



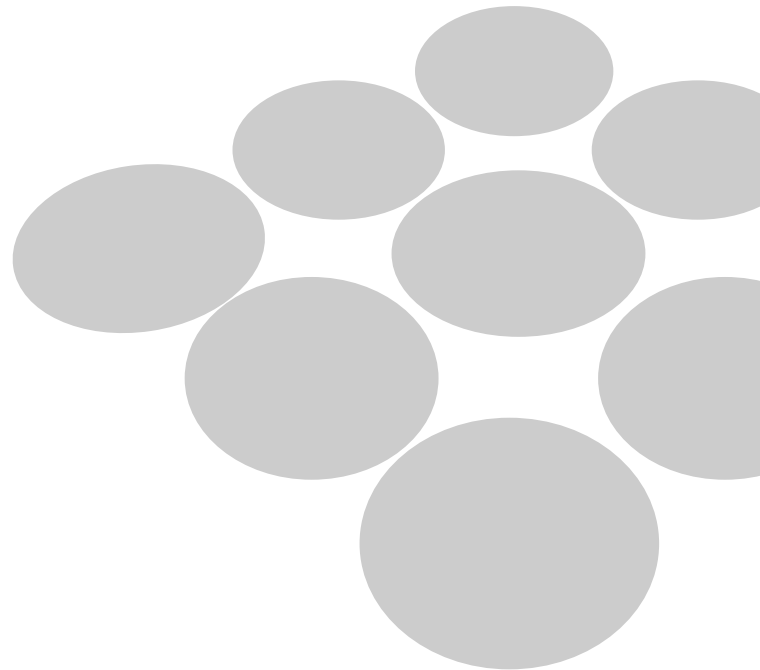
STRATEGY MEETS ACTION

## **NEW COMPUTING TRENDS:**

*Laying the Foundation for the Core Systems of Tomorrow*

*Featuring as an Example:*

**BriteCore**



### **An SMA Perspective**

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**Publish Date: September 2018**

*This perspective is based on SMA's ongoing research on new computing trends and core systems in insurance.  
BriteCore has purchased distribution rights.*



## About This Perspective

*This SMA Perspective is a summary of SMA's ongoing research on new computing trends and core systems.*

*BriteCore has purchased distribution rights for summary results of selected research and opinion. This is not paid-for research.*

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## Key Theme

*New computing trends offer insurers tremendous potential to enhance and augment their existing core systems environment.*





## INTRODUCTION

**Fundamental shifts are underway in both the technologies and the approaches to computing that underpin this increasingly digital and connected world.**

Our world is in the midst of a massive digital transformation that is having a significant impact on people, technology, and industries across the spectrum. Insurance is not exempt, and the implications for the insurance industry are vast.

Insurers have been moving toward digital for many years. What has changed is the need to embrace the digital insurer label. The digital mandate goes far beyond the digitization of existing assets, processes, and transactions. It entails systemic changes in the old ways of doing business, supported by advanced technology. More importantly, it requires insurers to be ready to change again in the future, on an ongoing basis, to address shifts in customers, technology, and the market.

Part of that readiness is the ability to leverage technological advances to support a seamless customer experience. A new era of computing is upon us, with the power to advance the customer experience as well as insurers' internal operations in new ways. Although new computing trends are technical in nature, their greatest impact is on the business capabilities they enable.

To understand that fundamental truth, insurers can look to companies and industries that are a few steps ahead in the utilization of these new computing methods. The tech giants Amazon and Netflix can be termed "digital natives," built from the ground up in the digital world, yet their examples show how even digital natives can improve their customer experience using new computing technology. In fact, they had to turn to technological advances in order to deliver the seamless customer experience that they had built their reputations on.

Three years ago, both Netflix and Amazon re-architected critical back-end systems. For Netflix, it was necessitated by their glitchy catalog functionality, plus the frequent downtime that customers were experiencing. Amazon was driven to embrace new technology in their purchasing process in order to scale effectively. Having their shopping cart functionality crash under high volumes was not an option on, say, Black Friday.

The solution for both companies was to decompose transactional processing into individual processes (such as Netflix's catalog) with the help of a new computing trend called **microservices**. By isolating specific functions, they could enhance functionality at speed, decrease the tech footprint of their systems, upgrade continuously, and scale with ease. Their new microservices architecture has an even greater value, however, in that it allows them to augment their existing technical environment without a full rip-and-replace. Amazon amplified the microservices model by deploying them in conjunction with **serverless computing** to enable immediate scaling and real-sized pricing so that they had plenty of computing power when they needed it without paying for latency when they did not.

