

AWS for Insurance





Why are **insurers** adopting the cloud?

The insurance industry is facing two conflicting challenges – profitable growth vs. the burden of legacy. After years of significant headwinds, the insurance market is improving. Business leaders want to return to profitable growth, and they need IT's help to get there. IT is arguably more of a partner to the business than ever before. However, the IT team faces the burden of legacy. Too much of the IT budget today is aimed at maintaining legacy systems. That does not leave much of the budget for enabling innovation to better support that “profitable growth” rallying cry.

In response, many insurers are moving to AWS to address both challenges. They are moving existing applications and workloads from the managed data center to the public cloud to retire technical debt and free IT budget for transformation and growth. At the same time, they are finding that AWS enables the business and IT to innovate more quickly. Insurers are using AWS to quickly launch new digital customer experiences; modernize or put in place more agile core systems; leverage data to take new approaches to identifying risk, avoiding losses, and enhancing customer intimacy; and respond to regulatory changes with the responsiveness of a nimble start up.

By deploying or developing in the AWS Cloud, insurers no longer have to manage underlying infrastructure and can focus on investing time and resources on leveraging their core strengths. They provision only the resources they need, and scale up or down according to demand, reducing costs and increasing agility. In addition, AWS services help automate and optimize processes, and capture and analyze data, all while meeting the highest standards for security and compliance.

In this e-book, learn more about how insurers are working with AWS to strengthen security, accelerate product development, enrich customer experiences, and make better data-driven decisions.

What are the benefits of the AWS Cloud?



Innovation

By deploying in the AWS Cloud, insurers no longer have to manage underlying infrastructure. They can focus time and resources on the business, deploying solutions faster, and delivering new value.



Agility

The flexibility and agility of AWS helps improve competitiveness. Insurers can spin up IT environments on demand, innovate and iterate on solutions more quickly, and incorporate data for greater insight.



Elasticity

AWS storage and compute services scale up and down as needed, making it easy to respond to market changes, ensure business continuity, and control costs through the use of secure, scalable, and on-demand infrastructure.



Integration

AWS provides more than 160 services, including compute, storage, analytics, and security, that easily integrate to help optimize your workloads.



At AWS, security is top priority.

AWS has worked with the most complex Financial Services organizations to meet security and compliance requirements at every stage of their cloud journeys.

Protecting your data is AWS' number one priority, and our global infrastructure is designed and managed according to security best practices, as well as a variety of compliance standards.

Solution: **Grid computing**



Amazon EC2 offers secure and resizable compute capacity

Amazon EC2 allows insurers to obtain and configure capacity with minimal friction. It provides complete control of computing resources and reduces the time required to obtain and boot new compute instances to minutes, allowing companies to quickly scale capacity, both up and down as computing requirements change.

Complex calculations are not new to the insurance industry. However, regulatory changes and severe weather events are leading to even more complex models. Actuaries need more compute power to run their pricing, reserving, and valuation models more quickly and more often. Risk managers need more compute power plus the latest GPU chipsets to help better visualize potential exposures. In both cases, insurers are moving to AWS cloud-based grids to empower their teams with on-demand high performance computing (HPC). By running HPC grids on AWS, firms lower grid costs, gain access to the latest CPU and GPU chipsets, and speed modeling run times. This greatly enhances their risk insights, and speeds their ability to more accurately respond to regulatory regimes, such as Solvency II, or model new perils and risks.



Burst or run complex models against cloud-based grids to speed run times and improve productivity.



Turn CapEx into OpEx, moving a spikey but predictable workload to a scalable, on-demand utility.



AWS Batch

Use AWS Batch to dynamically provision and optimize the compute resources you need.



Use cloud storage to store larger, more complex models, and more numerous output files.

Use cases: **Grid computing**



Regulatory compliance

Regulations such as Solvency II, IFRS 17, and NAICS SVL require insurers to run increasingly more complex models, and to run them more often, to improve risk insight. AWS Cloud-based HPC grids provide elastic compute power on demand, making actuaries more productive.



Reserve optimization

By running HPC grids on AWS, actuaries can more easily access the compute power required to run complex models to narrow their risk margins. This leads to more accurate calculations on setting and optimizing reserve levels.



Catastrophe modeling

Catastrophe modeling solutions help insurers and reinsurers better characterize their exposures to severe events, from climate change to cyber risk. Providing data scientists with the latest GPU cores in the AWS Cloud gives them the horsepower to run more complex models to consider more perils.



Portfolio hedging strategies

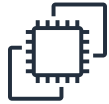
The elastic nature of AWS Cloud-based HPC grids enables insurers to scale up the number of cores required for low-latency, high-throughput calculations. That speed can enable real-time valuations, helping to inform even intra-day hedging strategies on life insurance books of business.

