

The business value of cloud computing for insurance



Executive overview

Insurers must meet the challenges of a turbulent business climate, new regulatory mandates that require sophisticated analytics and increased third-party involvement in all parts of the value chain. As a result, many insurance companies are building even more complex business processes in all aspects of their operations, and this is straining capacity. Complex applications, data warehouses, server software and new business solutions require a great deal of computing power. Many insurers are feeling the pressure to change significantly the way they do business.

What insurance companies need is to be able to use new, scalable service delivery models to support their business application requirements and to speed their products to market. Cloud computing is a valuable delivery model that insurers can use to facilitate or accelerate business transformation.

Inspired by consumer Internet services, cloud computing is both a user experience and a business model. It provides applications, data and IT resources to users as services delivered over a network for self-service, economies of scale and flexible sourcing (*Figure 1*). With cloud computing, it is possible to take advantage of large numbers of highly virtualized resources to deliver services more efficiently.

Enterprises that adopt cloud models can improve employee productivity, deploy new products and services faster and reduce operating costs, starting with workloads that are ripe for this environment, such as development and test, virtual desktop, collaboration and analytics.

Cloud computing has the potential to help transform the insurance business. Insurers can look at the four major categories of their business processes and applications—front office, back office, compliance and investment—and evaluate what applications could be moved to cloud computing.

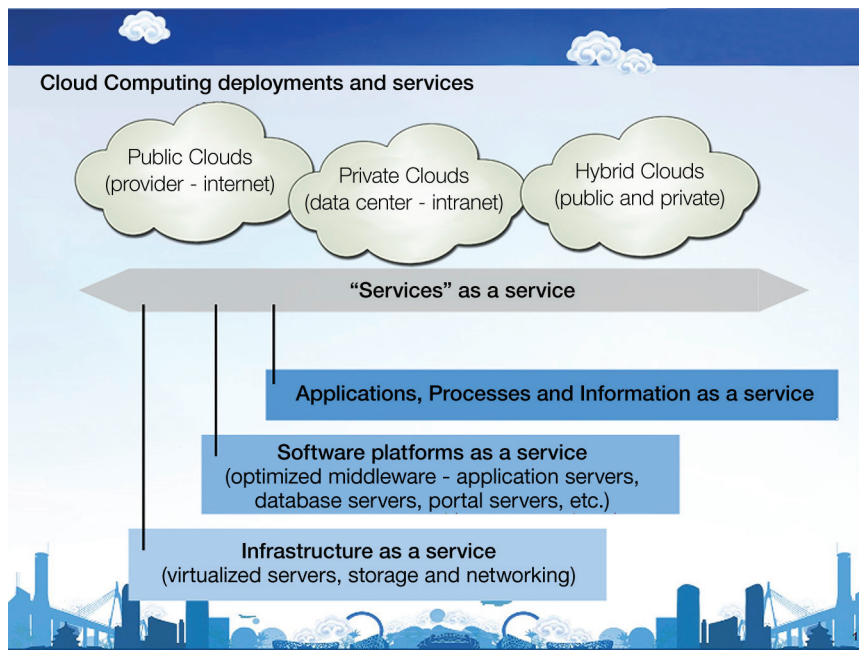


Figure 1: Cloud computing for service delivery



The three types of cloud according to the NIST

The National Institute of Standards and Technology identifies three types of cloud computing:

- **Private cloud.** The cloud infrastructure is operated, either on or off their premises, solely for an organization. Either the organization or a third party can manage it.
- **Public cloud.** An organization that sells cloud services makes the cloud infrastructure available to the general public or a large industry group.
- **Hybrid cloud.** The cloud infrastructure is a composition of two or more clouds that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (for example, cloud bursting for load-balancing between clouds).

For example, with cloud computing, insurers can provision and scale computing resources to meet periodic demand for actuarial and financial workloads. In the insurance front office, the applications that support agent management, including sales document management and application submission, can be “moved to the cloud.” In the back office, cloud computing could support the integration of critical functions such as billing and underwriting and enable the transformation of data centers. For compliance, a candidate for cloud computing could be the preservation of data for audits.

What is cloud computing?

Cloud delivers all kinds of computing—business processes, applications, software, information, software development and deployment and infrastructure—as services. As a result, in a cloud computing environment, applications and services are not tied to specific hardware components. Instead, a globally accessible network of resources, which are dispensed on demand, handles service delivery.

