MICRO SERVICES

A FLEXIBLE APPROACH TO DEPLOYMENT

Insurers are increasingly looking to microservices and APIs as a way to assemble solutions from leading edge components. Advances in these technologies are removing barriers to IT simplification and accelerating the evolution to cloud.

Accenture's cloud-agnostic approach to shared, yet dedicated microservices, encapsulates and centralizes business functions in a way that supports rather than stifles business innovation and can adapt to future demands more easily.

CLOUD-AGNOSTIC APPROACH TO MICROSERVICES DELIVERS MORE OPTIONS

Today's native cloud applications force insurers to choose between cloud flexibility or business functionality. ALIP's cloud-agnostic approach to microservices provides both and delivers more deployment options including on premises, in cloud or both.

Accenture re-architected its Life Insurance and Annuity Platform (ALIP) to a service-oriented architecture (SOA) years ago, helping insurers orchestrate their shift to digital business operations and future ready their environments for cloud. With a strong focus on leading edge technology, Accenture componentized thousands of ALIP features and functions into individual configurable units/services—pseudo microservices—decoupling them to enable cloud elasticity, deployment flexibility, high availability, organizational scalability and automation.

These configurable service components each operate with the efficiency of a microservice, yet the platform maintains the same code base. This important distinction makes ALIP cloud agnostic, and delivers consistency between cloud and on-premise deployments, which lets insurers choose what to place in the cloud. Accenture also established Base First, a unique methodology that continuously brings the innovation developed for each insurer on its life and annuity platform to the entire community of users.

ALIP's flexible approach to microservices supports Base First and ALIP's Continuous Upgrade program. It improves organizational scalability for a rapidly growing customer base that can absorb a continuous deployment model—selecting the enhancements, patches and functionality that make the most sense—and minimize disruption to the operation.

DELIVERING THE BEST OF BOTH WORLDS: CLOUD BENEFITS AND CONTINUOUS INNOVATION

According to an MITSloan Management survey in conjunction with Accenture Research[1], 67 percent of C-level executives would like to replace all of their core legacy systems. But 70 percent would like to keep their existing core systems as long as possible— while 50 percent wish they could have the best of both worlds. The goal of ALIP's approach to cloud and microservices is to provide the best of legacy and new. It creates a scalable, flexible, and resilient IT architecture that allows ALIP to work side by side with both modern and legacy applications.

In addition to the thousands of features already componentized, Accenture's strategic roadmap includes reassembling all ALIP business functions and the relevant data into microservices, organized around business capabilities—from high-level business functions such as billing, to low-level services like generating a PDF. The Accenture Actuarial Calculation Engine (AACE) is a great example of an existing microservice that has its own data or can use shared data. It's self-contained, supported by a dedicated team, yet linked to other business services via business configuration.

As the ALIP reassembling continues, each business capability's UI will be linked on the fly and a unified API will be available via API management tools. Componentized microservices will be hosted in individual runtime containers, each with its own data storage, and capable of migrating to multitenancy.

Dedicated teams will co-develop, test and continuously deploy functionality, each with its own versioning and storage. This approach leverages lightweight protocols—HTTP and REST—and enables efficient client-side architectures like SOFEA, in addition to new and industry-standard tools for containerization, automation, testing and monitoring. Eventually, each microservice will be available on a SaaS basis and leverage automated cloud elasticity to further reduce IT and operational costs without compromising service levels.

ALIP's approach to microservices is not only more feasible and more practical for complex life and annuity operations, but also future ready. It's designed to give life and annuity carriers the most flexibility to profitably run their businesses and to quickly adapt to their needs, market dynamics and technological advancements along five IT business imperatives:

1. **Microservices**
2. **Operations**
3. **Scalability**
4. **High availability**
5. **Security**

MICROSERVICES

ALIP's unique flexible Interface Exchange layer and core API library enable old and new applications to see the same API in different ways. Containerized service components will be developed and hosted independently, so that each can be upgraded individually. As components become more discrete, emerging IT tools and techniques—continuous deployment, containers, multitenancy (where it makes sense)—mitigate deployment complexity.