Solution: Core systems transformation

The AWS Cloud provides more flexibility, scalability, and security than on-premise infrastructure and services, helping insurers to retire technical debt and reallocate IT budgets to transformation and growth. The impact is apparent with core systems, where AWS is used in pre-production and production environments, lowering IT costs and enhancing business agility. Insurers and core systems vendors are modernizing core systems using AWS to increase automation, improve visibility into operational processes, accelerate software deployment, ease integration across complementary systems, and make data in the core systems more readily available across the business.



Use AWS to quickly spin up the virtual machine and database instances to support core systems.



Amazon EC2

Deploy on Amazon RDS and Amazon EC2 to easily operate and scale the platform with the business.



Amazon RDS



Amazon API Gateway

Use Amazon API Gateway to create, publish, maintain, monitor, and secure APIs around the core.



Automated execution of code and configuration helps developers implement CI/CD and improve reliability.



Database Freedom helps customers migrate from traditional licensed database engines to AWS

Database Freedom is a unique program designed to assist qualifying customers migrating from traditional database engines to cloud-native ones on AWS. AWS meets the needs of modern applications by offering a range of purpose-built databases, thereby allowing customers to focus on innovation.

Use cases: **Core systems transformation**



Promote innovation

The scalability of AWS allows insurers to increase their speed to market for new products, enabling them to target emerging product opportunities and customer segments.



More easily integrate from core

Modernizing core systems on AWS gives insurers the flexibility to offer new services that leverage new networks of partners and expand to new, digitally driven business models.



Better support the business

The agility of AWS enables insurers to embrace continuous improvement. Insurers can quickly deploy applications, and adjust business models to better align with the new ways clients buy insurance.



Improve resiliency

Customers and partners can build mission-critical applications using AWS services. AWS provides design patterns for building highly resilient applications, increasing uptime, and supporting business continuity.

Solution: Data management and analytics



Amazon S3 is the foundation for data management and analytics

With **Amazon S3**, companies can store any amount of data for any use case, including applications, IoT, data lakes, analytics, backup, and restore, archive, and disaster recovery. Amazon S3 is designed for 99.999999999% (11 9's) of durability and provides in-depth security and compliance features such as **Amazon S3 Object Lock**, which includes the WORM (write once read many) status of objects.



Ingest more structured, semistructured, and unstructured data with AWS on-premises and real-time data movement services such as **Amazon EMR**, **AWS Glue**, and **Amazon Kinesis**.



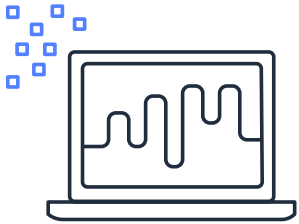
Amazon S3

Aggregate and store data without the need for transformation in an Amazon S3 data lake, a cloud-scale repository that enables enterprise data analytics.



Use AWS analytics services such as **Amazon Redshift**, **Amazon Athena**, **Amazon QuickSight** to query and search data, unlocking the value of internal, structured data, and enriching insights by also incorporating external and unstructured data.

Use cases: Data management and analytics



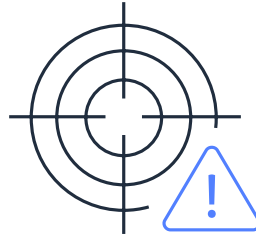
Risk modeling, back-testing, and economic simulations

The combination of **Amazon S3 data lakes**, data storage, and **elastic compute** enables actuaries and data scientists to work with larger data sets, more often, and more cost-effectively.



Policy underwriting and claims processing

Cloud-based data lakes help liberate data from core systems and ingest data from external sources, making it easier to store, stage, and process unstructured data such as images and documents related to underwriting and claims.



Fraud detection

Claims data stored in data lakes is a rich target for AI/ML models using **Amazon SageMaker**. These models help mine larger data sets and uncover new signals that lead to identifying fraud or other factors that can help insurers reduce loss ratios.



Customer insight

Data lakes make internal data more accessible and help insurers to enrich their data with external and unstructured data sources. Running AI/ML models against the broader data leads carriers to new customer insights to support next best action/offer.

Solution: Customer experience

Insurance today is a low-touch business. Policyholders move to a new product on average every two to three years, making it hard to build brand loyalty. AWS enables Insurance companies to enhance the customer experience and improve brand loyalty by providing services that gather, store, and analyze customer interaction data and track buying signals helping you to anticipate customer needs and deliver a more personalized customer experience.



Define the digital customer experience necessary to retain core customers and drive premium growth.



Amazon Pinpoint

Deploy new channels such as portals, mobile applications, call centers, chatbots, and Alexa skills; and orchestrate consistent experiences across all channels.



