytics systems for actuarial services
- Payroll, benefits, and learning and development
- Software for case management and other legal functions
- Asset liability management systems and databases

Potential cloud workloads and their characteristics are shown in Figure 1.

Characteristics of workloads	IBM Cloud			Private
	BPAAS	SAAS	I/P-AAS	I/P-AAS
Development and testing functions	Good fit	Good fit	Good fit	Good fit
Mission-critical functions	Good fit	Medium fit	Poor fit	Medium fit
Office productivity and collaborative functions	Poor fit	Good fit	Medium fit	Good fit
Information-sensitive functions	Good fit	Poor fit	Poor fit	Good fit
High data volume and analytical functions	Poor fit	Poor fit	Medium fit	Good fit
High compute volume and analytical functions	Poor fit	Good fit	Good fit	Good fit
Relatively disconnected functions	Good fit	Good fit	Good fit	Good fit

Good fit
  Medium fit
  Poor fit

Figure 1. Potential cloud workloads

Not all workloads are necessarily good candidates for a public cloud. For example, insurance sales and distribution systems are constantly changing. They are not robust and are also viewed as competitive differentiators, so you might consider running these systems on a private cloud for now. Certain aspects of underwriting, especially the systems, are also probably best kept within the insurance organization.

Because of diversity within the global insurance market, the pace of adoption for cloud computing will continue to vary by region, geography, and insurer. In-country regulations, the status of legacy systems, the scale of IT infrastructure, the level of flexibility and cultural resistance all affect adoption rates.

Figure 2 illustrates an IBM analysis of the prioritization of cloud workloads in insurance.

