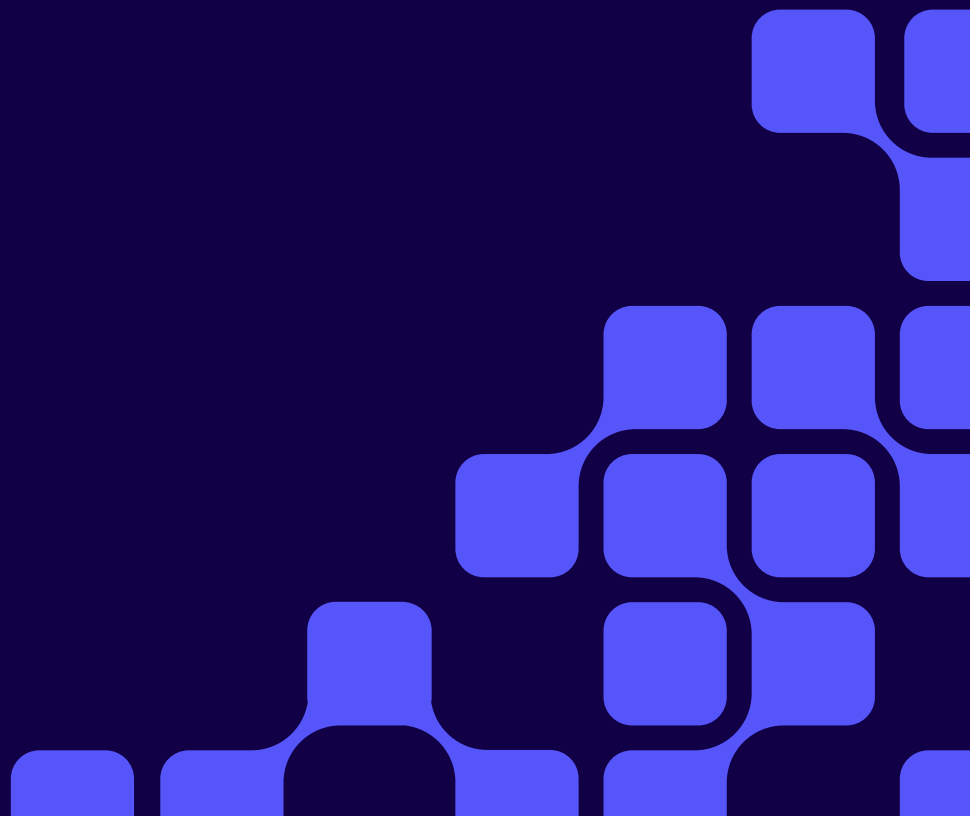# CLOUDERA
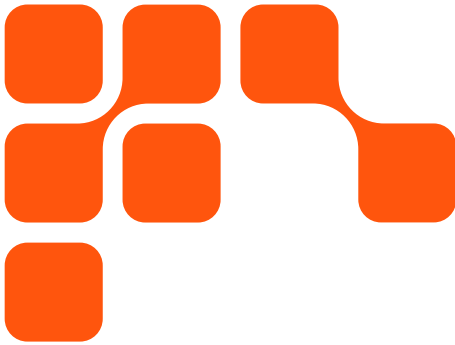
Accelerating Financial Services Innovation

Implementing an Open Data Lakehouse
for Financial Services Firms

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Transforming Financial Services with Data

Financial services firms are under significant competitive and regulatory pressure to transform.

From a competitive perspective, customers now demand data-driven and digital-first experiences that empower them to maximize the value of their assets while ensuring the security of their personal and financial information. In fact, customer experience ranks at or near the top of virtually every financial services executives' priority list. Firms that successfully meet customer expectations have an opportunity to onboard new customers, improve customer retention, and grow their share of wallet.

At the same time, financial services firms must keep pace with a rapidly evolving regulatory landscape. In the wake of the 2008 financial crisis, lines of business and their risk and compliance teams must manage and comply with regulations related to financial stability, anti-money laundering, data privacy, consumer protection, Environmental, Social, Governance (ERG), and more. Multinational financial institutions must adhere to hundreds of regulatory updates annually.

Central to successfully executing these and other business imperatives is a solid foundation of trusted data. By leveraging the growing volumes of data for analytic insights and AI, financial services firms can deliver a differentiated, personalized, and data-driven customer experience. This approach not only aids in protecting and growing their assets but also ensures that sensitive data remains safe and secure.

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Data Challenges for Financial Services Firms

Cloud technology has significantly transformed the financial services landscape. The advances in data and analytics technologies, including generative AI and event-based processing, have opened up new opportunities for the industry to generate insights from data and transform their business models. However, financial services organizations face several challenges that inhibit their ability to realize the full potential of their data. Top challenges include:

High Cloud Costs

Organizations that rush to adopt a cloud-only strategy will experience high operating costs due to increased consumption of cloud resources, especially for compute-intensive use cases like AI and ML model training and contextualization. For example, one of the largest European financial services institutions realized that their cloud infrastructure costs were 3 times higher than those with on premises solutions.

Incomplete Insights and Decision-Making

The current technology landscape consists of many cloud and on premises solutions that use proprietary data formats, creating data silos. This fragmentation leads to incomplete customer and business insights, resulting in poor decision-making based on partial information and multiple versions of the truth.

Lack of Real-Time Response Capabilities

Most data and analytics tools lack the capabilities to analyze and act on data at the moment when that data is captured or received. As a result, that limits the ability of organizations to instantly react to new situations or gain immediate insights into new market developments.

Keeping Up with Business Growth

Business growth increases the compute and storage resources required to process massive data volumes. Additionally, more data and analytics practitioners require access to data products and advanced analytics for decision-making. Many existing data and analytics solutions are unable to meet that demand due to technology limitations or complex architectures.

Delays in Delivering Analytics Solutions and Data Products

The complex, siloed architecture that stems from continued reliance on legacy data and analytics platforms often results in longer development cycles for data products and analytics applications. This reduces the value of the insights and makes it difficult to quickly respond to evolving customer needs.

Stringent Data Protection and Security Landscape

Financial services institutions face complex and varying requirements across regions around the protection of financial data. This poses a burden on IT teams to establish and implement a robust data governance policy and requires a flexible hosting strategy (e.g., store data on premises or in the cloud based on importance or risk tier).

