



Cloud Data Migration

Migrate data to cloud @ scale while retiring technical debt

Executive summary

As data becomes more and more important to modern business, enterprises recognize that the effective and responsible use of data at scale determines a company's present and future success.

Cloud has become a key component of managing data capital at scale. But most valuable enterprise data is currently locked-in legacy data warehouses and data lakes in on-premise data centers. By migrating their data platforms to the cloud, enterprises can not only remove their data center constraints and lower their data management costs, but also dramatically increase the value they get from their data itself.

To successfully migrate to cloud, a partner is needed that provides deep industry expertise, comprehensive technology solutions and an industrialized end-to-end approach that accelerates value and enables data-driven business reinvention.

Get more from cloud, faster.

Data is a new form of capital¹ at the heart of everything an enterprise aspires to do—from innovative new business models, to more efficient operations, to deeper partnerships with its ecosystem.

Companies have invested heavily in on-premise data landscapes

Over the past ten years, there has been tremendous growth in enterprise data acquisition, storage, management, and consumption. Leading companies in all industries have sought to solve business problems and unlock enterprise value with data and analytics.

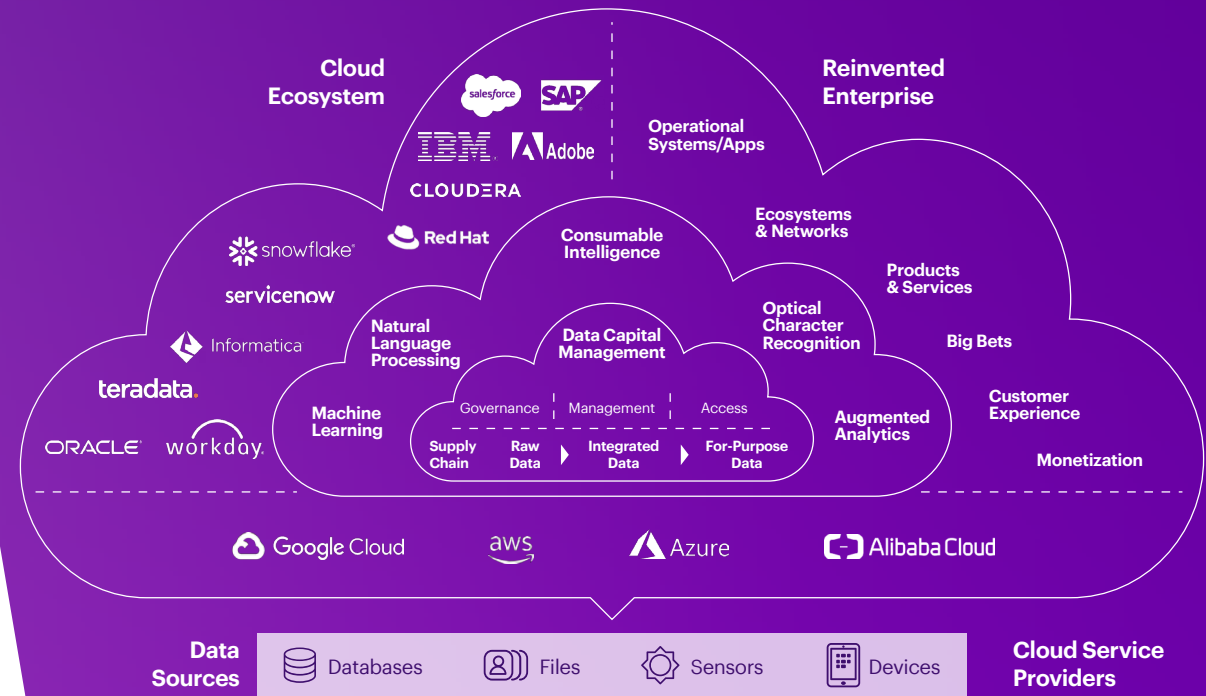
These companies have built out massive data landscapes on-premise in order to make data available for so many business users and use cases. On-premise Data Lakes built on Cloudera and Hortonworks technology (now merged) have been populated for Data Scientists and Data Analysts. On-premise Data Warehouses built on technologies like Teradata, Netezza, and Exadata have been structured to enable efficient consumption of analytics and insights by business analysts and business leads. And on-premise relational databases built on technologies including Oracle and DB2 have served to structure and join data sets for a variety of reasons within the overall enterprise data landscape.

Today, many companies are running into issues with these large on-premise installations. Some organizations are facing performance and capacity issues that require expensive hardware to scale at the rate of enterprise data growth. Some are unable to effectively incorporate new types of data sources (e.g. unstructured, streaming) and workloads (e.g. AI/ML). Most consider their on-premise licensing costs and total cost of ownership to be too high. And all are watching the meteoric rise of the public cloud, with most building out new strategic data assets on the cloud even while their center of data gravity is on-premise.

