

# Scaling AI with data platform modernization

*Enjoy the benefits of AI and cloud-native technology with existing IT infrastructure*



## THE BUSINESS PROBLEM

### Legacy data platforms thwart analytics progress

Business leaders often say they want their organizations to become insights-driven, when in fact their success may soon require it. Where many of these leaders fall short is in the gap between their vision and their IT infrastructures. The modern analytics systems from which insights might be derived require significantly greater storage and computational capacity than the traditional, on-premises data platforms many companies currently function on. These legacy platforms simply weren't built to accommodate the scale and complexity a modern digital enterprise needs to grow; today's advanced analytics and artificial intelligence (AI) capabilities—with their mix of structured and unstructured data—require equally advanced data platforms to support those efforts.

***Data platforms hosted on a public cloud, and their associated capabilities, provide an answer.***

On-premises solutions don't just hinder implementation of advanced analytics; they're also inelastic and expensive to maintain. But most pressing, they're reaching end of life with many organizations anticipating their current data processing platforms—like HortonWorks (HDP), Cloudera (CDH), Teradata and Netezza—becoming unsupported in the coming year.

While both technology forces and business cases support migrating to a cloud-native data platform, such migrations can be daunting. The phrase “legacy technology,” when unpacked, usually includes the organizational complexity that's evolved to support it, as well as the debt taken on to deploy it. This is why fully-laden migration costs—both operational and financial—are often non-starters for business leaders.

***Fortunately, this is where Deloitte and Google Cloud can help.***

*The key components of a modern, cloud-based data platform*



**SCALABILITY**



**ELASTIC CONSUMPTION**



**LOWER TOTAL COST OF OWNERSHIP**

## THE DELOITTE AND GOOGLE CLOUD ADVANTAGE

### Migration that maximizes ROI

Together, Deloitte and Google Cloud can help migrate organizations to modern data platforms while also maximizing their existing IT infrastructure investments. Deloitte's bench of 27,000 global analytics and AI practitioners support clients with approaches to migrations that go beyond standard “lifts and shifts”; Google Cloud then enables the use of that infrastructure to access data from disparate silos and accelerate analytics capabilities. The result? A modern data platform with limited upfront costs and lower total cost of ownership (TCO) than on-premises platforms—yet with all the cloud-native capabilities necessary to thrive in the marketplace.



#### *Appliance offload*

In today's digital world, organizations need the ability to scale, handle a variety of data, implement confidential computing and reduce TCO. By leveraging Google Cloud's [DataFlow](#)<sup>1</sup>, [Data Fusion](#)<sup>1</sup>, and [BigQuery](#)<sup>1</sup>, Deloitte helps our joint clients modernize their Massively Parallel Processing (MPP) appliances to the cloud and enhance their data-enabled, cloud-centric analytics capabilities.



#### *Hadoop migration*

As organizations prepare for their current data processing platforms to become unsupported in the coming year, they are searching for an opportunity to modernize to a cloud-native platform. Deloitte uses Google Cloud's big data platform [DataProc](#)<sup>1</sup> to help deploy and scale clients' Hadoop clusters for more efficient batch data processing, querying, streaming and machine-learning derived insights.

## Success stories spanning industries

By bringing data from various enterprise applications and databases under one umbrella in the public cloud, clients can enjoy the benefits of Google Cloud's suite of fully-managed, serverless tools—including [BigQuery](#)<sup>1</sup>, [Looker](#)<sup>1</sup>, and [Stream Analytics](#)<sup>1</sup>—to unlock insights.



### Migration without disruption

#### ISSUE

A large FinTech conglomerate was facing new business challenges and wanted to modernize their Hadoop and Teradata ecosystem in order to increase service speed and reliability, as well as accelerate time-to-market for new product features. But they felt the ecosystem's complexity prevented a migration—even as maintenance and scaling costs increased.

#### STRATEGY

Deloitte created a multi-year migration strategy for appliance modernization that both prioritized critical workloads and minimized user disruption, then worked with Google Cloud to build the Teradata and Hadoop migration utilities, automations, and testing utilities necessary to rapidly scale the migration. Once the migration was underway, an Organizational Change Management (OCM) strategy was created to support the adoption of Google Cloud by 4,000+ analysts and power users.

#### IMPACT

The migration enabled the client to move their critical workloads to the cloud and scale their infrastructure to meet the booming customer demand during the peak holiday season.



### Shortening delivery time frames for customers

#### ISSUE

One of the world's largest global logistics and delivery providers wanted to provide estimated delivery dates and times to customers through a data hub informed by advanced data mining, visualization, and modeling.

#### STRATEGY

Deloitte created data ingestion templates for moving data from disparate sources into Google Cloud for analysis and modeling, and developed sample data mining notebooks with new approaches to modeling estimated delivery dates and times in a reusable process. Migrating to the cloud enabled supported scalable data ingestion, production-ready model deployment, version control environments (GIT), and a containerized modeling services framework.

#### IMPACT

The new machine learning models take less than a minute to run and are more accurate than legacy models in predicting delivery times within six hours.

## Helping match costs and value

Consumption-based pricing and increased data platform efficiency can potentially lower TCO in the cloud and help generate savings that can be invested in new analytics capabilities.



UP TO **60%**  
reduction in administration  
efforts and costs



MORE THAN **50%**  
reduction in storage costs



MORE THAN **30%**  
improvement in query  
performance improvements

## Accelerating migration

Deloitte's automation-led approach helps shorten time to data modernization value.



### STRATEGIZE AND PLAN

Assess current state to prioritize migrations and develop future state architecture



### REHOST AND OPTIMIZE

Migrate legacy appliances and improve application design with cloud-native capabilities to support new use cases and business units



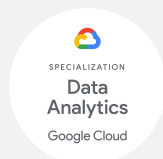
### MACHINE LEARNING (ML) AND AI

Implement services that catalyze growth and engage stakeholders using machine learning and AI platforms



### DATA AND ANALYTICS OPERATIONS

Support end-to-end data life cycle monitoring, processing and operational support across applications, data assets, and platforms



### Google Cloud Specializations

A Google Cloud Specialization indicates the strongest signal of proficiency and experience with Google Cloud. Deloitte has been awarded with a Data Analytics Specialization for demonstrating success turning large amounts of data into actionable insights, and a Data Management specialization for success with the data management of workloads from on-premises, private or other public clouds.

### WHERE TO BEGIN

## Modernize your data migration

If you know it's time to modernize your data platform but don't know where to begin, Deloitte is well-positioned to not only enable a move to cloud-native but help minimize risks and maximize results in the process.

Our automation-led approach will focus on establishing the data foundation on the cloud through data and analytics modernizations, delivering advanced analytics capabilities through ML operations implementation, and providing ongoing support for end-to-end operations on the platform through DataOps. We employ proven programmatic methods at each phase of implementation as a first step to help minimize the risk of human error and accelerate delivery.

## Get in touch

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