

INTELLIGENCE UPDATE

How financial institutions are using AI and cloud today



Dr. Owen Rogers

3 Nov 2025

A decade ago, public cloud was deemed by many to be a secondary environment for non-critical workloads. Concerns about data protection, availability, performance and regulatory compliance made many enterprises cautious about the use of public cloud for crucial workloads.

Since then, financial services organizations have experimented with cloud-native applications and taken steps to mitigate the concerns. Many are now embracing the public cloud for regulated production workloads. Crucially, some of these workloads are mission-critical, handling sensitive data and demanding high performance at scale.

At a recent event in London organized by Amazon Web Services (AWS), financial institutions shared how their cloud applications were being integrated with AI.

The institutions shared a commonality: the public cloud served as the venue for many of their critical and non-critical workloads, making it relatively easy to integrate AI into their applications without significant capital outlay. However, each organization had a different strategic approach to using cloud and AI, depending on their existing infrastructure estates, attitudes to risk and specific requirements. Although all organizations at the event were AWS customers, many retained some workloads in their own facilities or employed multi-cloud approaches. These distributed deployments suggest that not all concerns have been abated.

This report shares observations on cloud and AI adoption in the financial services sector, based on interactions at the event.

Established players going multi-cloud

NatWest is a major UK retail and commercial bank that provides personal, business and corporate banking services to around 20 million customers. It claims to be developing 275 AI projects and already has approximately 25 AI use cases in production.

The company has recently announced a five-year partnership with AWS and Accenture aimed at overhauling digital, data, analytics and AI infrastructure to enhance customer experience and

operational efficiency.

NatWest is executing a multi-cloud strategy that utilizes its own data center facilities alongside cloud providers, with key partnerships including Google Cloud, Microsoft Copilot and Microsoft Dynamics. NatWest stated that some workloads (such as transactional data) will never move to the cloud primarily due to regulatory concerns, a situation familiar to many financial organizations. The cost and complexity of migrating to the cloud from high-performance mainframes is also regularly cited by financial services bodies as a reason to keep some workloads on-premises.

Other financial services organizations that discussed using public cloud alongside data center facilities include:

- **TP ICAP (the world's largest interdealer broker).** This organization facilitates over \$1 trillion in trades daily across financial, energy and commodities markets through its global network of trading venues and data services. It expects 80% of workloads to be public cloud-based by 2026, with serverless and managed services being used more readily.
- **Nomura (Japan's largest investment bank).** This organization uses AWS alongside its own facilities for calculating financial risks. Part of the initial attraction to public cloud was the ability to access CPU capacity at regular intervals to process these risk calculations, notably at the close of global financial markets. The use of cloud capacity also allows calculations to be performed simultaneously and reconciled for compliance reasons. The company had found that on-premises capacity was insufficient to perform these calculations promptly.

Key takeaway. Established financial institutions with existing data center infrastructure are unlikely to move all applications to the public cloud. However, public cloud is a suitable option for some existing applications and the development of new ones.

New financial institutions are on the cloud

Starling Bank, a UK digital bank with over 4 million customer accounts and known for its mobile-first approach, runs entirely on AWS, using a cloud-native, API-first architecture. Its platform, known as Engine by Starling, was built in-house to be modular and fully digital, avoiding legacy systems and batch processing. Every transaction or update is processed and exposed instantly through APIs, supporting real-time payments.

The system is designed as a multi-tenant software as a service (SaaS) platform, allowing other banks to use Starling's infrastructure as a managed service.

Starling is not the only cloud-first bank: Monzo, a UK-based digital bank built entirely on AWS, serves over 9 million customers. Monzo operates a standby recovery on Google Cloud.

Key takeaway. New regulated financial services organizations are building mission-critical, data-sensitive applications on the public cloud. These applications are designed to be scalable in line with demand, avoiding the need for high-performance server infrastructure in private data

center facilities.

Cloud enables AI integration with apps

At the event, NatWest shared how it uses generative AI in its customer service chatbot and internal assistance chatbot. When asked about the importance of the chatbot to NatWest's revenue, NatWest stated that the customer service chatbot was deemed mission-critical. A total of 79% of NatWest's retail customers bank completely online — NatWest stated that an extended outage would have serious repercussions, including a penalty from regulators.

NatWest's chatbot can share recent financial transactions with users, demonstrating that sensitive data is being used with generative AI. For it to operate, both public cloud (the AWS generative AI capability) and on-premises infrastructure (the central ledger of transactions) need to work together. This type of hybrid application is unusual; most applications are designed to work on a single cloud provider, even if the customer has an open-minded approach to which cloud is best for each application (see [Cloud scalability and resiliency from first principles](#)).

Key takeaway. Hype around AI is making it difficult to assess the value, prevalence and use-cases of AI in financial services. However, NatWest's development demonstrates that generative AI is being integrated into cloud-based, mission-critical, customer-facing applications, alongside sensitive customer data.