Data on cloud represents a critical pivot to the future





As cloud capabilities and adoption continue to increase, becoming a cloud-first organization has shifted from a future aspiration to an urgent mandate for today. And given the explosion in the volume and strategic importance of data available to the enterprise, data on cloud is a critical part of that mandate.

In particular, for enterprises that have already invested in large on-premises data platforms, cloud offers the prospect of scale, agility, significantly lower costs, and the ability to extract even more value. This can be seen most clearly by looking at four key drivers of a cloud data migration: infrastructure, skills, architecture, and technology.



*Not all providers shown

Get your data on cloud faster, more cost effective and with reduced risk.

From on premises...	→	...to the cloud
 <p>Infrastructure is fixed and depreciating.</p>	→	Infrastructure is elastic and available on demand . That means faster data query performance, reduced future infrastructure investments, greater business agility, and overall lower total cost of ownership.
 <p>Data center maintenance skills are your responsibility.</p>	→	Maintenance skills are no longer necessary as data center management is provided by the cloud provider. That means you can concentrate your investments in more strategic, value-generating skillsets—people who can analyze and get insights from data, not just maintain it.
 <p>Data architecture typically comprises disparate point solutions accreted over years or decades.</p>	→	A cloud migration is an opportunity to hit refresh, creating an end-to-end strategic architecture . That means you can manage your data strategically while optimizing data management costs. You can also increase business reusability dramatically by breaking down legacy data siloes and converging your multiple data platforms into one.
 <p>Data technologies are increasingly outdated, incurring ever greater technical debt.</p>	→	You benefit from an ecosystem of cloud first, continuously updated technologies . That means you can start building your future target technology state today, rationalizing your expenditure by shifting away from legacy to cloud solutions that support your future business capabilities.

In fact, in Accenture's experience, cloud can yield between 20 and 35 percent in cost savings from servers, facilities and labor alone.

Migrating to the cloud is complex...

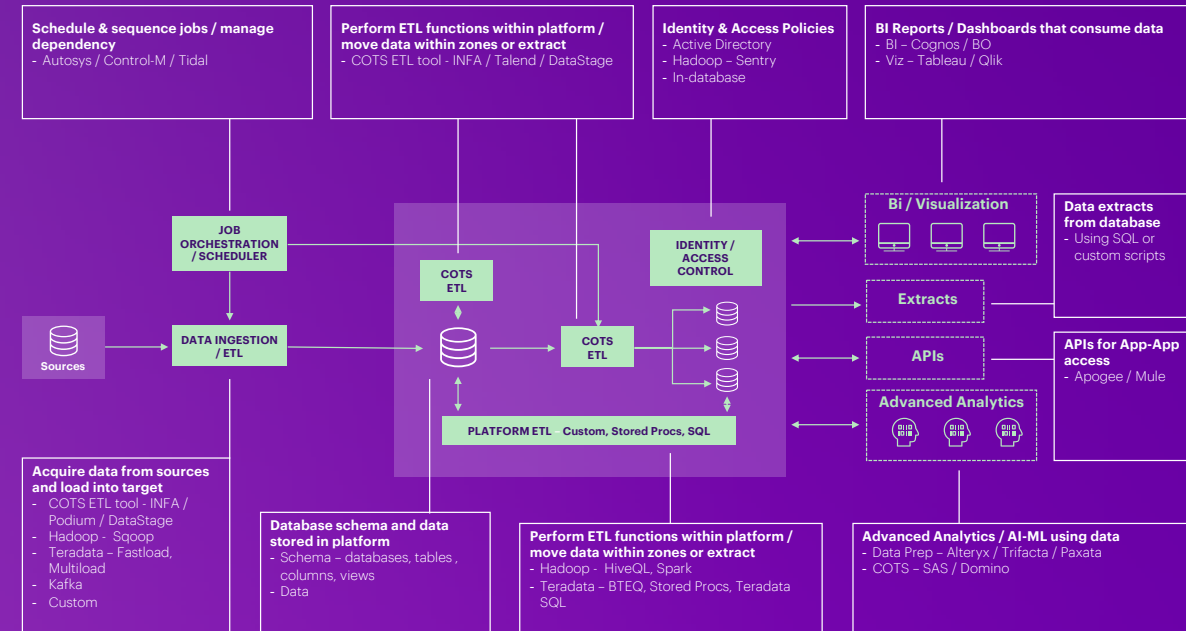
To any business getting started, a cloud migration can appear daunting. That's understandable: years of legacy code exists in the data platforms. There are numerous cloud platforms and cloud first services to choose from—both from cloud providers themselves and from third parties like Teradata, Snowflake and Cloudera. What's more, new services are constantly being released to the market.

The key to managing this complexity and accelerating a migration?