[1]MITSloan Management Review, "Technical Debt Might Be Hindering Your Digital Transformation," Adam Burden, Edwin Van der Ouderaa, Ramnath Venkataraman, Tomas Nyström, and Prashant P. Shukla. June 19, 2018. **https://sloanreview.mit.edu/article/technical-debt-might-be-hindering-your-digital-transformation/**

OPERATIONS

A cloud-agnostic approach to microservices reduces operational complexity and avoids high management costs that can result from separate software development streams—one for cloud and one for on-premise deployment. It's designed to increase visibility and respond proactively to changing conditions while evolving to highly-automated IT execution that supports large-scale shared operations.

SCALABILITY

ALIP is advancing its scalability to support native-cloud middleware options for messaging and database, which will deliver very high scalability at a reduced cost. Microservices optimize the choice of middleware options per component, and scale according to need.

HIGH AVAILABILITY

A componentization strategy advances the ability for insurers to meet the growing demand for 24x7 availability. ALIP already provides high availability messaging, and in the near term, multi-geo load balancing, which will support rolling upgrades and ripple restart to reduce downtime.

SECURITY

Comprehensive security protocols defend against breaches and evolving attacks through a dedicated security team and Accenture's robust security framework protects the following:

- **Network –** data loss protection (DLP), Device Aware authentication and network access, centrally managed antivirus (AV) and software distribution.
- **Infrastructure and OS –** including all ALIP servers and ALIP client DB server.
- **Logical data –** backed by Accenture's dedicated global Cyber Incident Response Team (CIRT) and its Security Incident Response Process.
- **Physical data –** strong e-GRC Compliance Framework (SOC and ISO), auditable ISO controls and risk assessment specific to ALIP client service with exception management and visibility to ALIP client.

THE FUTURE OF MICROSERVICES IS NOW: GREATER FUNCTIONALITY WITH FLEXIBILITY AND CHOICE

ALIP is delivering on the promise of cloud-agnostic microservices with its advanced architecture design, Base First, Continuous Release and Continuous Upgrade programs, in addition to its Interface Exchange perpetual library of APIs that enable insurers to innovate at scale. These combined capabilities have already enabled leading insurers to expand into new markets with new delivery channels and ecosystem partners.

ALIP's microservices strategy and roadmap simplify the complexity of moving to the cloud and give insurance CIOs more choices. More importantly, it ensures backward compatibility to downstream business systems as core ALIP continues to evolve. This includes a buffer layer that protects against and minimizes any impact through the continuous deployment during technological and security advancements. By accessing ALIP real time via the services layer and static data via staging,

clients can take advantage of the latest features, including major enhancements, without them impacting downstream systems.

By leveraging a flexible and adaptive architecture, ALIP is helping insurers reap cloud benefits more quickly without sacrificing functionality. We've decoupled applications, business processes and data, containerizing them into business services (hybrid microservices). Carriers choose the services they need and where to deploy them— on premises, cloud or both—and ALIP ensures they communicate through business configurations that drive orchestration.

Figure 1 illustrates an example of ALIP's flexibility to build and deploy application integrations and data flows between cloud-based applications and between cloud-based and on-premise applications and data stores.