IBM defines the cloud as a new way of using and delivering IT-enabled services. IBM’s approach to cloud computing is that a trusted foundation is needed to build the most secure, efficient and resilient platform for services and that you should use cloud computing where appropriate. The cloud platform manages the services running on the infrastructure. The services provided by the cloud are what the consumers actually use (*Figure 2*).

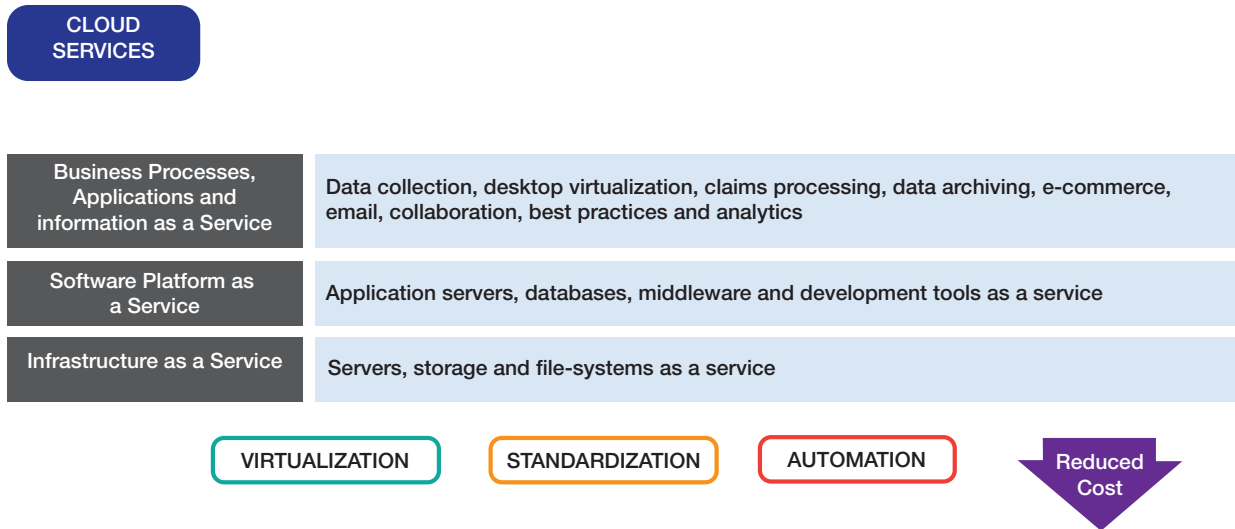


Figure 2: Services in the cloud

Benefits of cloud computing for the insurance industry

The promise of cloud computing for the insurance industry centers on two key priorities: reducing costs and increasing agility.

Reducing costs

Like all businesses, insurers are always under pressure to cut costs. It is basically immaterial what type of economy we're in—there is always a demand to save money wherever possible to improve profit margins. Cloud computing can significantly decrease insurers' operating and capital investment costs. Cloud services are available in a pay-per-use model. This means no upfront expenditures for services, unlike acquiring new applications. Also, moving labor-intensive but unspecific IT services, such as data collection, business analytics, archiving, monitoring, application test and development and problem determination, can reduce the costs to insurers' IT departments.

Improved quality of service indirectly reduces costs by helping retain customers. Cloud offers insurers the opportunity to scale existing IT services such as storage and actuarial computation to keep processing time to a minimum and optimize certain service levels with dynamic provisioning. Using collaboration and email services available in the cloud also facilitates faster, more efficient customer service, keeping customers satisfied and loyal. In the case of insurers in emerging markets, cloud email, collaboration and infrastructure services can provide the tools they need to respond to customers and more without a major expenditure that cuts the capital they have to develop products and services.

Increased agility

Distribution channel pressures and emerging consumer demands for mass customization and hybrid products are moving business agility from being a competitive advantage to a necessity. Streamlining product development processes, addressing workloads that ebb and flow, building “product chassis” of common components and adopting agile enabling technologies all are ways to improve agility — and cloud computing can facilitate these improvements.

For example, new channel and market development can be accomplished more quickly in the cloud because insurers can link to established providers without launching a new business system and integrating it with their internal processes. Also, the scalability and dynamic provisioning that cloud computing provides can meet periodic demand for actuarial and financial workloads or the computational services needed for compliance with certain regulations. Insurers can ramp up to handle peaks and they, along with their customers, will not notice a significant difference in service.

Furthermore, insurers can implement or install new infrastructures in the cloud to support the development and testing of new products. Or, consider the possibility of having the ACORD framework in the cloud as a business service and being able to assemble the pieces you need for your product without having to start from the ground up.



