3 steps to maximize data innovation with a lake-centric modernization approach

Unlock the full potential of your data to power innovation at scale

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Introduction

Data and analytics technologies are rapidly evolving, especially as demand for artificial intelligence (AI) and machine learning (ML) capabilities mature. All the while, many businesses are still grappling with a disjointed web of platform and data solutions acquired over time. This mounting and significant technical debt results in ongoing data management challenges. To harness the full potential of their data and accelerate time to value, organizations need to modernize their data estate by consolidating tech debt into a lake-centric approach.

The most successful companies streamline collaboration across teams, uncover insights, and fuel AI-powered innovation by adopting a lake-centric approach. By consolidating, integrating, and modernizing an estate into a central cloud-based lake, they not only manage uncontrolled data growth and storage costs but also enable data to scale with the business, maximizing innovation and gaining a critical competitive edge.

This ebook explores three key steps to modernize the data environment with a lake-centric solution for faster innovation, smarter scaling, and better governance.

3 steps to maximize data innovation:

1. Create a modernization strategy
2. Understand the benefits and limitations of cloud-based data lakes
3. Embrace a lake-centric modernization approach

Create a modernization strategy

As businesses evolve and adopt new technology, enterprises often find themselves with many siloed systems, whether on premises or in the cloud. Maintaining multiple systems based on varying technologies presents hurdles to innovation and governance. Often, these technologies were acquired to support different business needs and were stood up in the form of data warehouses and data marts. However, maintaining and replicating data across them requires considerable infrastructure and maintenance resources, hampering the ability to scale and impeding user access to data.

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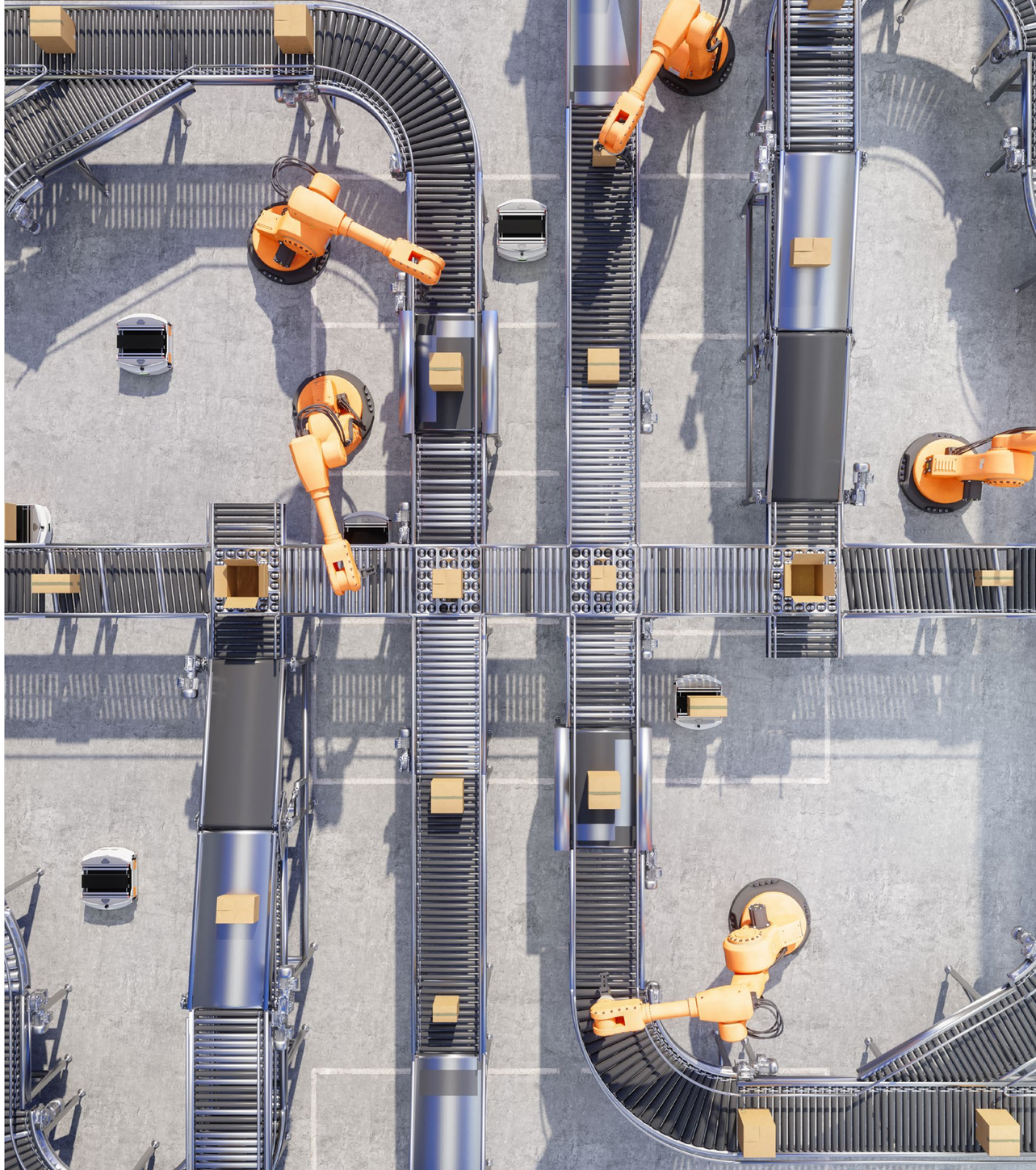
Also, with the explosion of AI/ML, companies everywhere are trying to harness new technology and innovate with their existing data. This adds even more complexity and possibilities for data replication and coordination across siloed systems.