Generative AI can improve processes

Generative AI's shortcomings often make headlines — from inaccuracies to “hallucinated” information. Yet humans also make errors and rely on incomplete data. Financial institutions are already using generative AI to enhance manual, imperfect processes, even if its output is not flawless. Cloud provides easy access to generative AI.

Convex Insurance is a specialty insurance company based in London (UK). It focuses on complex, large-scale, or unusual risks that may not fit standard insurance models. The company uses generative AI during its quotation process. Brokers ask insurers for quotes. Each broker submits a different document to the insurer (or underwriter), based on its customer's special insurance requirements. Typically, a manual process (a human) reviews this document to extract the data needed, and prepares a quote to insure that risk.

Instead of relying on brokers to submit documents to underwriters for quote preparation, Convex Insurance has partnered with AI consultancy Provectus and AWS to deliver a data discovery process. A generative AI model automatically extracts key information from documents submitted by brokers, so that the employee preparing the quotation does not need to go through extensive documents to find all the relevant data.

The manual process only considered on average 5% of the data in each document. Due to time constraints, the quotation preparer could not review all the data to meet the deadline, so most

of the data would not be considered in the quotation. This means the manual process was already operating with incomplete information, which could affect the quality of quotes.

Convex explained that, while the automatic approach may also make mistakes, at least the generative AI approach would consider all the data, even if it occasionally produces errors or even hallucinations. The aim of generative AI in this instance is to support the person preparing the quotation by providing quicker access to the most critical data.

Convex described the automated method as “good enough” compared with a human.

Key takeaway. Financial institutions may already have imperfect or broken processes. In some cases, generative AI can improve accuracy and productivity, although the output may occasionally contain inaccuracies or mistakes.

Agentic AI is not commonplace — yet

Agentic AI refers to artificial intelligence systems that can autonomously take actions or make decisions to achieve goals, rather than just providing information or answers (see [Agentic AI shows promise but also carries risk](#)).

Although the term was mentioned at the event and is subject to much hype and media attention, a list of brief case studies presented at the event appears to focus on the synthesis of data, rather than automation. The case studies generally focus on aggregating, summarizing, classifying, or contextualizing data, rather than acting upon the findings. They aim to improve decision-making, rather than replacing the decision-making process.

These include:

- **Nasdaq Verafin.** Applying generative AI to automate and summarise anti-money laundering and financial crime investigations.
- **Principal Financial Group.** Using generative AI assistants and post-call analytics to support customer service and internal knowledge tasks.
- **BankUnited.** Developing generative AI tools on AWS to help staff query internal policy documents and improve customer support interactions.
- **Bridgewater Associates.** Building a virtual associate to support investment and market research activities.
- **Rocket Mortgage.** Deploying generative AI systems for call analytics, customer assistance and internal support tools.
- **Crypto.com.** Using generative AI services on AWS to generate market insight content and automate marketing and media creation.
- **New York Life.** Modernizing its data platform on AWS to enable generative AI use cases in claims management and analytics.
- **Bloomberg.** Building and training large language models on AWS and releasing open-source frameworks to accelerate generative AI application development.

In most of these use cases, humans review the AI's output and determine the next step. Humans remain the mediators who assess the reasonableness of the output, using other contexts and

experiences to make decisions that affect the business.

Key takeaway. Using cloud-based AI to collect and summarize data is an attractive proposition to financial services organizations. However, letting AI automatically make decisions and actions on those findings is a different proposition, fraught with issues of risk and accountability.

The Uptime Intelligence View

Financial services institutions are increasingly confident in using public cloud for critical workloads, with AI integration emerging as a natural next step. Established organizations are adopting hybrid and multi-cloud strategies to address regulatory and operational constraints, while newer entrants often adopt a cloud-first strategy. Generative AI is being applied to enhance existing processes and improve access to information, although automated decision-making is limited. Overall, AI adoption in financial services is progressing from experimentation toward more embedded and operationally significant roles within cloud environments.

ABOUT THE AUTHOR



Dr. Owen Rogers

Dr. Owen Rogers is Uptime Institute's Senior Research Director of Cloud Computing. Dr. Rogers has been analyzing the economics of cloud for over a decade as a chartered engineer, product manager and industry analyst. Rogers covers all areas of cloud, including AI, FinOps, sustainability, hybrid infrastructure and quantum computing.

orogers@uptimeinstitute.com

About Uptime Institute

Uptime Institute is the Global Digital Infrastructure Authority. Its Tier Standard is the IT industry's most trusted and adopted global standard for the proper design, construction, and operation of data centers – the backbone of the digital economy. For over 25 years, the company has served as the standard for data center reliability, sustainability, and efficiency, providing customers assurance that their digital infrastructure can perform at a level that is consistent with their business needs across a wide array of operating conditions.

With its data center Tier Standard & Certifications, Management & Operations reviews, broad range of related risk and performance assessments, and accredited educational curriculum completed by over 10,000 data center professionals, Uptime Institute has helped thousands of companies, in over 100 countries to optimize critical IT assets while managing costs, resources, and efficiency.