How insurance companies are currently benefiting from cloud

In the insurance industry, carriers are beginning to use cloud solutions to address issues and opportunities. For example, a leading U.S. life insurance carrier is using desktop cloud to provide offshore developers with secure access to its development environment to reduce IT development costs.

Another leading provider of wealth management and retirement products is also using desktop cloud to provide a common desktop for the entire enterprise, ensuring a secure and stable environment while providing an efficient method to update applications. An added benefit of this arrangement has been increased agility to support the expansion of the bank channel by providing immediate provisioning of remote users.

Finally, annuity writers are using an internal private cloud to optimize in-house resources and the IBM cloud to support on-demand provisioning of additional compute capacity to support increasingly complex hedging models. Other carriers are seeking to use this capability to support variable workloads in the actuarial and compliance departments.

Suggested cloud computing use cases for insurance

The full potential of cloud computing is much more than a cost-focused ROI model. Cloud computing has the potential to create business value for insurance companies in a number of solution areas (Figure 3). Cloud can help provide access to new markets and new customers, increase customer loyalty and retention and enable new business models and applications.

Placing the compute and storage requirements of claims data in the cloud, for example, allows for a transparent shift of transactional workloads to lower-cost and higher-efficiency service providers. Another example is capturing real-time intelligence regarding an accident situation to make it easy for policyholders using mobile devices and mobile applications to send accident data in real-time over the cloud. In a similar way, putting email and whiteboard applications in the cloud can make it easy for sales agents, employees, field representatives and even developers to share ideas and processes in real-time using multiple devices.

Building business services

It is possible for insurers to build business services by combining individual cloud services with proven functionality. For example, an insurance company’s administrators might find services in the cloud that specifically handle what that company needs and use them. This might be a service in a cloud that handles the ACH process or an existing service that processes all types of payments by including the payment type in the service request. They might even discover a service that handles the entire billing process from start to finish, thereby eliminating the need for to purchase, install, upgrade or maintain their own system.

