



STRATEGY MEETS ACTION

## **CLOUD AND CORE SYSTEMS:**

### *Top Ten Strategic Considerations*

*An SMA Research Report*



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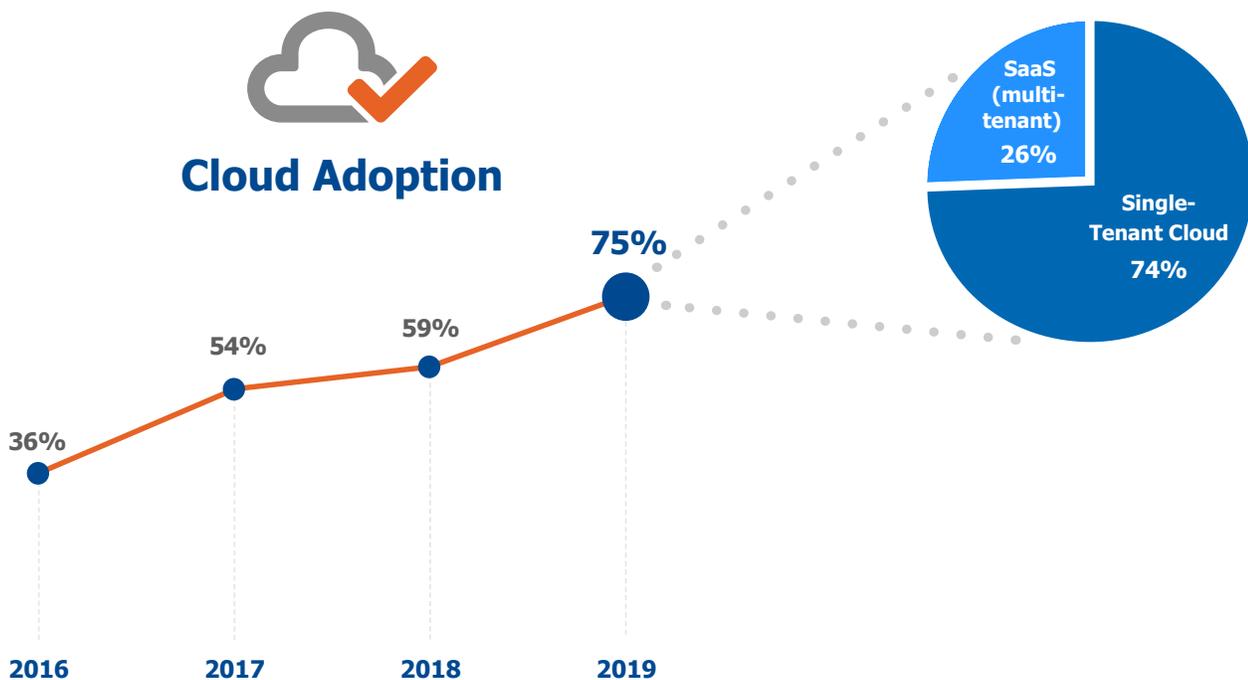
## CLOUD AND CORE SYSTEMS: TOP TEN STRATEGIC CONSIDERATIONS

The new era of computing is having a significant impact on the insurance market. An explosion of cloud-hosted core systems has flooded the market. Cloud has become a fundamental requirement in the digital world and will play an even greater role as we move further into the new era of computing. In fact, in 2019, three out of four core systems will be deployed in the cloud (see figure 1). This is a strong statement in support of the cloud's accelerating momentum – cloud will be critical to the core systems of the future. And insurers' growing adoption of core systems hosted in the cloud shows their awareness of the cloud's possibilities.

Figure 1. Core Systems Implementations Deployed in the Cloud

**Adoption of Cloud Computing for Core has Increased Dramatically...**

**With a Single Tenant Being the Preferred Option in 2019**



Source: SMA Core Systems Deals Analysis 2016-19

New technologies, from AI and big data to microservices and the connected world, are increasingly dependent on the cloud. These new technologies also have business implications that are important when considering new policy, billing, and claims systems. This paper will explore the top ten strategic considerations of core system cloud environments.

The ten considerations fall into two categories. The first is the Design/Build phase that has implications for planning and implementing, and the second is the Run/Manage phase, which has implications on post go live system management once the cloud migration and implementation are complete.