Organizations should assess their data estates—their holistic ecosystems of platforms and applications—to determine which systems would benefit from a refreshed consolidation approach that prioritizes AI/ML, optimizes existing applications, and addresses data challenges.

Leading organizations are increasingly replacing legacy platforms with more agile, lake-centric solutions, combining cost-effective data management and storage with powerful analytics capabilities.



Understand the benefits and limitations of cloud-based data lakes

Accessibility to consistent data is the key to maximizing business value. Users throughout an organization need to be able to seamlessly tap into their data and analyze it to uncover innovations and positive business outcomes. That's especially true in the current AI-driven era, which requires vast amounts of data. But data stored across multiple, siloed systems can be inconsistent, impede innovation, and significantly increase costs. Cloud-based data lakes can be the first step in addressing these issues.

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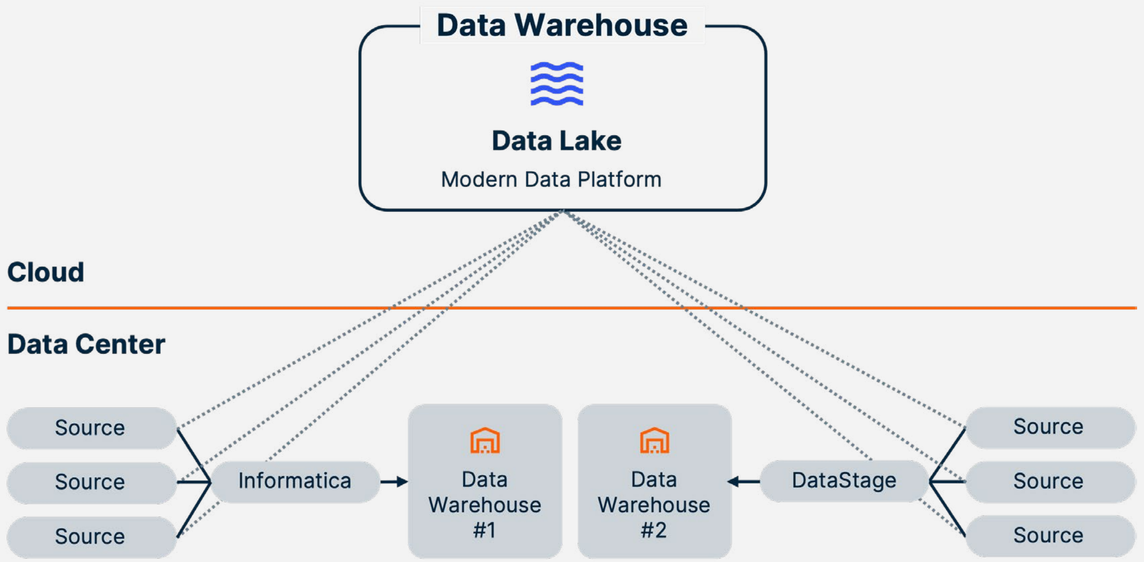
Data lakes

A data lake can cost-effectively store any form of raw data. While traditional systems like data warehouses require data to be structured before intake, data lakes can store both structured and unstructured data—including text, images, videos, and more. The drawback: Without proper curation, data lakes become increasingly difficult for end users to leverage. Accessing raw data without organization can create problems, and adding new data can lead to uncontrolled data growth.