IBM’s Insurance Solutions

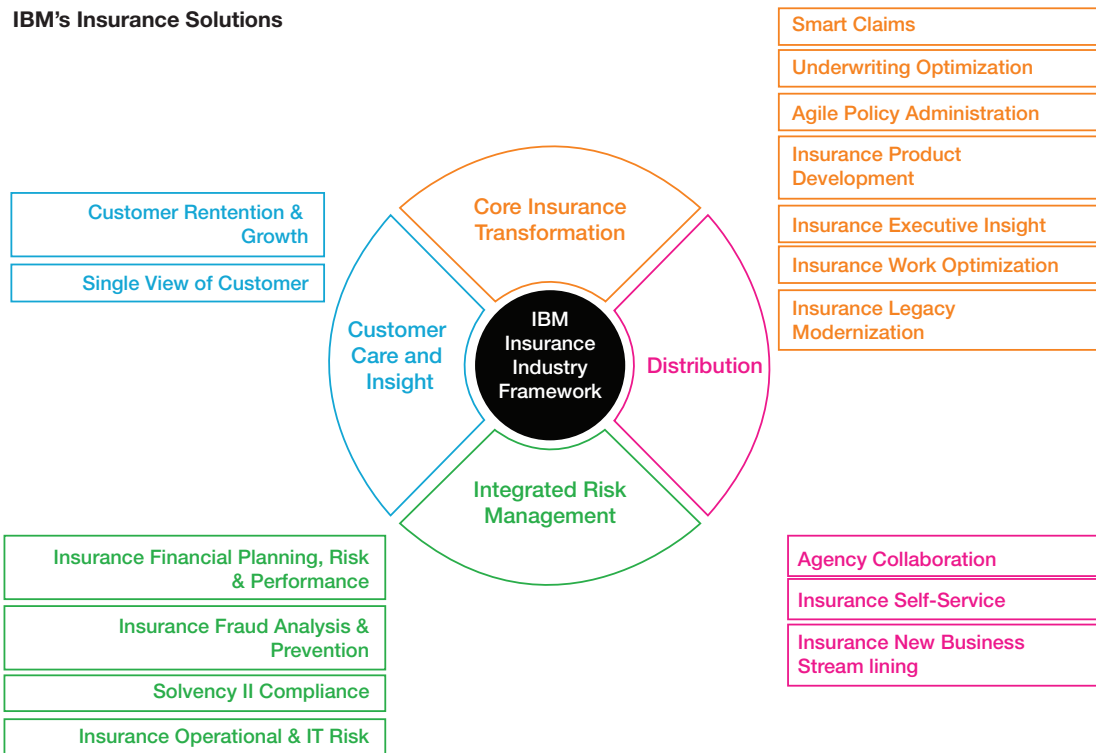


Figure 3. The IBM Insurance Industry Framework: Insurance solution areas

Business analytics

Business analytics are a key component of insurance. Analytics help insurers with marketing, underwriting, claims, risk management, governance, compliance and much more. Analytics are also increasingly necessary for transactions between insurers and third parties. Easy access to analytics services on the cloud platform, combined with the ability to adjust computing capacity on demand, makes business analytics on the cloud a good fit for insurance, especially when reporting customization extends beyond the capabilities of internal development staff. These analytics services can be tied into one or more data streams as needed to obtain the necessary business intelligence (assuming the service can handle the required type of analytics). Over time, analytics on the cloud can develop into a series of standardized services that insurers can exploit profitably without having to invest considerable capital.

Start-ups and emerging markets

Start-up insurers or insurers in emerging markets can operate on proven applications and resources, which lowers the cost of entering the insurance marketplace. Small insurers that are very concerned about expenses can take advantage of networked storage and hardware without the worries of local servers going down or disaster recovery. IT staff will no longer have to manually set up systems and install software, simplifying management.

Systems modernization

Many insurers have invested considerable capital in multiple, complex and outdated systems. Especially in these uncertain economic times, most cannot “rip and replace” existing systems. Cloud computing provides the means for updating core systems and technology, such as policy administration, underwriting and claims, in ways that limit risk, but provide value and do not involve a huge outlay of capital.

Compliance

For compliance, insurers can take advantage of infrastructure as a service to handle the hardware and space necessary for data archiving and retrieval. They could even contract with a third-party that specializes in data compliance after they put data in the cloud. Business processes as a service can help automate systems and workflow, standardize processes and optimize information input and retrieval to facilitate the preparation for audit or to meet specific compliance requirements.

Investments

The analytics and modeling involved in strategic investing are possible candidates for the cloud; the generic processes involved could be accessed from the cloud and specific, secure data supplied by the insurers. Also the rapid time to market benefits of cloud, discussed in an earlier section, could also be applied to new investment products or offerings.

User developed applications

In all insurance areas, there is pent-up demand for small utility applications. For example, an insurer might have a segmented marketing campaign application that only runs for four weeks or a customer poll or questionnaire. These applications are typically designed, developed and deployed in hours or days instead of weeks or months. A common constraint in servicing these requests is the provisioning time. In most IT departments, it takes longer to provision a usable system than it takes to develop the solution. Furthermore, IT typically doesn't have the agility required to acquire, provision and then reclaim the infrastructure for these types of applications. Cloud can help ease burden on IT, while enabling line of business users to develop timely, creative business solutions.

Extended collaboration

Many insurers have large IT shops and they frequently supplement their onshore development with offshore development, which adds complexity to the development process. Offshore resources can change regularly as new projects start and existing projects finish. A cloud-based collaboration environment enables an insurer to reduce the cost of providing collaboration tools to a workforce when there are frequent changes in user involvement, geographic constraints or when users need email only when communicating with others in the organization.

Next steps

The benefits and possible uses for cloud computing that we have outlined in this paper indicate that insurers should consider pursuing the use of cloud computing as a way of reducing costs and increasing agility. The most effective way of doing this is to create a cloud enablement plan that is precise about which insurance business processes can benefit from cloud and how to move specific workloads. One way to do this would be to take the IBM Insurance Industry Framework Model (*see Figure 3*) and identify specific processes and workloads that match the characteristics that are most suitable for movement to a cloud infrastructure.

Deciding where to use cloud

When trying to compare the characteristics of a process suitable for cloud versus other options, such as outsourcing or an application service provider, it is useful to examine the characteristics of the process. Treat it as a "pros and cons" exercise and consider the advantages and disadvantages of using a cloud model for that process. If the process is a generic one that is not considered absolutely essential to differentiating your business competitively, but it takes a great deal of time, resources and computing, that is a process that could be considered a good candidate for the cloud. Some processes to consider are:

- New product development and pricing
- Marketing applications and software
- IT support services for risk management, which includes the infrastructure, databases, data management and security, loading and unloading of data and data cleansing
- Document management systems and all other support systems for claims
- Databases and modeling systems such as RMS for earthquakes and other perils 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

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

Another factor in deciding when or for which processes to use an external cloud is the overall risks and tradeoffs.