These challenges can undermine the ability of firms to compete in the digital financial services landscape. For example, it is difficult to deliver a personalized experience across channels due to a fragmented architecture with lots of lakes and warehouses and point solutions across business units. Also, firms find it difficult to respond to changing market conditions and competitive pressures due to the delays introduced by the plethora of data silos. Many firms discover that an open data lakehouse approach helps address these challenges but offering a centralized data domain. This approach consolidates data from disparate systems and facilitates sharing that with advanced analytics solutions. In the next section, we'll take a closer look at the open data lakehouse and its role in this sector.

The Open Data Lakehouse

In the past, financial institutions used two separate approaches for their analytics needs: data warehouses and data lakes. Data warehouses are primarily designed to store and analyze structured data from business systems, and they are not very open or flexible. Data is often stored in proprietary formats and optimized for traditional data warehousing use cases like Business Intelligence (BI) and reporting using SQL. For different types of analytics, data teams need to copy data from the data warehouse to another system.

Data lakes, on the other hand, use a storage architecture that is open and horizontal by design. In addition to SQL analytics, data teams can run many frameworks such as AI, machine learning (ML), time series analytics, search analytics, etc. However, while data lakes solve a storage problem and support data science workloads, they fail to replace the data warehouse for enterprise-scale BI and reporting, and they lack some data management capabilities. As a result, most financial services firms maintain a complex architecture with multiple data lakes and warehouses, each supporting different analytic workloads.

Utilizing both approaches result in tandem in many inefficiencies. For example, since data lakes and data warehouses are isolated, multiple data copies are required for different types of analytics. Moving data between systems results in data staleness, as the data warehouse is almost always out of sync with the data lake, often leading to different answers to the same question. As data teams copy data between systems, that data undergoes different types of transformations such as ETL (Extract, Transform, & Load), ELT (Extract Load Transform), noETL (avoiding ETL altogether), and near real-time event-based processing that prepare data for different systems. Building and maintaining multiple data copies and ETL pipelines ultimately increases architectural complexity and Total Cost of Ownership (TCO), making it extremely difficult to scale and maintain.

A data lakehouse architecture overcomes these limitations by combining the best features of data lake and data warehouse architectures. This approach enables various types of analytics on a unified view of the data, supporting both data in motion (real-time and streaming) and data at rest (stored). As a result, data teams only need a single copy of the for different types of analytics. Tapping into the best of both data lakes and data warehouses requires the right technology partner to bring them together effectively.

Cloudera Open Data Lakehouse

Cloudera delivers a unique open data lakehouse architecture by enabling multi-function analytics on large datasets that support the end-to-end data lifecycle. Cloudera's open data lakehouse uses Apache Iceberg, an open table format purpose-built for analytics on massive datasets, to ensure the data is always open and interoperable with any execution engine, including outside the Cloudera platform. Cloudera is the only hybrid lakehouse with a consistent architectural pattern and unified security and gover-nance, so data teams can deploy and run analytic workloads on any cloud and on premises.

Cloudera's open data lakehouse provides the following capabilities:

- **Multi-function analytics:** Cloudera offers the most comprehensive toolbox for data processing and advanced analytics services, including Cloudera Data Flow for real-time streaming data ingestion, Cloudera Data Engineering for processing and preparing data, Cloudera Data Warehouse for advanced reporting and business intelligence, Cloudera AI for building, training, and deploying AI and ML models as well as generative AI applications, Cloudera Operational Database, a NoSQL database management system, and Cloudera Data Visualization for business users to discover and visualize their data.

- **Data Management:** Cloudera SDX delivers enterprise-grade centralized security, governance, metadata management, and lineage so all data users and applications can easily access data in a self-service and secure manner. SDX also captures operational, social, and business characteristics ensuring data access and usage is always authorized, tracked, and audited.

- **Open Table Format:** The Cloudera open data lakehouse leverages Apache Iceberg as an open table format for storing data. Iceberg supports easy data operations on the lakehouse with partition and schema evolution, and time travel for model reproducibility and mistake recovery. It also provides interoperability with a variety of execution engines and tools for working with data.

- **Cloud native deployment model:** Cloudera open data lakehouse can be deployed on any combination of clouds and on premises environments. That flexibility enables organizations to deploy analytics services based on TCO, data sovereignty, and data gravity, among other considerations. For example, bringing compute to where the data resides, as opposed to bringing data to compute, ensures the data remains secure and that the workload is able to operate in the environment it is most suited for.

In the following sections we'll learn how these differentiated capabilities deliver business value for five popular use cases in financial services.

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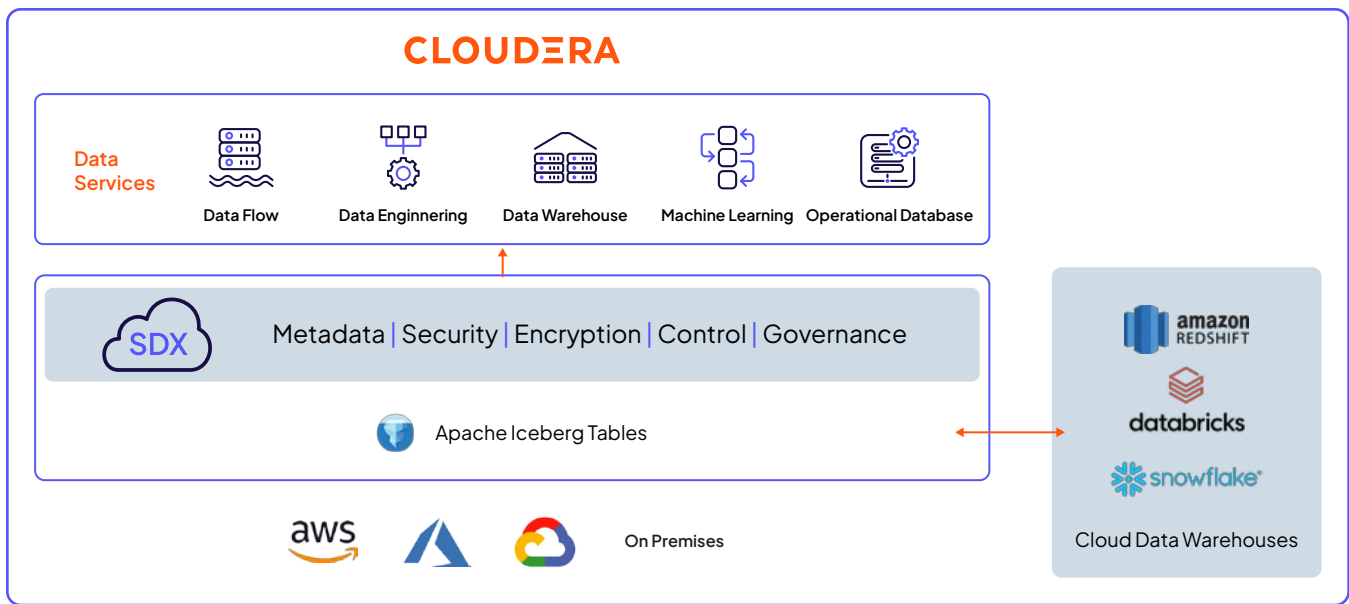
Use Cases in Financial Services