**In 2018, 93% of P&C insurers are investing in digital initiatives. Three years ago, only 35% of insurers were doing so.**

For insurers looking to meet the challenges of the digital age and its high table stakes in customer experience, these tech giants offer an example of how the strategic use of new computing trends can extend the lifespan of the technology they already have in place while improving the customer experience and preparing for new technologies and partners. Of all insurers' internal systems, those that stand to benefit the most are the core systems: policy administration, billing, and claims.



## BUSINESS CAPABILITIES

### Top Three Business Drivers for P&C Insurers

- ✓ *Support digital business models*
- ✓ *New product deployment*
- ✓ *Speed and flexibility*

Adapting to the digital world is a business challenge, not a technology challenge. The business capabilities that new methods of computing offer should be the guiding principles for insurers ready to explore them. It is not a question of technology for technology's sake – it's what can be done with its support. How can insurers provide a responsive, data-driven user experience for customers, partners, and employees alike? How must internal processes change to support a more efficient and data-driven organization?

Developing the adaptability necessary to operate in a digital economy mandates a cultural change across the enterprise. Speed and flexibility have always been significant priorities for insurers, but there has always been more progress to be made in both areas. Incremental improvements are simply not enough to deliver the transformative changes needed. Insurers must be able to adapt to new partners, new business models, and new products – and to do it at speed.

The need for speed is all about new opportunities. The digital economy moves faster than before, fueled by increasing computing power. Time is money in leveraging new data sources, developing new product offerings, and evolving insurers' customer experiences to meet new customer expectations. Advances that brought about quotes in minutes have now been replaced by the need for quotes in seconds.

Transactional volume has increased at the same time. Quoting is increasingly a multi-threaded operation. The focus that InsurTech startups have put into disrupting distribution means that quoting also needs to be agnostic with respect to the front end the customer or agent is using. This strains existing systems.

Data sources available to insurers have grown exponentially, which gives insurers unprecedented abilities to shorten the application process, rate using data that was inputted alongside that procured from external sources, and truly understand and manage risks. Somehow that data needs to be brought into the transactional lifecycle, either through purpose-built integrations or open APIs.

That data needs to be available across the enterprise in real time, too. Omni-channel is the new norm for customer communications. The ability to shift between channels seamlessly is critical. In addition, the communications and relationship standards – the customer experience that has become expected – apply equally to interactions with agents, vendors, partners, and an insurer's own staff.

As these different experiences pile up, the need for a different type of infrastructure grows more urgent.