FIGURE 1.
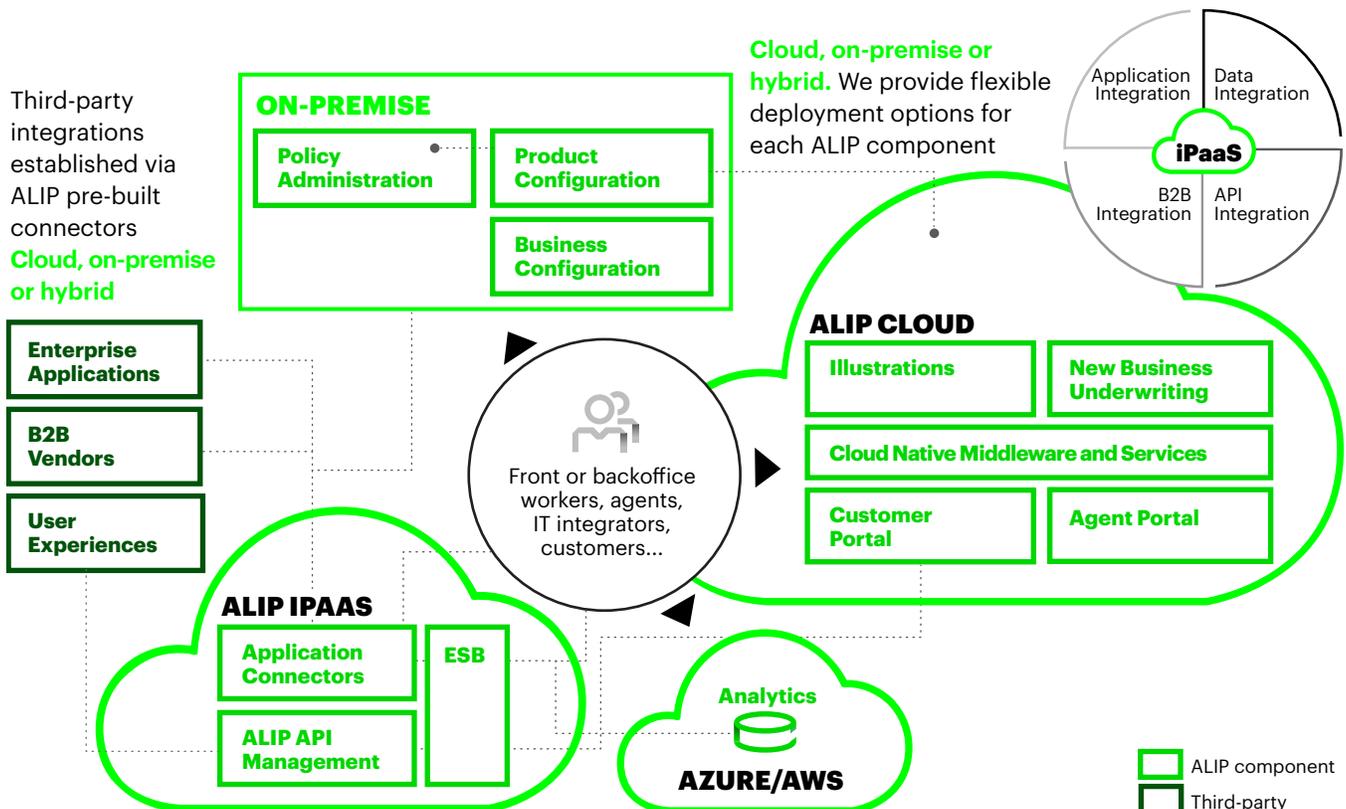
THE POWER TO SIMPLIFY, INNOVATE AND GROW

Microservices and microservice architecture (MSA) are simplifying life and annuity providers' core systems of record. In fact, Accenture Research found that 70 percent of insurance executives report their use of microservices will increase over the next year.[2] The goal is to enable a more agile insurance operation that supports business growth and innovation through rapidly developed, deployed and continuously updated functionality. Ultimately, insurers will build innovative solutions on ALIP from an efficient true SaaS model, seamlessly incorporating services on an as-needed basis—cloud hosted or third party—all connected by APIs, orchestrated by business configuration.