These include:

- **Availability.** Network connections can be lost or data center servers can shut down. If these are not in a readily available private cloud, they are under the control of the public cloud providers rather than the insurer.
- **Security, privacy and controls.** There have been privacy breaches in cloud computing centers from a number of vendors that have caused multiple problems for the companies affected. Additionally, in many public clouds, applications and data may be moved from country to country without an insurer's knowledge. You can't audit what you can't see.
- **Accountability for loss of revenue or security breaches.** If a server failure or a data breach in the cloud has an adverse effect on an insurer, reparation could be a problem.
- **Provider lock-in.** It can be difficult to change cloud providers once data has become entrenched with a particular provider.
- **Data loss.** There is a risk that data can be lost if a massive upload to the cloud is necessary for processes such as analytics or data retention and archiving.

The best way to approach these issues is by considering a hybrid cloud computing strategy. That way you can keep your most valuable, mission critical data and processes in house, running on a private cloud and use the public cloud for data-intensive, cyclical or less risky processes. Further, when selecting a public cloud provider, make sure they offer service level agreements (SLAs). A few years ago, when cloud computing was truly nascent, SLAs were hard to come by. However, a number of incidents related to lost data, security breaches and server shutdowns in public clouds have provided the impetus for vendors to offer SLAs. The key is to consider what the acceptable service levels for your core business applications are and work with your vendor to put SLAs in place. It is important to remember that these are service-based SLAs, not customer based, and that the difficulty of determining the root cause for service interruptions because of the complex nature of the cloud environment will still exist.

Choosing your cloud solutions

As more vendors enter the cloud marketplace, the number of cloud solutions available will continue to grow. Six months from now, or even a month from now, there will be many more applications and processes available in the cloud than there are today. The good news is that it will become easier over time for insurers to find services in the cloud that they can use to reduce costs, increase agility, speed products to market and streamline complex business processes. At the same time, choosing a cloud solution from so many options might be problematic.

To understand whether or not a cloud computing solution provider is right for your firm you need to take a look at your business and determine what you require. Do you need a few solutions to address specific gaps or issues? Or, would you be better served taking a holistic approach to your business and working with a partner to formulate an overall plan which incorporates cloud computing into your processes over time?

How IBM can help

IBM offers hundreds of computing solutions that can help insurance companies move to the cloud and facilitate their business transformation so that they are faster, more agile, more innovative and more responsive to customer needs and regulatory demands. With IBM cloud computing solutions, insurance companies can take advantage of the flexible service delivery and infrastructure necessary to optimize their front and back office business processes, compliance and investment.

The core components of IBM cloud solutions for the insurance industry include offerings for infrastructure, storage, collaboration, development and test, user support and virtual desktops — all protected with IBM security for cloud computing. We can take these components and combine them with business services available today to form business processes that can facilitate business transformation to drive value creation.

If you are interested in cloud computing but are not sure how to start, or are daunted by the prospect of trying to figure out what to move to a cloud on your own, IBM offers consulting engagements that can help insurers bridge the gap from business requirements to design to deployment by formulating answers to the following questions:

- How do we innovate faster and how can cloud computing help?
- What business value will we achieve by moving to a cloud?
- Which business areas and workloads should we consider using cloud computing for?
- How can we standardize business processes using cloud applications and services?
- How ready is our existing application architecture to move to a cloud environment?
- What cost savings can we expect by moving to a cloud?

Conclusion

Cloud computing is a delivery model that insurers can use to facilitate or accelerate business transformation. It provides applications, data and IT resources to users as services delivered over a network for self service, economies of scale and flexible sourcing. With cloud computing, it is possible to manage large numbers of highly virtualized resources to deliver services.

Cloud is a force that is both transformational and disruptive. Therefore, insurers should develop a strategy and implementation plan that embeds cloud computing in their IT strategies and aligns it with their business models. IBM can assist insurers in getting started with cloud computing and selecting the right processes, cloud offerings and model types to help you improve your business. We can work with your enterprise to discuss your challenges and relate how others are using cloud computing in their current environments to meet their challenges. IBM knows the insurance industry and we know cloud computing, so we are in an excellent position to help you address key issues associated with cloud computing.

For more information

To learn more about IBM cloud computing, contact your local IBM representative or visit:

ibm.com/services/cloud



© Copyright IBM Corporation 2010

IBM Corporation
New Orchard Road
Armonk, New York 10504
U.S.A.

Produced in the United States of America
August 2010
All Rights Reserved

IBM, the IBM logo and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml



Please Recycle