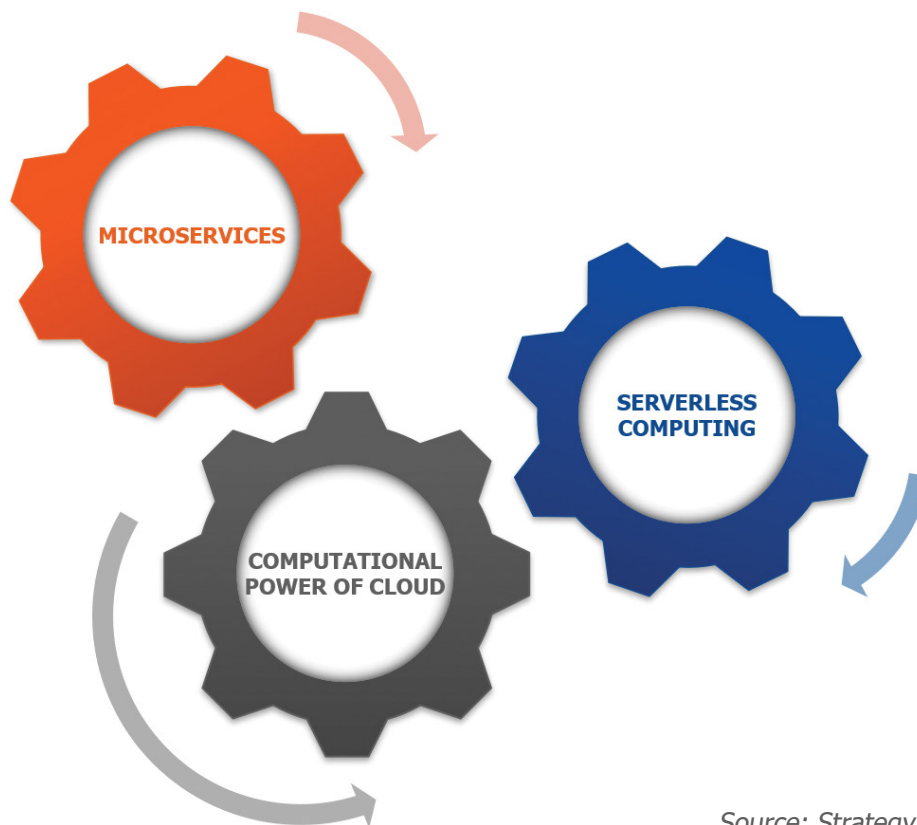


## TECHNOLOGY CAPABILITIES

Many of the core systems environments in place today were developed for more of an analog world than the digital world. In other words, they are not digitally native applications, and they struggle to support new business needs. The good news is that new developments in technology give insurers a way to amplify their existing core environments and be prepared for opportunities still to come. They will bring changes to the way that computing systems will be designed, built, used, maintained, upgraded, and replaced.

There are several different new trends in computing that are converging to give insurers the agility and flexibility they need to be successful in the digital age. The first waves of these new computing trends are beginning to hit. Microservices, serverless computing, and the next generation of cloud computing hold particular promise for insurers' core systems.

Figure 1. Fundamental Elements to Support Digital Interactions



Source: Strategy Meets Action 2018

### Microservices

Key to a future-ready digital architecture, **microservices** are micro-components within a new or existing technical architecture that can be deployed independently from a given application. A single microservice componentizes or externalizes a specific function or capability, such as rating, pricing, or blockchain, so that it can operate independently.

Microservices can scale without being constrained by previous digital infrastructures. Multiple user experiences are possible without the need to build or configure and can support any function, allowing for easier partnering, access to new services, and the use of new technologies. Upgrades to microservices occur independently of an insurer's core system environment without affecting any other capability. And if an insurer wishes to change the microservice entirely, it is easy to swap one for another.



## Key Core Requirements for the Future:

- ✓ Changes in core advancements of the future
- ✓ Plug-in component capability
- ✓ Dynamic scalability
- ✓ Advanced configuration
- ✓ Continuous upgrades
- ✓ Restful APIs

## Serverless Computing

So-called serverless computing is the latest evolution of cloud technologies. The term is actually a misnomer since applications and data are still hosted by servers, but no server management and capacity planning is exposed to the client. The cloud provider is wholly responsible for the dynamic allocation of computing resources. The use of **serverless computing** can reduce the risks from in-house technology and obviate the need for maintaining idle resources “just in case” of a sudden need for more computing power, such as after a CAT event.

One key benefit of serverless computing is its impact on costs. Vendors who use “Function as a Service” (FaaS) platforms can charge for exactly the computing time and power that a client consumes – and no more. This “pay as you go” model delivers on cloud computing’s promise of rationalizing costs. Economies of scale on the provider’s side further reduce prices. When insurers need more computing power, it is available. They do not pay for it unless they use it, however.

As in Amazon’s example of scaling their cart functionality, serverless computing is especially powerful in conjunction with microservices.

## Power of the Cloud

Microservices, serverless computing, and other new computing trends like AI and new user interaction technologies are built on a foundation of **cloud computing**. This is not yesterday’s definition of cloud, where an application and its data reside in a public or private cloud and run on someone else’s servers. The insurance industry often refers to this as “cloud computing,” but

cloud hosting would be a better description. Cloud hosting was the first stepping stone into the new world of computing. Insurers’ increasing adoption of cloud hosting has been critical, but more importantly, it also opens the door for ever-greater opportunities.

Cloud computing gives insurers access to much more advanced services than they could host on-premise. For example, cutting-edge AI solutions like IBM’s Watson are services that an insurer’s core systems would call out to. The same is true for the newest data sources, like real-time meteorological data or frequently updated aerial imagery. Even microservices, which can be deployed in an on-premise architecture, fulfill their true potential by calling out to advanced, external services like blockchain and IoT data platforms. And the whole premise of serverless computing is that its scalable, real-sized computing power is accessed via the cloud.

These are the true benefits of the cloud: to expand what insurers can do in a technological sense without having to run everything themselves in-house, being wholly responsible for the technology’s maintenance and the risks related to it. This more seamless approach to architecture supports an equally seamless customer experience, with significant gains in upgradability, minimal system downtime, and instant access to data sources, technologies, services, and partners that are growing in number every day.