Regulatory Compliance

Financial services institutions must ensure compliance in a continuously changing regulatory landscape shaped by the industry structure and the geographies they operate in—whether that means navigating EU regulations like DORA, U.S. data regulations, or new international banking standards. Additionally, a series of geopolitical and market forces, including the recent banking failures of 14 US banking institutions in just the last five years, increased regulatory oversight and introduced new regulatory requirements.

Challenges

Multiple Data Silos in Reporting Architecture

Traditional reporting architectures are typically organized around specific business functions/activities, such as a dedicated data mart for a particular regulatory requirement, As a result,they don't offer an enterprise-wide view into major risk areas required for regulatory reporting. With data locked away in silos across an organization, gaining a unified view of risk factors becomes even more difficult. This siloed approach results in data quality and accuracy issues that hamper decision-making and reporting activities.

Increasing Volumes of Regulatory Data

Existing technology infrastructure cannot meet the increased demand for regulatory analytics such as statistical modeling for IFRS9 reporting or advanced calculations, including Default Risk Charge regressions, and scenario generation for Fundamental Review of the Trading Book (FRTB) reporting, among others. Most banks have to consolidate data from multiple data domains and submit reports to national and international regulatory authorities in a consistent manner. Scaling existing technologies on premises or moving them entirely to the cloud is often time-consuming and cost-prohibitive.

Shifts in the Regulatory Landscape and Supervisory Expectations

Globally, financial services institutions face more intense supervision and evolving regulatory requirements. For example, the Digital Operational Resilience Act (DORA) is a new EU legislation focused specifically on financial services organizations that requires strengthening data and analytics infrastructure within organizations. This regulation brings an emphasis on information and communication technology (ICT) risk management and elevates the potential consequences of a lapse in compliance or a major data breach.

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Solution

Open Table Format (Apache Iceberg)

Apache Iceberg streamlines changing and enriching complex data models for regulatory reporting, making it easy to adapt to new requirements and perform complex computations for risk models. For example, users can easily introduce or modify new attributes such as position and asset data to data models used for regulations such as FRTB, CCAR, BCBS93. Additionally, Iceberg enables auditability of historical data by giving data analysts a mechanism to reproduce a previous state of the data model to assess the impact of regulations or market scenarios.

Hybrid Cloud Platform

Cloudera's platform enables organizations to leverage cloud resources in addition to their on premises environments to execute regulatory analytics when on premises capacity is not sufficient. It enhances resiliency by offering an additional hosting environment to seamlessly run analytics applications in case of failure in an on premises only or cloud-only deployment, thus addressing DORA resiliency requirements.

Comprehensive Data Governance

Cloudera SDX provides comprehensive traceability capabilities through end-to-end data lineage to support auditability of risk assets and processes, addressing a key requirement of regulations such as BCBS93.

Business Outcomes

With Cloudera, financial services organizations can reduce the time needed to adapt to new regulatory requirements and complete compliance-related actions such as regulatory reporting and compliance audits. Developing an enterprise-wide view across all regulatory risk categories by breaking down data silos improves the quality, accuracy, and speed of regulatory operations. Next, let's examine a real-world example of these outcomes.

Kasikorn Bank (KBTG)

KBTG, the IT arm for Kasikornbank (KBank), a large banking group in Thailand with approximately 17 million customers, partnered with Cloudera to implement a modern platform for machine learning and analytics that helps improve customer service and fraud detection, and enables innovative services, such as automated lending. With automated lending, the bank can send a targeted loan offer to a customer's mobile app. Once the customer accepts the offer, new funds can be transferred into their account within minutes.

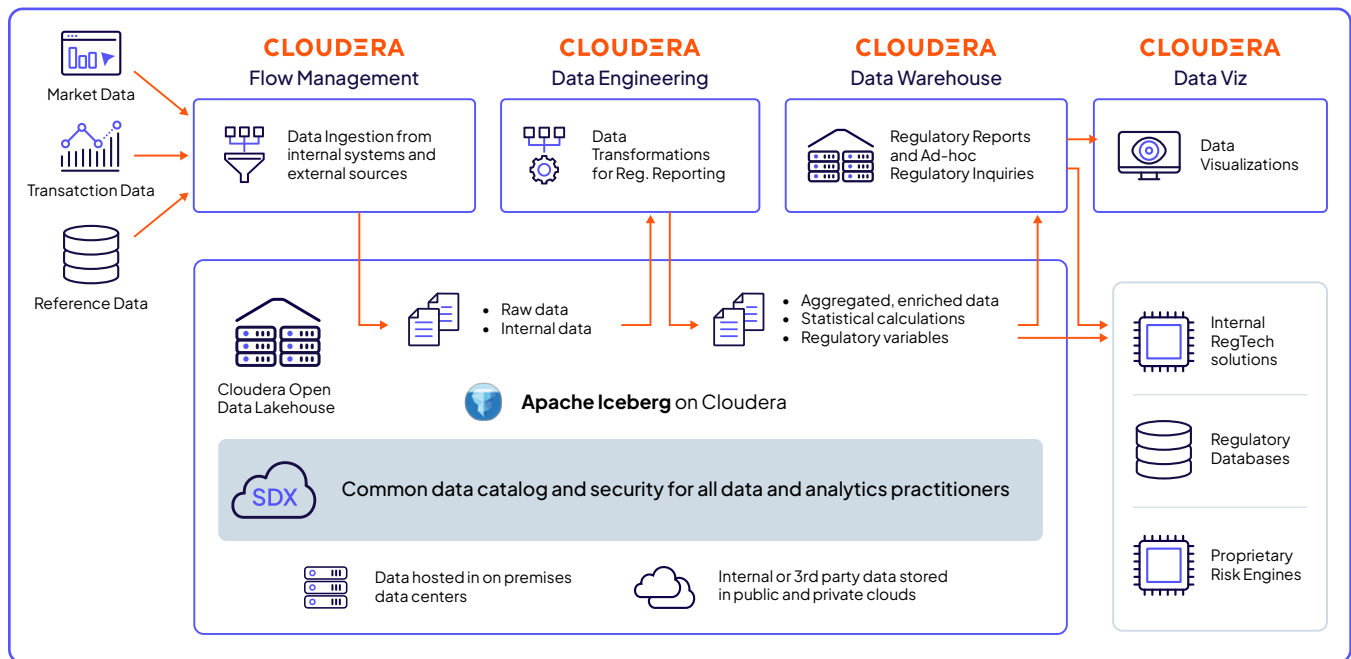> **Cloudera in Action:**
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> "
>
> **Thanks to the Cloudera platform, we can serve our customers much better and faster, we can respond to regulatory compliance much better and faster, and we can improve our fraud detection capabilities."**
>
> TUL ROTESEREE
> Deputy Managing Director, KBTG