A lake-centric approach

A lake-centric approach combines the benefits of a data lake with deep analytics functionality—all in a single cloud-based platform. With a lake-centric approach, organizations can get the benefits of data storage at reduced costs while curating data for analysis and integrating it for easier access. This approach also allows businesses to scale and optimize compute resources independently while taking advantage of curated data. The result is a more streamlined data architecture that eliminates bottlenecks and facilitates more effective data analysis.



Embrace a lake-centric modernization approach

A lake-centric modernization approach leverages a cloud-native architecture to store raw data, enable curation, and connect powerful analytics functionality. Its separate compute and storage design means every part of a business can independently run analytics projects on demand—all while sharing data in cost-effective object storage. It also eliminates tech debt, facilitates new data source integration, and enables deep analysis, regardless of the data type. This solution consolidates data, compute, and technologies with a modernized lake-centric approach that can uniquely execute various analytic workloads.

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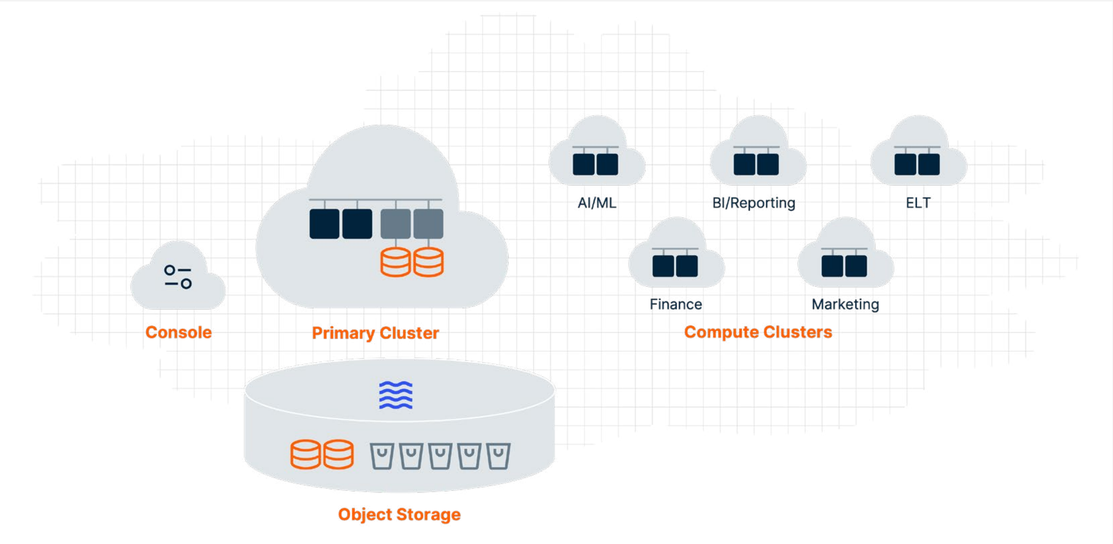
Key benefits of a lake-centric approach

- **Flexibility.** Quickly adapt to changing data requirements and easily incorporate new types of data with the ability to store raw, unstructured data.
- **Scalability.** Cost-effectively manage and analyze increasing amounts of information as your needs expand.
- **Advanced analytics.** Easily integrate with processing technologies to facilitate advanced analytics, so you can quickly unlock meaningful insights, identify data patterns, and make data-driven decisions.



Collaboration

Improve collaboration and knowledge-sharing among various roles within your organization—including data scientists, analysts, and business users—with the ability to seamlessly access and analyze your data.

Innovation

Experiment and innovate with new data sources, analytics models, and approaches without the constraints imposed by a rigid schema.