The new wave of computing gives insurers a significant advantage in becoming truly digital businesses. These new trends promote digital transactions and enable ongoing technical advancement. To make the most of the opportunities offered by these advancing technologies, however, it is essential that insurers’ core systems environments be able to interact with them. Core systems that are digitally native and built for the cloud will give insurers an edge in the digital marketplace.



## BRITECORE

### Company Overview

**"BriteCore's principles are to pair progressive clients with innovative developers to meet the challenges of today and in the future."**

*Phil Reynolds*  
CEO, BriteCore

BriteCore was founded in 2004 with support from a consortium of mutual insurers. The company focuses on the needs of P&C insurers and MGAs while also supporting a growing clientele of InsurTech startups. BriteCore focuses on three key objectives throughout the solution development and deployment process:

- ✔ Customer Experience
- ✔ Ongoing Technical Innovation
- ✔ Long-Range Thinking

A continually growing list of more than 55 insurers and MGAs in the US and Canada have turned to BriteCore to support their core system, data, and digital needs. BriteCore's 183 employees provide the tools and expertise to enable their clients to adapt to the digital age.

### Breadth and Functionality

#### Current Solution State

BriteCore's core systems offering, also called BriteCore, is a fully managed, enterprise-level software platform. Since the initial launch in 2010, BriteCore has rapidly evolved into a fully managed product suite to support multi-line, multi-state, and multi-location policies for personal, commercial, and specialty lines of business. It combines core systems, data, and digital solutions in a single comprehensive offering to help insurers address the challenges of adapting to the digital age.

BriteCore has a robust API layer that enables a wide range of integrations, including pre-built, out-of-the-box integrations with third-party solution and data providers. A unique value proposition of being a member of the BriteCore community is the customer collaboration and contribution of source code that extends the system's capability without impacting the application's upgradability.

The BriteCore solution is natively built for the cloud in terms of computing, hosting, and infrastructure. Hosted in a private cloud via Amazon Web Services (AWS), BriteCore's cloud deployment enables a continuously upgraded core system that provides security, efficiency, and durability at scale. BriteCore also collaborates with the core AWS architects to advance the AWS services network on their clients' behalf, further enhancing the power of the cloud in insurers' core systems environments.