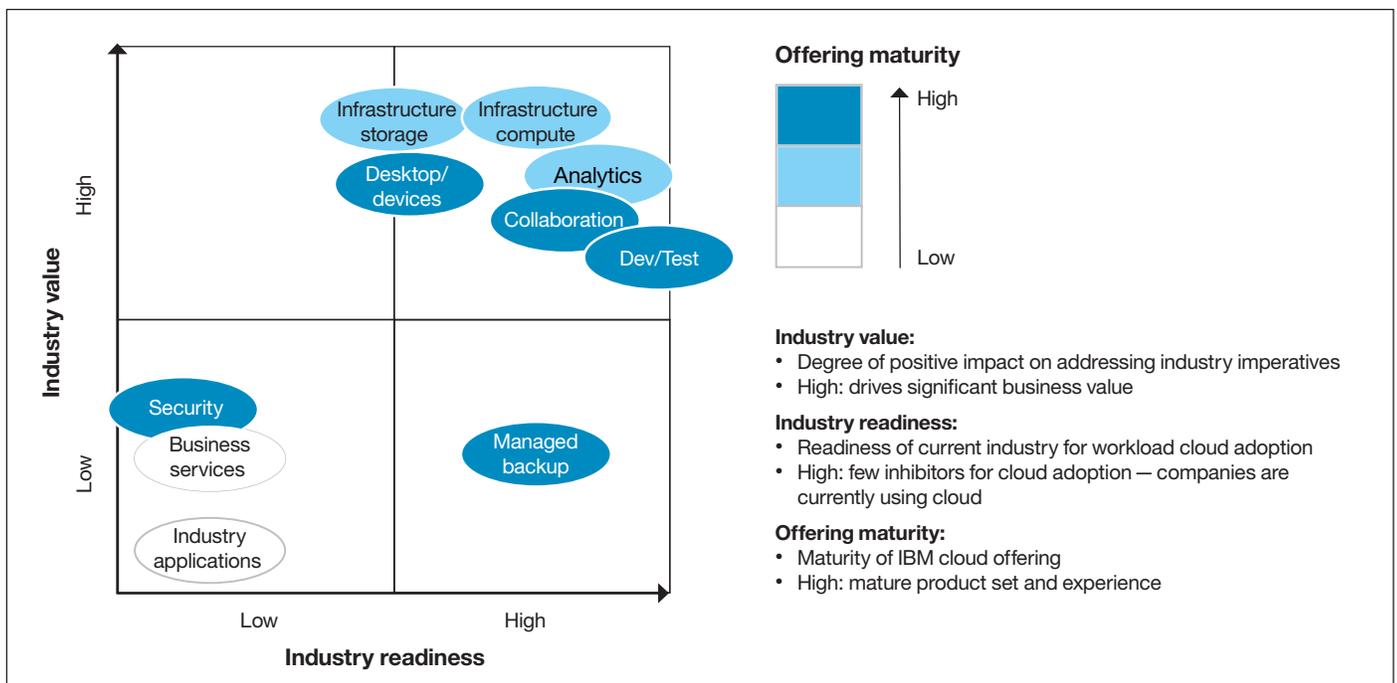


Figure 2. Prioritization of cloud workloads in insurance

## The power of partnerships

For insurers, the rising popularity of cloud services and applications provides an unprecedented opportunity. You can reinvent yourself as a provider of innovative applications and services. To realize the promise of flexibility, faster time to market and cost savings offered by the cloud, you must make fundamental changes in your services strategy, marketing approach, and your underlying service delivery (both in network and IT) architectures. The move to the cloud also may cause you to evaluate the way your business is conducted and the way IT systems are used to address business processes. Gaining an understanding of the evolving cloud ecosystem, partnerships and business models is vital.

The options presented by cloud technologies can be overwhelming. Many solutions offer virtualization, consolidation, remote hosting, development platforms and more. So how do you choose? How do you determine who is best able to help you in your evolution to cloud service provider?

## What to look for in a partner

You need more than just a vendor; you need a partner you can trust. The partner must have the technology you need to deliver services and a complete set of capabilities, including:

- An extensive partner ecosystem with cloud-specific programs to meet your unique needs.
- A secure, scalable and carrier-grade service management platform available to launch, manage and support existing and new business.
- Web portal optimization and integration experience.
- Business intelligence and analytics applications.
- Development and test environments and experience.

The partner you select should have the knowledge, experience, ecosystem partners and expertise, technology, software applications, and other resources and related capabilities to help ensure

that your services drive profitable revenue growth and achieve your business expansion goals. The right partner must be able to deploy a comprehensive cloud solution that meets your specific needs.

## How IBM can help

Driving new growth in insurance requires improving information systems. New systems can help you develop new services and act on new insights ahead of the competition. This information-led transformation turns data into insights that can help you attract and retain customers, engaging with them when and where they choose. It can help you streamline operations and proactively address risk and regulatory requirements.

With a portfolio of services and unifying technologies to design, secure and employ the appropriate strategy for your enterprise, IBM can help you move to the cloud. With more than 9,000 client cloud engagements, IBM can help facilitate your IT transformation so your business is faster, more agile, more innovative and more responsive to customer needs and regulatory demands.

IBM cloud solutions offer:

- Clear economic value as IBM helps you determine the right mix of delivery models to realize maximum benefits.
- Secure solutions that are ready for business, offering rapid provisioning, clear visibility of assets, robust data governance and a seamless mix of delivery models.
- Integration and open standards with IBM support for industry standards platforms for open innovation.
- Global relevance with offices, delivery centers and partners in 174 countries, and the experience of running a globally integrated enterprise.
- Design simplicity from sourcing to usage to maintenance with solutions that are designed to be simple, intuitive and based on how people actually work.

The core components of IBM cloud solutions for the insurance industry include offerings for infrastructure, storage, collaboration, development and testing, user support and virtual desktops. All of these cloud solutions are protected with IBM security for cloud computing. The insurance solution portfolio is enabled by the IBM insurance industry framework, which includes proven industry assets such as roadmaps and accelerators that speed implementation while minimizing project risk.

### **Cloud solutions from IBM**

With more than 15,000 professionals dedicated to building a smarter insurance industry, IBM is committed to helping insurers work better. Coupled with comprehensive technology and cost-effective methodologies, IBM solutions help insurance organizations to:

- Create a customer-focused enterprise.
- Increase flexibility and streamline operations.
- Optimize multichannel interaction.
- Manage risks cost effectively.

The following sections explore some of the cloud-related options from IBM that are available to you.

#### **IBM Strategy and Transformation**

IBM Strategy and Transformation (S&T) integrates management consulting capabilities that can help you gain the benefits of converting to a cloud environment. S&T uses a proven methodology and assessment tools for developing a business-based cloud adoption strategy that is tailored to your business outcomes.