Amazon SageMaker

Access ready-built machine learning models like sentiment analysis, or bring your own models, and train and deploy them more quickly in machine learning.



Amazon Personalize makes it easy to create individualized customer recommendations

Amazon Personalize is a machine learning service that makes it easy for developers to create individualized recommendations for customers using their applications. Amazon Personalize allows developers with no prior machine learning experience to easily build sophisticated personalization capabilities into their applications, using machine learning technology perfected from years of use on Amazon.com. You can start serving personalized predictions via a simple API call from inside the virtual private cloud that the service maintains.

Use case: Customer experience



Web portals

AWS services integrate to help insurers build dynamic websites that meet customer and agent needs. Use **AWS ElasticSearch** to build a self-service research portal and **AWS Lambda** to monitor claims status in real time.



Mobile apps

AWS services like **AWS Mobile Hub** strengthen the customer/insurer relationship by making it easy for customers to send images and text directly to their agent.



Contact center

Building a cloud-based contact center with **Amazon Connect** allows insurers to use the entire suite of Amazon machine learning and analytics services to provide a more personalized customer journey.



Chatbots, voice commands, Alexa skills

AWS services like **Alexa**, **Amazon Polly**, **Amazon Lex**, and **Amazon Comprehend** allow insurers to develop new customer channels, simplifying the customer experience and promoting customer communications.

Insurance companies are already transforming on **AWS**

Insurance companies of all sizes are using the AWS cloud to accelerate their go-to-market strategy, enrich the customer experience, and make better data-driven decisions.

“

AWS has helped Guardian get ahead of Insurance industry disruption driven by new technology and changing customer expectations, and enabled us to innovate and provide services how, when and where our customers prefer.

”

- Dean Del Vecchio, CIO, Guardian Life



PACIFIC LIFE

Pacific Life turned to AWS to help scale up its HPC capabilities and increase the speed of its actuarial workloads used to set pricing and create new products.

The company uses AWS as part of a hybrid computing environment, enabling it to quickly scale up additional compute capacity in minutes with lower costs and reduced IT overhead, leading to accelerated go-to-market timelines for products and services. The company also benefits from AWS' robust security and disaster recovery protocols.

[Go to the Pacific Life case study »](#)



[Pacific Life turns to AWS for hybrid cloud »](#)



Sunday Insurance, headquartered in Thailand, is a leading InsurTech company that uses technology to boost the efficiency of traditional insurance services.

Sunday uses machine-learning algorithms to provide customers with a broader range of insurance policies, covering properties and possessions, and highly customized premiums that deliver greater value to customers. The company wants to grow its business organically and through partnerships, and it plans to expand its operations to other countries around Southeast Asia.

[Go to the Sunday Insurance case study »](#)



Sunday delivers lower-cost premiums using AWS »



Guardian Life recently selected AWS as its preferred cloud provider and is moving the majority of its workloads to AWS, including mission-critical functions such as data analytics platforms.

By moving to AWS, Guardian has reduced its IT operating costs and is using AWS for its acquisition strategy, migrating newly acquired businesses to the cloud to shed legacy infrastructure and technical debt.

[Go to the Guardian case study »](#)



[Guardian Life shares the company's digital transformation »](#)



Sar utha ke jayo!

HDFC Standard Life, one of India's largest Insurance companies, uses AWS machine learning services to deliver recommendations for its insurance products and a personalized customer journey by email, push notifications, or text messages. The solution also meets all regulatory requirements, including using AWS services to protect personally identifiable information.



HDFC Standard Life's real-time recommendation engine »

Resources to help you get started with **AWS**

AWS Partner Network (APN) and AWS Marketplace

APN Partners are focused on your success, helping customers take full advantage of all the business benefits that AWS has to offer. With their deep expertise in AWS, APN Partners are uniquely positioned to help you at any stage of your cloud journey, including managing risk. Work with Technology and Consulting Partners who have achieved AWS competencies in Security and Financial Services to protect customer data, support continuity of business-critical operations, and meet new standards in regulatory reporting. You can discover partner solutions in the AWS Marketplace, a digital catalog that makes it easy to find, test, buy, and deploy software that runs on AWS.

For more information, visit <https://aws.amazon.com/solutionspace/financial-services>, <https://aws.amazon.com/partners> and <https://aws.amazon.com/marketplace>.



AWS Professional Services

AWS Professional Services provides strategic and technical guidance on security, governance, risk, and compliance to large enterprises that are migrating to AWS via executive support, enhancement of their security framework, and alignment of their risk operating models to cloud technology.

For more information, visit:
<https://aws.amazon.com/professional-services>

For additional information on AWS solutions for Insurance, visit:
<https://aws.amazon.com/financial-services/insurance>