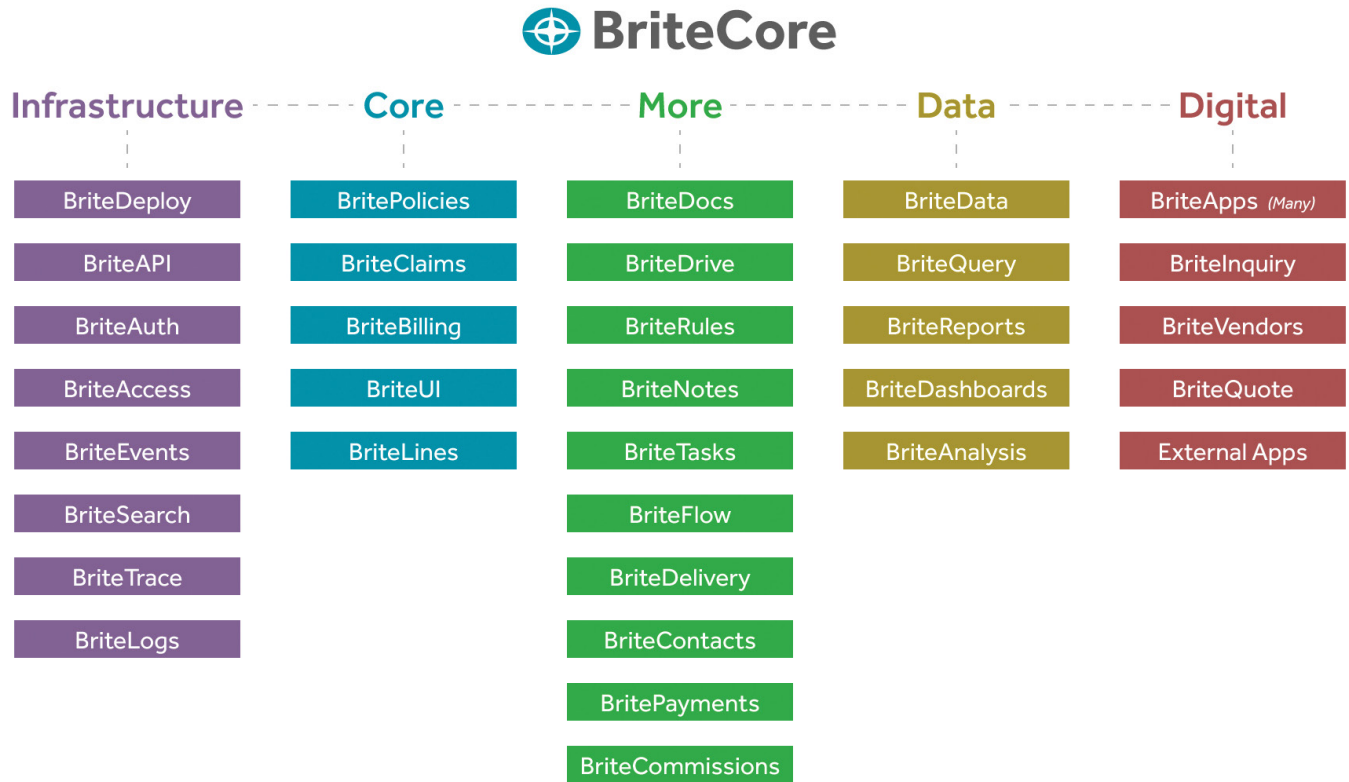
#### Future Solution State

BriteCore's tech-forward mission includes staying abreast of new computing trends and technological advances that can benefit clients. The company recognizes the strong potential of microservices to amplify their existing solution. They are continually in the process of rearchitecting the existing platform to maximize the benefits of a microservices architecture.



BriteCore is expanding the suite with new core capabilities, exceeding thirty macro products (see Figure 2). Each of these logical product offerings are supported under the hood by a suite of five to thirty microservices that support specific workloads. The existing API connectivity simply redirects calls to these new workloads, separating processing into smaller pieces. Any microservice can be updated individually or swapped out to enhance functionality without affecting the rest of the product.

Figure 2. Future State of BriteCore Suite



Source: BriteCore 2018

The expanded, easily updated capabilities of this architecture widely benefit BriteCore customers. Enhancements to the BriteCore application include scalability for more timely deployment of resources, faster product development, operationalized data and analytics, and digital transformation. New additions include a business rules engine, workflow configuration, and language and currency internationalization to support the evolving needs of both domestic and international carriers.







## STRATEGY MEETS ACTION COMMENTARY

***The new computing trends that are emerging today are foundational as insurers pivot to become digital businesses. Every insurer needs to be aware of these advances, chart their own course, and establish the technology required to support them into the future.***

The new computing trends that are emerging today are foundational as insurers pivot to become digital businesses. Insurers need to determine whether their current core systems environments have the technical capabilities to take advantage of these new trends, which have the potential to enhance and augment their existing systems. Every insurer needs to be aware of these advances, establish the technology required to support them into the future, and chart their own course.

Digital changes how we think about technical architecture. Microservices and serverless computing give insurers new tools and new methods of approaching digital demands. The gold standard is continuous upgradability, with minimal impact on the processing or live time. By reducing the heroic efforts that typify today's upgrades, insurers have access to the most current technology through more changes that occur more frequently.

These technological advances, and those to come, hold tremendous potential to benefit an insurer's business. They enhance the flexibility of product configuration and user experience. They streamline transactional processing and minimize downtime. At the same time, they enable connections to new partners, data, and technology to further adaptability and customer-centricity without wholesale replacement of critical core applications or numerous integrations.

One of the advantages of using core systems in the cloud, rather than on premise, is that they have a greater ability to incorporate architectural advances, such as microservices and serverless computing, to support changing business needs. The BriteCore suite, including the new products under development and the microservices that support them, gives insurers the capabilities they need to provide the seamless, consistent, and personalized experiences that the digital consumer requires. BriteCore's commitment to leveraging new computing trends also offers insurers the means to take advantage of technological progress within their existing core systems environment. Tech-forward solution providers who can offer insurers a real partnership for digital transformation will be important allies as the insurance industry and its underlying technology continue to evolve.





## **ABOUT STRATEGY MEETS ACTION**

Strategy Meets Action (SMA), is a strategic advisory firm delivering advice, consulting services, and published research to insurers, solution providers, and InsurTech startups. We provide insights and guidance to help our clients bridge today's business strategies, plans, and technology investments to the new world of customer experience, digital transformation, emerging technologies, and InsurTech. Exclusively servicing the insurance industry, our mission is to help our clients excel today and position for tomorrow with the right technology decisions as unprecedented changes take place in our industry.

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Additional information on SMA can be found at [www.strategymeetsaction.com](http://www.strategymeetsaction.com).

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