Figure 2. Top 10 Strategic Considerations



## DESIGN/BUILD

- 1 SaaS Platforms vs. Cloud Hosted Environments: Not All Applications Running in the Cloud Are the Same
- 2 Impact of Software That Has Been Designed for the Cloud
- 3 Dynamic Environment Scaling and Self-Management
- 4 Content and Context
- 5 Continuous Integration (CI) & Continuous Delivery (CD) Enable Speed of Development and Deployment

## RUN/MANAGE

- 6 Shift in Disaster Recovery Responsibilities
- 7 Measuring and Monitoring Mission-Critical System Performance and Availability
- 8 Software Upgrades – Continuous Releases
- 9 Test Revolution
- 10 Software Upgrades – Shifts in Workload

### DESIGN/BUILD

#### 1 SaaS Platforms vs. Cloud Hosted Environments: Not All Applications Running in the Cloud Are the Same

There is a big difference between a SaaS platform – such as those provided by Salesforce, NetSuite, or Workday – and a cloud hosted environment. Many SaaS environments are now formalizing their relationship with public cloud providers such as Azure or AWS to maximize and accelerate their cloud capabilities. These providers are constantly innovating – delivering an array of tools that remove barriers to adopting AI, utilizing third-party data, integrating IoT, etc. This is a case for insurers where one plus one certainly equals significantly more than two!

## 2 Impact of Software That Has Been Designed for the Cloud

It's important to consider whether a core system has been built from the ground-up for the cloud or was designed to operate on-premise but modified to operate in the cloud. With a core system that has been built specifically for the cloud, it is easier to take full advantage of the agility, scalability, and efficiencies that are built into the cloud delivery model. It can also be easier to then extend application capabilities with APIs and microservices and to fully transform processes. Companies are either taking an "evolutionary" approach to software modernization or a "revolutionary" approach.

## 3 Dynamic Environment Scaling and Self-Management

Overseeing multiple environments has always been a challenge as one manages software moving through the development process. Multiple software environments are needed to manage the various workstreams and test the phases of change. A standard setup of environments would include development, test, model office, and production environments. The difference when operating in a cloud-based environment is the ability to spin up and spin down the environments, reducing the cost basis of workloads by leveraging serverless computing while only paying usage on a consumption basis. These capabilities are not only an advantage in the deployment of software environments, but are also game-changers in the data/analytics space – where external data and the ability to consume vastly-expanding sets of data are critical for insurers.

## 4 Content and Context

Software that provides insurance product content – such as ISO or NCCI – can accelerate the deployment of new insurance products in the market. Selecting a vendor with product expertise and a built-in regulatory content offering gives insurers an advantage in the configuration of various lines of business. An offering that includes bureau updates that can be deployed on a continuous basis for insurers to review, assess coverage and rating impacts, and then implement in-line with their own internal timelines and processes drives maintenance costs down while increasing flexibility. "Regulatory-as-a-Service" when offered in this manner also removes the burden on an insurer's internal staff to manage and maintain regulatory content and, instead, allows them to focus critical resources on their core competencies.

## 5 Continuous Integration (CI) & Continuous Delivery (CD) Enable Speed of Development and Deployment

Everyone is interested in being able to expedite the development and deployment of software to take advantage of market conditions and opportunities in the market. CI/CD environments involve multiple areas with simultaneous software development. Some software solutions have been able to truly capitalize on these capabilities in their approach to cloud environment deployment. This pace of development must be matched with an insurer's ability to deploy testing resources to take advantage of an accelerated development path. The use of automated regression testing integrated within the deployment process offers the most efficient and agile approach.

## RUN/MANAGE

### 6 Shift in Disaster Recovery Responsibilities

For years, insurers have been replicating environments in third-party sites and spending one weekend a year bringing up these alternative environments to ensure they meet the specified disaster recovery standards. The time and cost associated with having these environments available when needed is significant. With a cloud-deployed application, the situation is very different. The disaster recovery capabilities are built into the cloud solution, and annual testing becomes the responsibility of the cloud provider and not the insurer. Insurers can choose to participate in an annual disaster recovery exercise and/or to reference the cloud providers' generic test results.

### 7 Measuring and Monitoring Mission-Critical System Performance and Availability

Cloud can mean access to the latest technologies, which can deliver the latest in security, infrastructure, and performance. Often, when contracting with a SaaS provider, an insurer will need to determine the RTO (time to restore the system from a disaster) and RPO (the maximum acceptable amount of data that can be lost during a disaster) thresholds required by their business. The shorter the duration of these service levels, the more robust the production environments will need to be. Insurers need to understand the system availability, response time, and transaction processing time commitments provided by the SaaS provider. What is acceptable for one insurer may not be for another – so insurers must understand how each area will affect their organization. For example, one insurer looking at downtime may only be comfortable with “four nines” (99.99% uptime, or 52 minutes of downtime per year), while another may find “three nines” (8.7 hours of downtime per year) to be acceptable. To deliver on these service levels, the selected SaaS provider must have a mature set of managed services layered on top of their cloud infrastructure.