Have an end-to-end approach that ensures you plan your migration effectively first and then use the right delivery methods and automation tools to reduce cost and risk of execution @ scale.

...Get your data to cloud faster.

Anatomy of a data platform



Accenture's Data Migration to Cloud Methodology

Discovery: Migration Strategy & Planning

- 1. Business case.** Build the strongest case for your move to the cloud, developing a clear understanding of the financial implications of your multi-million-dollar data migration. How much will it cost in the cloud? What are my migration costs? What will be my dual run costs?
- 2. Discovery.** What data sources do you have now? How frequently are they used? How is ETL used through the data platform? What are your consumption points and feeds? How are they related? What are the dependencies?
- 3. Migration approach.** How will you migrate your data platform? Lift and Shift what you have in the data center? Re-platform technologies? Modernize the architecture post migration? How do current capabilities map to those in cloud?
- 4. Technology and architecture.** Set a target state, plus an interim transition state, understanding all the moving parts—and how consumption will change—throughout the transition. What cloud services will be needed?
- 5. Migration plan and roadmap.** Feed all the analysis into a detailed migration plan and roadmap. How long will it take to migrate? What will be the sequence of waves? Will we do it by line of business or data domains?
- 6. Proofs of concepts.** Build, test, and iterate components like target state data warehouses or accelerator tools before deploying at scale.

Conversion & Validation: Data Migration @ Scale

- 1. Transformation office.** Establish a transformation office, if needed, and set its budget and governance arrangements.
- 2. Platform standup.** Stand up the target state cloud data platform, including its security configuration.
- 3. Migration execution.** Migrate data, code and consumption over a series of waves in accordance with the plan and roadmap.
- 4. Change management.** Manage the necessary cultural and behavioral change effectively with a communications plan and marketing campaigns.
- 5. Talent and skills.** Identify skillsets for the cloud, upskilling workers or creating new roles as needed.
- 6. Operating model.** Define the cloud-first data operating model, plus ways of working for the duration of the transition.
- 7. Data governance.** Create and operationalize a new data governance framework for the cloud.
- 8. Decommissioning.** Ensure obsolete data platforms and assets are decommissioned to release funds and maximize the value of the migration.

Human + Machine: Data migration automation tools reduce migration time and cost

Enterprises must heavily leverage automation in order to reduce the time, cost and risk of data migrations. This includes automation solutions across the phases of Discovery, Conversion, and Validation:



Discover

Discovery automation performs in-depth analysis of on-premise database objects, lineage and dependency, and BI & Analytics with interactive dashboards providing details needed for the migration roadmap (e.g. data temperature, dependencies).



Convert

Conversion brings automation to the largest effort area of the migrations. For a given set of sources and targets, it can help optimize migration strategy and data, code, and consumption migration and conversion at scale.



Validate

Validation automation helps with the data migration last-mile. It can help to automate data reconciliation, testing and validation post-migration.



From opportunity to operations

An end-to-end offering means you are uniquely positioned to support a data platform migration at any point along the journey. A trusted partner can support from the initial business case to proof of concept and from the migration itself or to running day-to-day operations in the cloud.



**Cloud migration
business case**



**Tech POCs /
evaluations**



**Cloud migration
planning**



**Cloud migration
execution**



**Cloud platform
operations**

Deep experience is needed to support large enterprises in their data platform migrations to predict and mitigate many of the delivery risks:

- **Realize value early and often.** Use ideation and co-creation teams to quickly develop use cases, freeing the core team to focus on getting early value from the migration.
- **Focus on decommissioning.** Use change management to support the business in a quick transition to new cloud platforms, enabling the early decommissioning of legacy technologies.
- **Get stakeholders involved.** Ensure business leaders and data users across the organization receive clear communication and are aligned with the migration.
- **Build skills in the cloud.** Integrate data users into the process, encouraging them to gain the new skills they'll need in the cloud, ensuring a seamless transition.
- **Integrate security and data privacy from the start.** Build access and control policies into the technical design, considering what controls and permissions will be maintained from the current platform.
- **Minimize disruption to the business.** Phase the migration to ensure minimal disturbance to data users, focusing on moving common datasets and processes together.

Kick start a data-driven reinvention in the cloud

Cloud enables organizations to break free from the constraints of on-premises data storage and compute. Its cost-effectiveness and flexibility, combined with its scalability and innovation potential, mean you can optimize your data platform far more effectively while simultaneously opening up the possibility of new data-driven business models and revenue streams.

Today, Cloud is an essential part of managing data as strategic capital. Every cloud-first enterprise should now be looking to migrate its data platforms to the cloud—and fuel a data-driven reinvention of its business.

Sources

1. Accenture, July 2020, *Data is the New Capital*, www.accenture.com/us-en/insights/technology/data-new-capital

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