Learn how Accenture can deliver greater choice and flexibility to profitably manage your life and annuity business today and into the future.
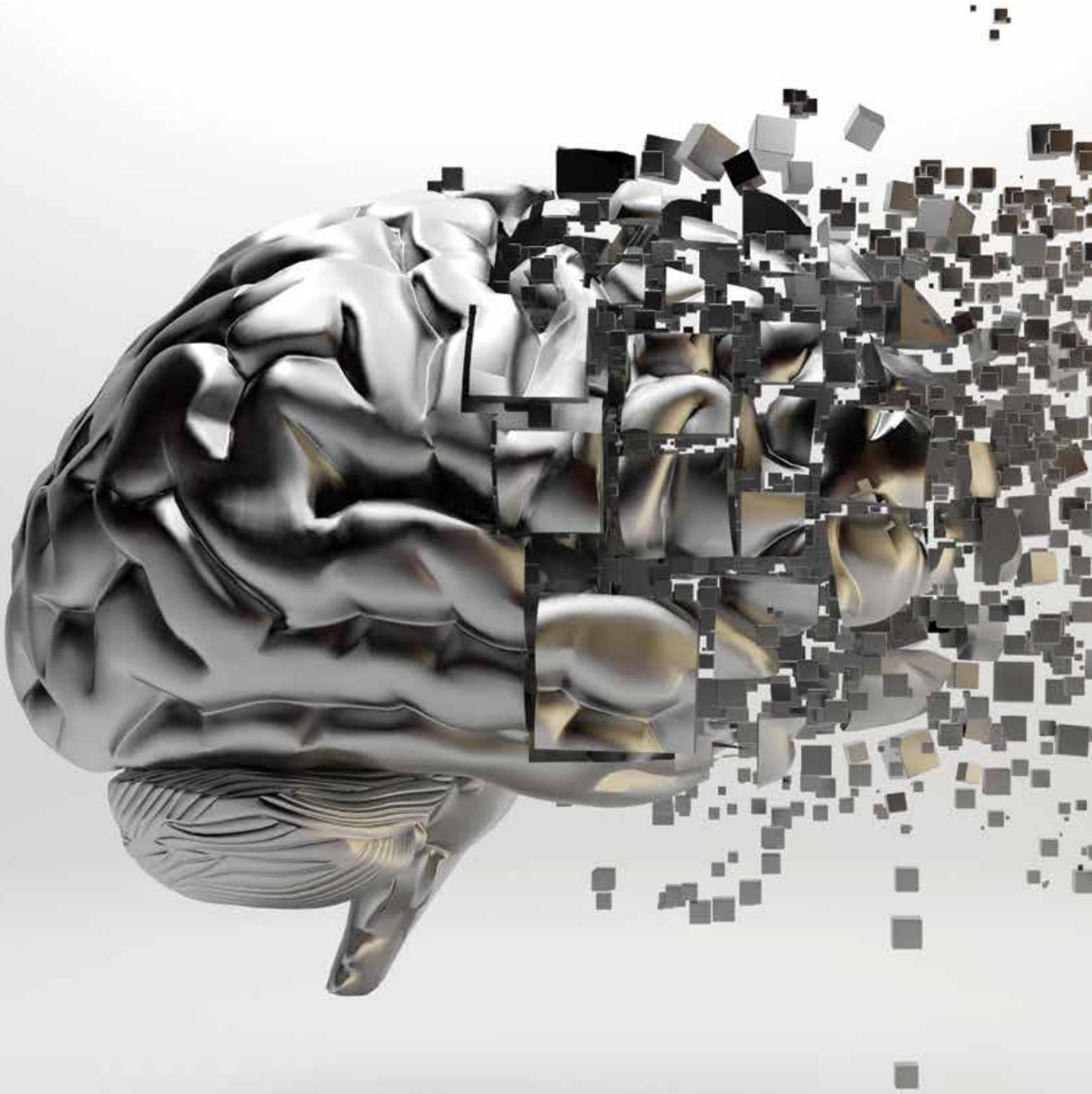
RECOMMENDED READING

"Evolution Versus Revolution: Why Native Cloud is Not the Answer … Yet.", Kym Gully, Accenture; Matthew Johnson, Accenture

"Legacy Blocks: Should They Stay or Should They Go?", Mitchel F. Ludwig, Accenture; Michael Perry, Accenture

[2]Accenture Technology Vision for Insurance 2018, p. 25

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ABOUT ALIP

The Accenture Life Insurance & Annuity Platform (ALIP) global delivery team has more than 2,000 combined years ALIP experience including over 80 insurance industry migrations involving tens of millions of policies. Learn how we can help your business transform to a digital business without leaving valuable legacy data behind.

ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 425,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at **www.accenture.com**.

Accenture's life and annuity software is part of Accenture Life Insurance Services, within Accenture Financial Services. By applying extensive industry knowledge to continuously enhance its software, Accenture helps insurers reduce operating costs, manage risk and drive growth through improved product development and distribution, enhanced policy administration and distribution, and technology platform consolidation and modernization. The homepage is **www.accenture.com/ lifeandannuitysoftware**.