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Implementing Regulatory Reporting with Cloudera

Financial Risk Management

Amidst an environment of geopolitical, macroeconomic, and environmental risks, financial services firms face a rapidly evolving risk landscape. To keep up with and stay ahead of new risks, firms are seeking new ways to manage their risk profile across all financial risk domains.

Challenges

Need for Real-Time Insights at Scale and Automated Decision-Making

To rapidly adapt to changing market conditions, organizations need real-time capabilities to perform risk-related operations such as portfolio margining, stress testing, and valuations. Increased adoption of data analytics applications poses new challenges in terms of scaling existing architectures that now need to deliver rapid insights against large volumes of incoming data.

New Data Sources are Needed to Enrich Existing Risk Methodologies

To improve effectiveness and increase coverage of risk models (e.g., credit underwriting), organizations leverage new alternative data sources that must be integrated into existing and complex data models. Evolving those data models is difficult due to the complexity of ETL / ELT operations and the large number of use cases that those models enable.

Proliferation of New Approaches for Financial Risk Management

As organizations utilize different ML approaches to improve the accuracy and speed of financial risk management, there is an increased operational burden on data science and data engineering teams to deliver innovative ML solutions and continuously improve the models as business requirements change.

Solution

Cloudera Data in Motion

Cloudera's data-in-motion stack offers capabilities for real-time data processing and analytics capabilities that reduce the latency of risk-related operations on incoming data. Additionally, it accelerates automated or human decision-making by enabling the execution of ML models in real time against streaming data.

Cloudera AI

Cloudera AI enables data practitioners to streamline data science and data engineering workflows, such as model development, experimentation, tracking, reproducibility, and sharing. As a result, it accelerates the journey to deploying AI and ML models in production.

Open Table Format (Apache Iceberg)

Apache Iceberg supports the management of complex data models by streamlining tasks such as adding or modifying risk attributes, new data sources, new categories of historical information, and optimizing the model as it changes in terms of size or complexity. Additionally, it provides a unified storage layer, consolidating data silos so data teams leverage a single version of the data for multiple workloads and use cases.

Business Outcomes

With Cloudera, financial services organizations can better manage their credit, liquidity, and market exposures. This results in improving the efficiency and effectiveness of their internal risk management models. For example, in credit underwriting, Cloudera enables organizations to increase the efficiency of the credit underwriting workflow, mitigate risks, and improve the quality of credit decisions. With that in mind, let's take a look at how one bank achieved these outcomes.

United Overseas Bank (UOB)

UOB implemented a data, analytics, and AI platform with Cloudera to transform its data management and analytics. This platform supports 400 users and delivers 150 monthly reports, leading to higher revenues and improved risk control. UOB's new deposit analytics solution, built on Cloudera, increased productivity by 20% and provided the bank with better tools to manage and analyze financial risk.

Cloudera in Action:

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With Cloudera's data lakehouse, we have managed to derive actionable insights that are used across the bank to translate data into real benefits for our customers. The analytics have positively impacted all facets of our business, from enhancing our digital customer touchpoints to compliance in regulatory aspects. We are looking forward to exploring other Cloudera solutions and services that can give us an edge in our cloud endeavors."

SUSAN HWEE
Head, Group Technology and Operations,
United Overseas Bank

Implementing Credit Underwriting with Cloudera

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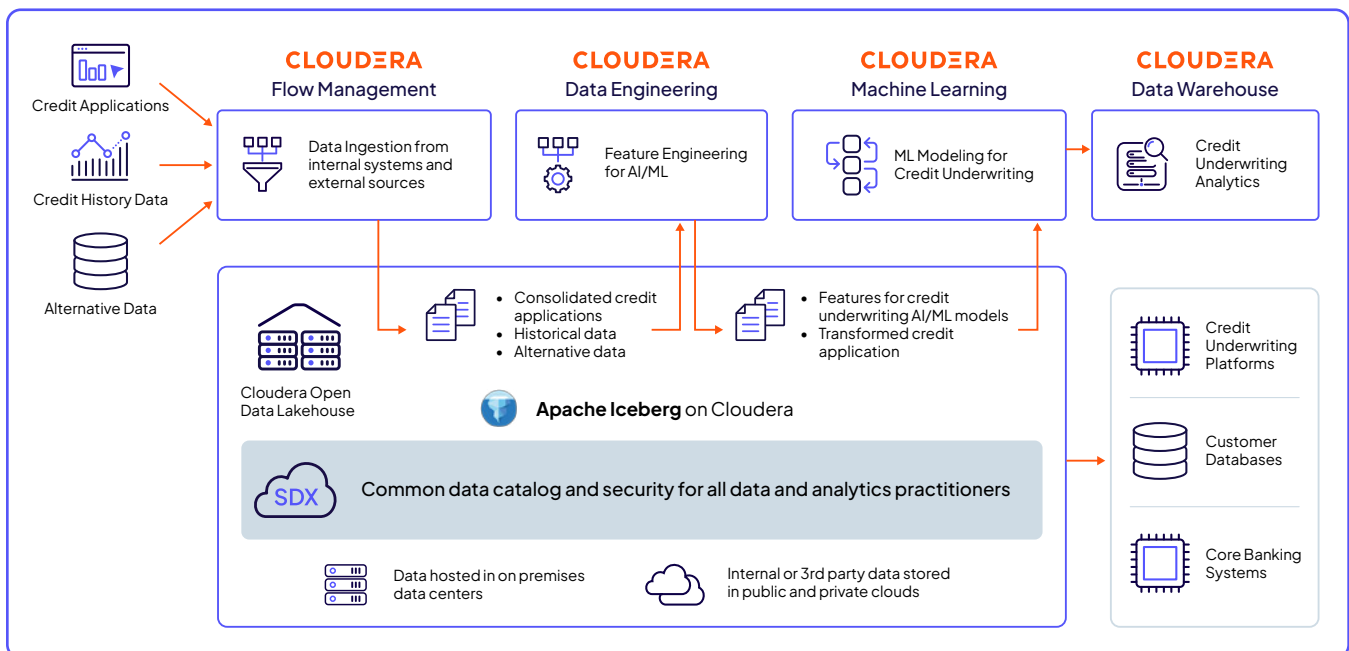
Customer Experience and Personalization