Competitive advantage

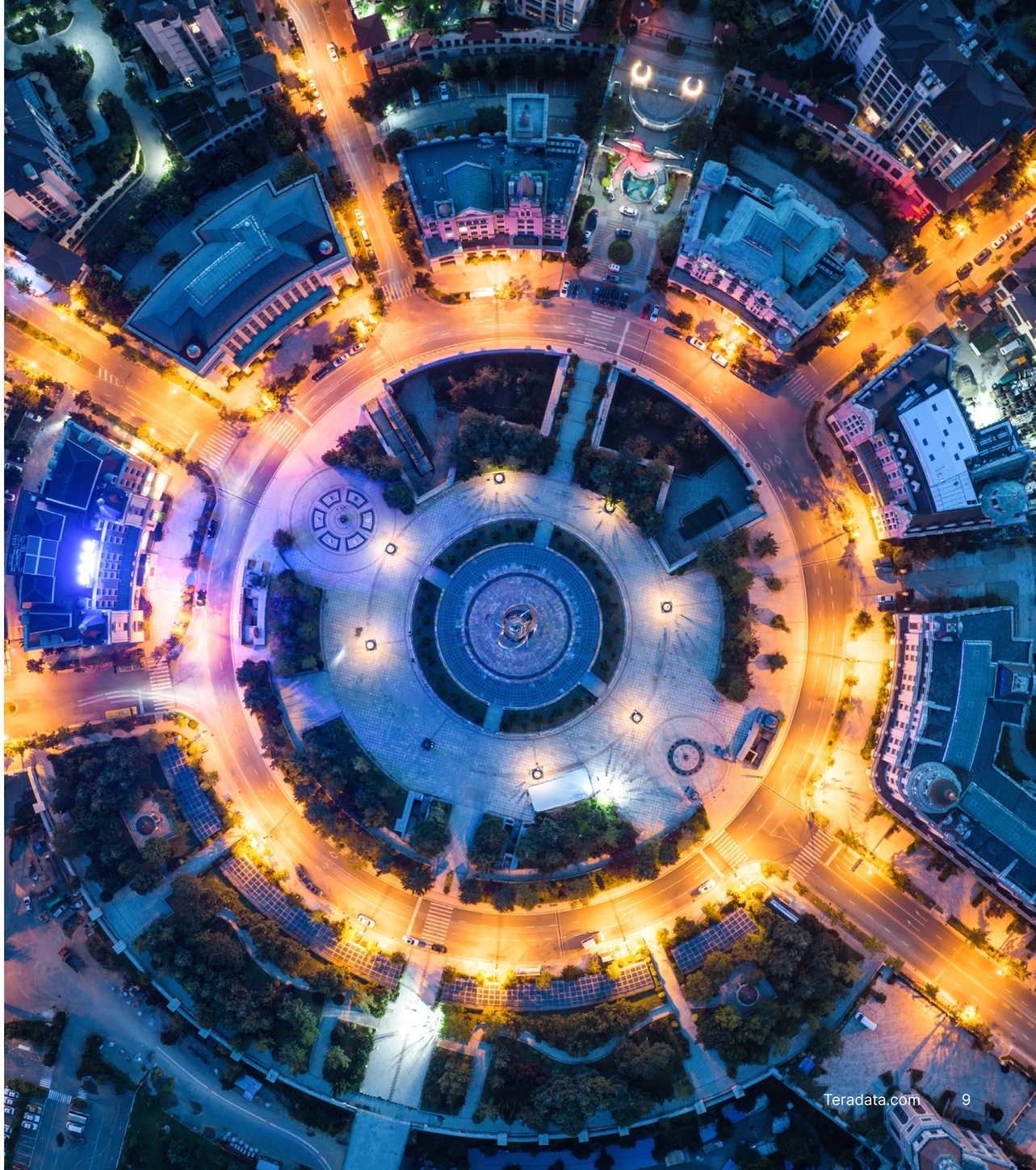
Efficiently harmonize new and existing data sources and extract valuable insights to gain strategic market advantages.

Drive innovation at scale with Teradata VantageCloud Lake

The cloud-native architecture of VantageCloud Lake enables businesses to easily leverage the benefits of a lake-centric modernization approach to power innovation faster than ever before and address complicated webs of technology and accelerate time to value, meeting business demands in the modernization journey.

VantageCloud Lake includes ClearScape Analytics™, which features the most extensive in-database analytics capabilities in the industry—enabling organizations to harness the full power of their data. It also features Teradata QueryGrid, which minimizes data movement by connecting queries and pushing processing to the data—reducing costs and streamlining complex business procedures.

By adopting VantageCloud Lake to build a lake-centric modern architecture, organizations can go from a siloed approach to an integrated approach for better AI/ML innovation and analytics results.



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Learn more

Learn how to accelerate innovation, maximize time to value, and better govern data with a lake-centric approach powered by **VantageCloud Lake**.

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