### 8 Software Upgrades – Continuous Releases

Traditionally, major software releases would occur every 12-18 months. Insurers would then decide if they were to take the upgrade or skip a version and then take on the task of testing the upgrade when they had capacity. The time and expense of upgrades was a challenge for many insurers in the market. With cloud, both software providers and insurers view this task through a new lens. Many software companies have started to move to a continuous release strategy, delivering a number of releases per year. With this approach, no single release is meant to introduce disruptive change; rather, the level of change is more incremental and easier to consume. The use of automated regression testing is critical to drive efficiency into this more frequent upgrade process.

### 9 Test Revolution

The test revolution is being powered by tools and techniques introduced through cloud service providers, and will introduce capabilities to accelerate the deployment of software changes.

### 10 Software Upgrades – Shifts in Workload

The effort and expense of software upgrades have presented real challenges for many insurers, often to the point that they put the upgrades off. So, software providers are offering a new value proposition to insurers – they will take on the responsibility of the core software upgrade. There are varying approaches to this process. Some solutions keep all clients on a common version of the software. Others provide an individual upgrade experience and version for each insurer. True gain is coming from software providers that are operating the software in the cloud and taking on the task of applying the software upgrades. Insurers must still apply their own customizations and testing, but a large part of the task has been taken over by the software provider. Ultimately, the upgrade challenge is being met with innovation in approach and a new software upgrade construct to move the industry beyond these issues in the upcoming years.

## THE NEXT WAVE OF TRANSFORMATION

As the industry continues to move forward, the next wave of advances will be the optimization of software running in the cloud. Microservices, serverless computing, and other new computing trends like AI and new user interaction technologies will be built on the foundation of cloud computing.

Insurers need the ability to increase the speed of software upgrades, making them a higher value undertaking that is more continuous and less disruptive. As we look at the dynamically changing user experiences needed in today's digital world, the ability to upgrade components and reuse discrete services at a greater frequency than back-end functionality is becoming a critical capability. Cloud can help insurers realize continuous updates. Even where software is hosted in separate instances, common code can be continuously updated.

## SMA CALL TO ACTION

Growth in the adoption of cloud computing will continue as new services and capabilities continue to flood the market. Cloud computing offers the potential to connect existing systems to advanced services. Cutting-edge AI (e.g., IBM's Watson), blockchain recordkeeping, IoT data platforms, new payment technologies, and the newest data sources like real-time meteorological data or frequently updated aerial imagery are just a few examples of the expansive list of capabilities. As insurers move forward in the cloud, there are a few things that they need to keep in mind:

- ✔ Moving to the cloud is not an endpoint – but a starting point. There are changes that will happen because of the advancements in this area. We are just at the beginning. Cloud is going to enable the future and the many waves of continuous advancements to come.
- ✔ Each insurer will still decide what their entry point into cloud looks like. But insurers should continuously re-evaluate this as they cross various inflection points of managing their IT infrastructure and core systems.
- ✔ For those relying on vendors to deliver software and cloud environments – understand the capabilities of the software vendor as well as their track record. With the different core solutions available, insurers must do their due diligence and understand how each vendor handles the considerations covered in this report.
- ✔ Successfully migrating to the cloud goes beyond the underlying infrastructure – it requires a mature, enterprise-grade service to manage software updates, execute performance and load testing, monitor and address performance and availability issues, etc.

The true benefit of the cloud is to expand what insurers can do technologically without having to run everything in-house while shouldering the whole responsibility for the technology's maintenance and related risks. Cloud supports seamless customer experiences; significant gains in upgradability; minimal system downtime; and instant access to data sources, technologies, services, and partners that are growing in number every day.



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Strategy Meets Action is an advisory firm that works exclusively with insurers and vendors in the P&C market, offering advisory retainers and project-based consulting services.

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### About the Author

**Karen Furtado**, Partner, is a well-known authority on insurance technology and how it fuels transformation within insurance companies. Her focus is helping insurers prepare for the future of the industry through the decisions they make today. Karen's deep understanding of how to effect change guides insurers in the development and implementation of their transformation roadmaps. Her comprehensive knowledge stretches across core systems, the implications of InsurTech, and enhancing adaptability and flexibility in a changing market. Her commitment to promoting innovation, encouraging the exploration and adoption of new technologies, and developing proactive ways to plan for the future draws those seeking an edge. In a highly competitive world, Karen brings exceptional knowledge and experience to the challenges of connecting solutions to business and IT requirements.

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