In a crowded and competitive market, financial services institutions aim to provide personalized customer experiences at every stage of the customer journey—from building awareness to increasing share of wallet by guiding the next best action. For example, targeted marketing campaigns result in higher customer acquisition rates, while personalized customer onboarding, in-product recommendations, user interfaces, and product features deliver a unique customer experience.

Challenges

A Multitude of External Data Sources

Delivering personalized experiences relies heavily on enriching internal data with data from external sources such as data connectivity platforms and third-party data providers. Those data sources differ in terms of data format, and frequency.

Hyper-Personalization at Scale

As companies move from micro-segmentation to hyper-personalization, they require more sophisticated analytical capabilities, including AI and ML models, to deliver truly personalized experiences in real time and at scale.

Adapting to Changing Needs and Trends

Due to an evolving competitive landscape and changing customer behaviors and preferences, companies need to continuously adapt their personalization algorithms and enrich their product and service offerings to maintain a competitive edge in the market.

Solution

Cloudera AI

Cloudera AI enables firms to scale AI initiatives and accelerate the delivery of new data products by streamlining data science workflows and fostering cross-functional collaboration. This collaboration helps fine-tune personalization algorithms for niche market segments. For example, data scientists can easily share and reproduce models and simplify the selection of model parameters with a model registry service that supports model versioning.

Open Table Format (Apache Iceberg)

Apache Iceberg streamlines changing and enriching complex data models to train models for personalized experiences. For example, users can easily onboard new data sources like behavioral and intent data to improve segmentation and recommendation methodologies. Additionally, Iceberg automates the management of growing data volumes with several built-in performance optimization capabilities.

Cloudera Data in Motion

The Cloudera data-in-motion suite of stream management and processing capabilities, powered by open-source projects including Apache Kafka, Apache Flink, and Apache NiFi, helps companies adapt to changing customer preferences in real time. For example, financial services firms can use data in motion to deliver real-time recommendations and targeted offers, and continuously update machine learning algorithms based on changing requirements and conditions.

Business Outcomes

With Cloudera, financial services companies can improve the success rate of digital advertising and marketing initiatives by delivering relevant product recommendations and targeted offers. Additionally, they can enhance their responsiveness to shifts in customer preferences and behaviors by accelerating the machine learning model development lifecycle and the rapid adaptation of machine learning models to new inputs. Now, let's dive into what these outcomes look like for Cloudera customers.

Bank Negara Indonesia

Bank Negara Indonesia (BNI) announced in June 2024 that it had chosen Cloudera to help leverage GenAI and boost customer experiences. Through this partnership, BNI is looking to harness the value of its enterprise data with the power of generative artificial intelligence (GenAI) to innovate and improve banking services through an elevated customer experience and increased operational efficiency.

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DBS Bank

DBS Bank is one of the leading banks in Asia. Their drive to deliver a superior customer experience led DBS to become more data-driven and better predict customer needs across channels. DBS Bank leveraged Cloudera to improve customer experience using advanced data analytics and machine learning. This allowed the bank to predict customer needs more accurately and deliver personalized services across multiple channels. This approach led to an 80% reduction in operating costs and significantly improved customer satisfaction.

OCBC Bank

This financial institution, mentioned in a previous chapter, also saw significant benefits to customer experience. By using Cloudera's AI and machine learning capabilities, OCBC was able to give customers personalized recommendations and insights through their mobile banking app. This resulted in 250 million insights being sent annually, helping customers manage their finances better and improving the bank's campaign conversion rates by up to two times.

Cloudera in Action:

"

Cloudera's Platform was instrumental in driving the success of our AI/ML capabilities by helping us to meet the evolving needs of those who bank with us. We are excited to work with Cloudera to make AI and data analytics more accessible to every person at OCBC Bank."