#### **IBM SmartCloud Foundation**

IBM SmartCloud® Foundation is a family of integrated IBM cloud computing solutions and products, including IBM PureSystems™ expert integrated systems. These systems are designed for quickly building and scaling private clouds and hybrid clouds with infrastructure as a service (IaaS) and platform as a service (PaaS) capabilities.

#### **IBM SmartCloud Services**

IBM SmartCloud Services and SoftLayer, an IBM company, provide clients the full range of cloud capabilities. With SoftLayer, clients have multiple self-service cloud choices: private or public, dedicated or shared deployments as well as bare metal to address practically all applications. IBM SmartCloud Enterprise+ provides clients a fully managed and highly secured IaaS to run enterprise class production workloads like SAP applications, Oracle applications, commerce, social media analytics, development and production on the same platform or as part of a data center transformation.

#### **Cloud application management services**

Cloud-enabled service components help you exploit the flexibility and economics of cloud computing. These cloud-enabled services include the support of SAP, Oracle and business intelligence applications as well as custom application development, DevOps, mobile and traditional testing. By bringing together the full capabilities of IBM, you gain a complete solution with infrastructure, software and services expertise to help fully use the cloud.

### **IBM cloud computing security**

IBM cloud security solutions help you meet regulatory compliance efficiently and defend against the latest threats. With an emphasis on visibility, control and automation, you can have a robust, security-rich cloud tuned to your specific needs. You work with IBM to establish a clear security roadmap with the right mix of capabilities to secure foundational technologies and lay the groundwork for cloud success.

### **IBM Smarter Commerce**

IBM Smarter Commerce™ recognizes that the sale is just one aspect of the experience. To remain competitive, you must be more nimble, more innovative and better able to communicate with your customers internally and within the industry. Smarter Commerce turns customer insight into action, enabling new business processes that help you buy, sell and market your products and services.

### **Business and social media analytics**

Insurers faced with intense competition, diminishing customer loyalty and an increasingly regulated and complex risk environment understand that business as usual is not an option. IBM business analytics software enables you to apply analytics to decision-making at any time, anywhere, to increase growth and profits. IBM social media analytics provide real-time data on how new services are being perceived, with real-time comments and reviews that can then be integrated with back-end sales data. This can provide windows of knowledge into where specific services are selling better, what services are customers buying together and if the price point is right.

### **Social business**

Social businesses use mobile and social technologies to increase workforce productivity. Now, IBM is combining those tools with analytics and behavioral science to reinvent the way we work. On a smarter planet, leading businesses create a smarter workforce and gain a competitive edge when they unlock the value of employee expertise, collective intelligence and social networks.

### **Conclusion**

Cloud computing is a force that is both transformational and disruptive. Insurance companies need to develop a strategy and implementation plan that embeds cloud computing in their IT strategies and aligns it with business models.

IBM can help you get started with cloud computing with the right processes, cloud offerings and model types to help you improve your business. IBM works with your enterprise to discuss your challenges and share how others are using cloud computing in their current environments to meet their challenges. IBM knows both the insurance industry and cloud computing and is in an excellent position to help you address key issues associated with cloud technology.

## For more information

To learn more about how cloud computing solutions from IBM can help insurers, visit: [ibm.com/smartcloud](http://ibm.com/smartcloud)

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: [ibm.com/financing](http://ibm.com/financing)

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Nischal is the Worldwide Leader for Cloud Computing in the Insurance Industry Practice of IBM. He is responsible for cloud thought leadership and solution development as well as driving customer enablement and initiatives for cloud computing in the insurance industry. Nischal has 16 years of experience leading business practices across US, Europe and Asia Pacific, having worked with renowned IT companies like IBM, Wipro, Dell and HCL. He is currently based out of New Delhi, India to support insurance customers across emerging markets of India, South Asia, ASEAN, Australia, the Middle East and Africa.



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<sup>1</sup> Gartner press release, Gartner Executive Program Survey of More Than 2,000 CIOs Shows Digital Technologies Are Top Priorities in 2013, January 2013 <http://www.gartner.com/newsroom/id/2304615>

<sup>2</sup> Gartner, Forecast Overview: Public Cloud Services, Worldwide, 2011-2016, 4Q12 Update, February 2013 <http://www.gartner.com/DisplayDocument?id=2332215&ref=clientFriendlyUrl>



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