DONALD MACDONALD
Head of Group Data Office, OCBC Bank

Implementing Personalized Marketing Campaigns with Cloudera

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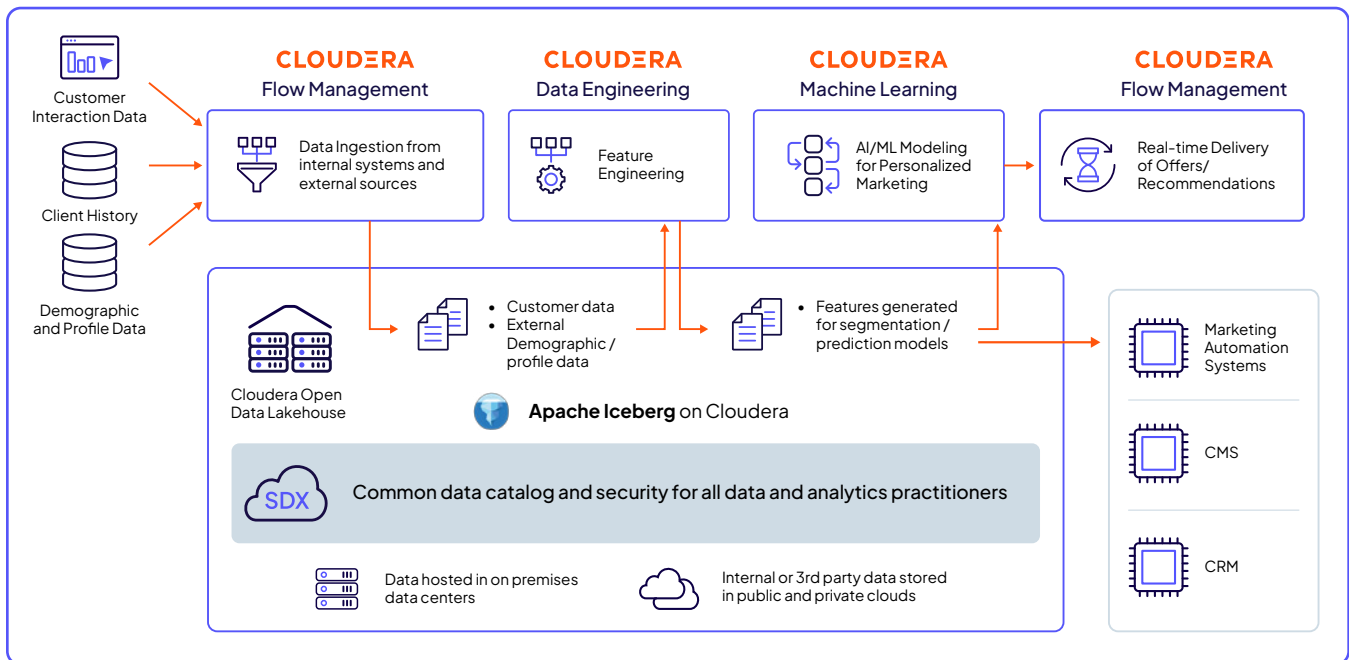
Open Banking

As digital banking and third-party financial service providers become more popular among clients, integration of banking information with those services will become a critical part of the customer experience. That poses challenges for enabling streamlined access to consumer banking information in a secure and governed manner.

Challenges

Multiple Heterogeneous Systems with Customer Data

Multiple third-party providers in the open banking ecosystem require varying degrees of access to different internal transactional systems with client information. Significant architectural complexity is required to enable those integrations and provide real-time API access.

Growing Data Volumes

As customer demand for open banking use cases grows and more customers find themselves using an external provider for different services, legacy data architectures cannot scale to address that demand without significant costs and complexities.

Complex Access Requirements for Customer Data

Sensitivity of customer data and the different levels of access required by a high number of integrating service providers make data authorization challenging, particularly when financial services institutions are trying to tackle that challenge with a fragmented, system-by-system architecture.

Solution

Open Table Format (Apache Iceberg)

Cloudera's open data lakehouse acts as the centralized repository of information for multiple downstream systems that provide data to third-party service providers. Additionally, Iceberg simplifies integrating, managing, and ultimately providing access to internal customer data, while table metadata makes it easy to identify, track, and protect sensitive information.

Performant Hybrid Compute and Storage Model

By providing flexibility in terms of deploying compute and storage resources to different environments, Cloudera enables organizations to meet growth needs on premises or in the cloud. As a result, companies can optimize costs by using the deployment environment with the lowest cost while adhering to regulatory requirements for Personally Identifiable Information (PII) and other sensitive data.

Shared Data Experience (SDX)

SDX serves as an overarching security mechanism that governs access to customer data exposed to third-party services. That mechanism offers fine-grained data authorization, data masking, and auditing capabilities to ensure compliance with customer and regulatory requirements.

Business Outcomes

With Cloudera, banks can improve customer experience by providing seamless connectivity with third-party financial services providers while mitigating the risks associated with unauthorized data access. Next, let's explore these outcomes in practice.

UnionBank

The organization needed to automate important manual processes to identify new prospects and meet customer needs faster. The bank also sought a way to maximize sales and engagement touchpoints. But to do so, UnionBank needed a deeper understanding of customer profiles. As such, they built the Data Vault platform—a centralized, organized, clean, governed, and easily accessible repository of quality data sources and assets. Using Cloudera technologies as a core foundation, the Data Vault enabled UnionBank's developers to create data-centric applications and solutions with quality and governed data assets by opening data management capabilities to application programming interfaces (APIs), business process automation (BPA), robotic process automation (RPA), and low-code development platforms.

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Axis Bank

Axis Bank is one of India's largest private-sector banks. The bank utilizes Cloudera on multiple clouds to process a large volume of personal loans and credit card applications through data-driven strategies. This implementation supports open banking by integrating various data sources to provide a seamless and efficient banking experience for customers.

Cloudera in Action:

"

Thanks to the Cloudera-powered Data Vault, we are confident of staying ahead of trends and discovering new opportunities to enrich the Philippines' banking and economic landscapes. With AI, UnionBank has the capabilities to apply hyper-personalization and even greater customization across all our products. We can also improve other operations such as loan approvals for our customers. With Cloudera at the core of our capabilities, we have built a solid IT foundation to move to the cloud and are currently exploring solutions such as Cloudera's platform."

DENNIS OMILA
Chief Information and Operations Officer, UnionBank.

Implementing Open Banking with Cloudera

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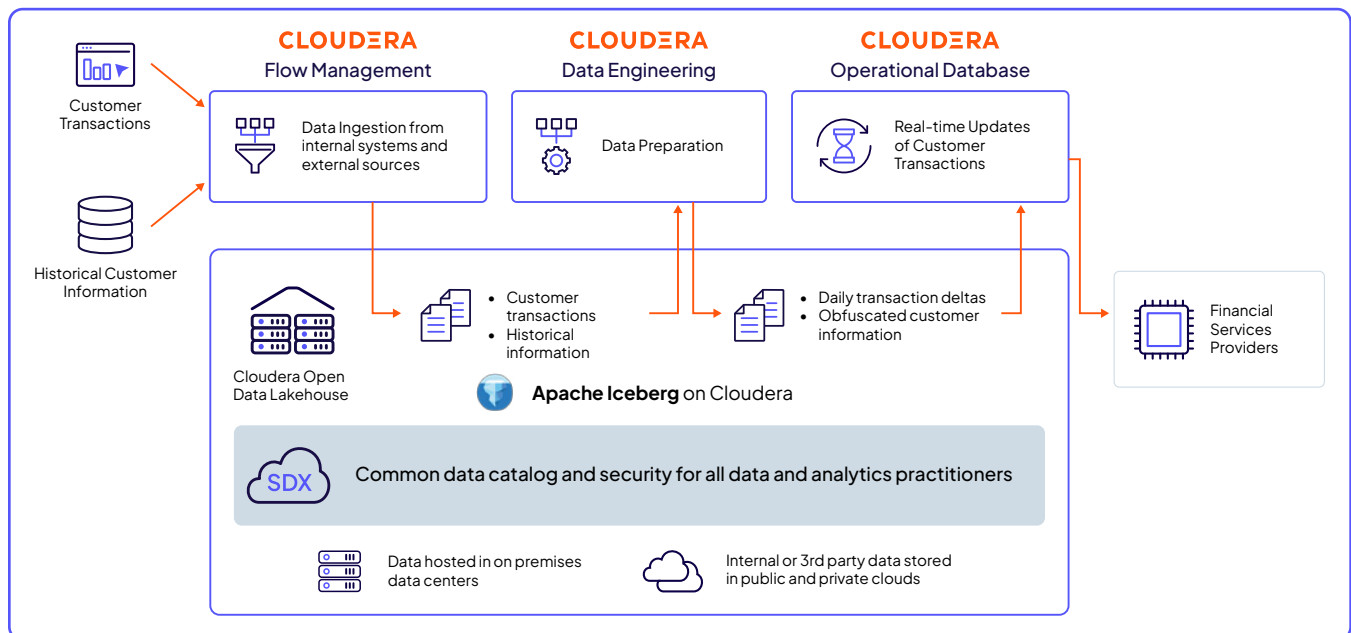
Fraud Prevention

Sophisticated fraud tactics, such as AI-generated fraud, money laundering, and account takeovers remain a top challenge for financial services institutions. As banks battle these diverse and evolving threats, each using the latest innovations in AI and ML, they must ensure their organizational defenses are keeping pace. It is paramount that banks deliver a frictionless customer experience while also protecting their customer assets from fraud threats and minimizing false positive threat detections that could disrupt access to banking services.

Challenges

Proliferation of Real-Time Fraud

Real-time fraud techniques are aimed at exploiting weaknesses in fraud prevention algorithms that lack distributed real-time processing capabilities. As an example, bad actors will apply for loans simultaneously in multiple regions to exploit varying conditions in loan approval engines, making it difficult for existing systems to monitor and identify their activity in time to stop them.

Fragmented Approaches Used for Different Types of Fraud

Despite the fact that use cases such as deposit fraud, credit card fraud, anti-money laundering, and more involve similar ML algorithms and data, organizations typically take a siloed approach. That results in fragmentation and inefficiency, as each approach uses partial information to predict fraud.

Increased Sophistication of Fraud

Bad actors continuously evolve their approaches through adversarial attacks that exploit the limitations that exist within fraud detection systems or through model decay. Many existing systems cannot identify new means of attack.

Solution

Cloudera Data in Motion

Cloudera data in motion provides the ability to efficiently ingest, process, and analyze data in real time with Apache NiFi, Apache Kafka, and Apache Flink. These capabilities help with processing logs from different sources in real time at unprecedented scale, filter real-time events used by downstream applications, and optimize costs of traditional security information and event management (SIEM) tools. As a result, financial services firms can build distributed, low-latency, real-time fraud detection systems that can proactively detect and respond to an event using predictive models.

Open Table Format (Apache Iceberg)

The open data lakehouse delivers a centralized storage solution that consolidates data domains used previously by different fraud use cases. As a result, it delivers a unified and comprehensive data model for all fraud prevention applications, integrating internal data sources with external information from data providers. Iceberg also streamlines performance management and the ongoing evolution of the data model by easily adding and modifying data sources and attributes.

Cloudera AI

Cloudera AI offers capabilities that streamline the machine learning lifecycle, such as model sharing and experimentation tracking, enabling teams to adapt to new attacks and types of fraud quickly. Data teams can easily modify and retrain models based on fresh data, so models can detect new fraud tactics and reduce the risk of false positives.

> **Cloudera in Action:**
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> "
>
> **Creating an analytics Center of Excellence, we've brought data into a centralized data lake, rolled out a data governance framework, applied machine learning and AI techniques, and, above all, adopted an end-to-end business approach that emphasizes value delivered by the products we create. The result has been trusted analytical solutions that help reduce risk, detect fraud, assist commercial relationship managers and private wealth advisors, and provide insights into consumers so we can better meet their needs."**
>
> MANAV MISRA
> Chief Data and Analytics Officer,
> Regions Financial Corporation

CLOUDERA

Implementing Credit Card Fraud Prevention with Cloudera
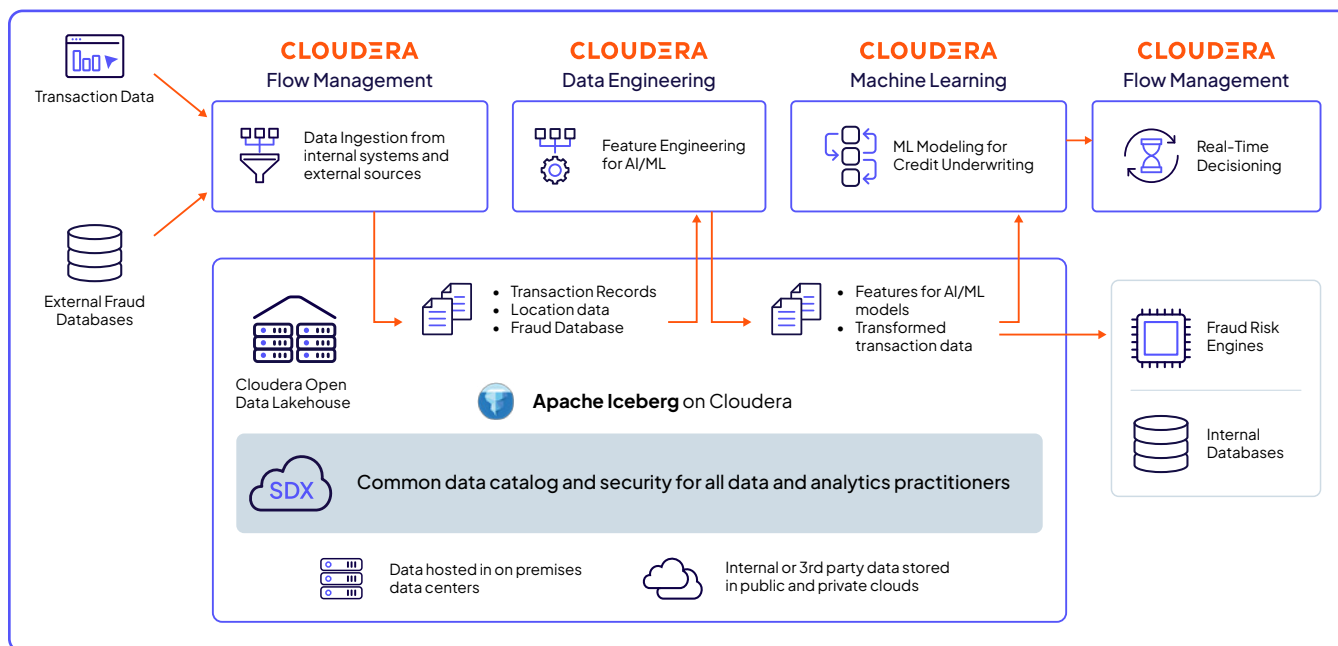
Business Impact

With Cloudera, banks can improve the effectiveness of their fraud prevention initiatives, making it easier to identify patterns and indicators of fraud within their data. As a result, these organizations can successfully reduce financial losses and reputational risks resulting from fraudulent action. Next, let's look at a few examples of this in practice.

Bank Leumi

Founded in 1902, Bank Leumi is Israel's leading bank, with more than 7,000 employees and over US $185 billion in assets. The bank adopted Cloudera Flow Management to modernize its data management amidst growing data flow challenges, especially highlighted during the COVID-19 pandemic with the need for secure remote work data management. Cloudera Flow Management, leveraging Apache NiFi, offered a scalable, low-code solution that drastically reduced data transfer times from days to hours, simplified connecting new data sources without extensive coding, and ensured data security. This technological upgrade has enabled the bank to innovate and expand its services more efficiently, with enhanced security and agility in managing data flows across various systems and environments.

Bank Danamon

Bank Danamon in Indonesia uses Cloudera for real-time customer marketing, fraud detection, and anti-money laundering (AML) activities. The platform integrates data from about 50 different systems and supports a range of applications, including a real-time recommendation engine and business intelligence. This implementation led to a 300% increase in customer conversion rates and a 30% reduction in fraud incidents, showcasing significant improvements in both fraud detection and customer engagement.

Kasikorn Bank

Kasikorn Bank in Thailand leverages Cloudera to enhance predictive analytics and machine learning for fraud detection. By integrating 35 years of data, the bank improved the accuracy of its fraud detection systems, reduced the number of false positives, and better pinpointed actual fraud cases. This approach helped Kasikorn Bank to more accurately assess credit risk and improve overall customer experience.

Regions Bank

Regions Financial Corporation serves customers across the South, Midwest, and Texas and, through its subsidiary Regions Bank, operates more than 1,300 banking offices and approximately 2,000 ATMs. The bank enhanced its customer experience and achieved significant savings by implementing a hybrid cloud data lake and machine learning models for fraud prevention. This approach led to a 95% improvement in fraud detection, a 30% decrease in false positives, and halved the daily dollar losses due to fraud, saving over $10 million annually in retention.

CLOUDERA

Go to the Next Level with Cloudera

Over the last decade, Cloudera has served more than 450 financial institutions globally across retail banking, capital markets, asset management, and market infrastructure companies, helping them deliver differentiated customer experiences, mitigate risk, and harness the power of their data to support their strategic objectives.

Cloudera's open data lakehouse builds on that foundation and represents a new paradigm in hybrid and multi-cloud data management and analytics. With these capabilities, Cloudera helps organizations become more agile and extract greater value from data, enabling new service models, and generating actionable insights from AI and ML use cases that improve operations and the customer experience.

With Cloudera's open data lakehouse, financial institutions can:

- Rapidly deploy analytics workloads in any cloud or on premises environment, getting cloud-like capabilities with the cost efficiencies and security of on premises infrastructure.

- Avoid vendor lock-in and achieve the flexibility needed to move data analytics workloads as conditions change, including across hybrid cloud and multi-cloud environments.

- Retain complete visibility and control over their data with unified security and governance and robust compliance capabilities built for the needs of the financial services industry.

Learn more about the Cloudera open data lakehouse and how financial services firms leverage this architecture to deliver greater value to their customers and improve operations.

Cloudera in Action:

"

Creating an analytics Center of Excellence, we've brought data into a centralized data lake, rolled out a data governance framework, applied machine learning and AI techniques, and, above all, adopted an end-to-end business approach that emphasizes value delivered by the products we create. The result has been trusted analytical solutions that help reduce risk, detect fraud, assist commercial relationship managers and private wealth advisors, and provide insights into consumers so we can better meet their needs."

MANAV MISRA
Chief Data and Analytics Officer,
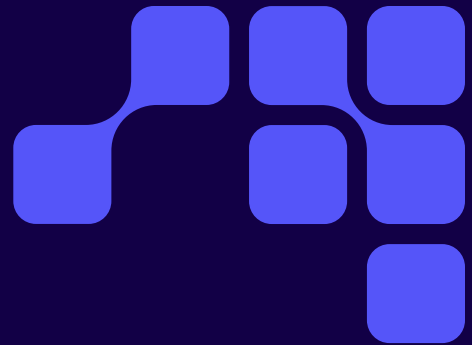Regions Financial Corporation

Cloudera has deep expertise in the financial services sector, with 82% of the largest global banks, four of the top five stock exchanges, eight out of the top ten wealth management firms, and all four of the top credit card companies among its customers.

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About Cloudera

Cloudera is the only true hybrid platform for data, analytics, and AI. With 100× more data under management than other cloud-only vendors, Cloudera empowers global enterprises to transform data of all types, on any public or private cloud, into valuable, trusted insights. Our open data lakehouse delivers scalable and secure data management with portable cloud-native analytics, enabling customers to bring GenAI models to their data while maintaining privacy and ensuring responsible, reliable AI deployments. The world's largest brands in financial services, insurance, media, manufacturing, and government rely on Cloudera to be able to use their data to solve the impossible — today and in the future.

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