

A Data as a Product Approach to Data Management



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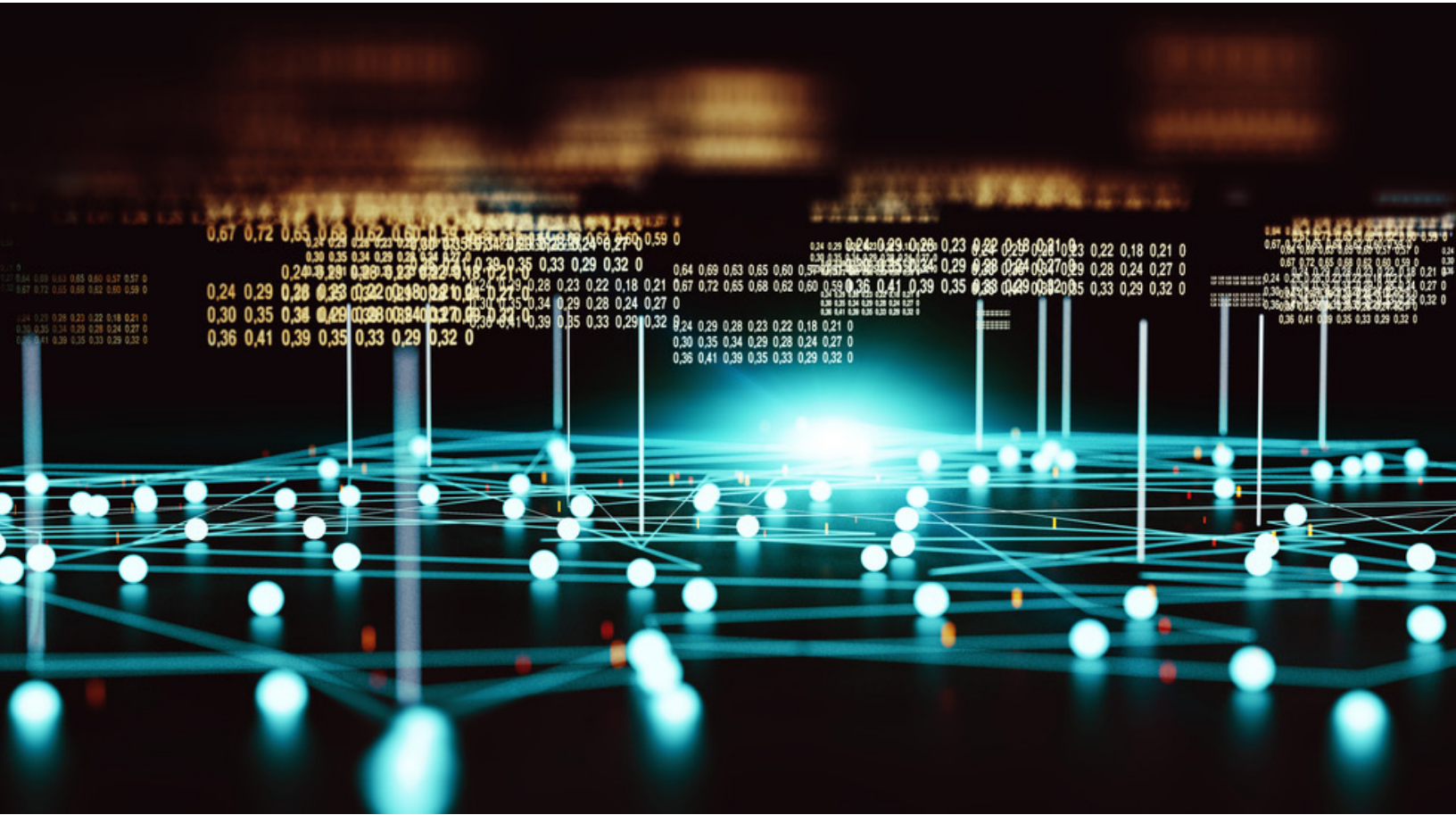
A look at data management complexity when businesses want to make greater use of the growing volume and variety of data available today and how to overcome that complexity using a Data Developer Platform.

In the rush to embrace digital transformation and data-driven strategies, many businesses have overlooked the primary concern: the data itself. While companies invest heavily in infrastructure and systems, there's often an assumption that relevant data will always be on hand, in a usable state. However, this isn't an automatic guarantee.

The Core Problem

Managing and moving data is now a complex undertaking. Companies juggle various tasks, such as integrating data from old systems, ensuring data governance, working with ETL processes, and more. All these tasks are resource-heavy and time-intensive.

A paradigm shift in thinking is vital. Companies should start seeing data as a valuable product. With this perspective, there's a need to ensure data is managed effectively and can be accessed securely and accurately whenever required.



Diving Deeper into Challenges

Companies have access to vast customer data from myriad sources, intending to enhance operations, boost revenue, and improve customer interactions. However, the immense volume and complex management often hinder realizing these benefits.

To truly leverage this data, it needs to be processed and reshaped into formats conducive to business insights. This means breaking down data silos, integrating different systems, and creating data pipelines that convert raw data into actionable information.

Yet, even when these processes are established, other challenges arise. Sometimes, the path from data collection to insights is so prolonged that the data becomes obsolete, leading to incorrect business evaluations. For instance, if a retailer's data processing misses a sudden demand surge triggered by an influencer endorsement, they might end up losing customers due to stock shortages.

These delays can result from technical issues or organizational misalignments, like misunderstandings between business and data teams about available data and its applications.

Why the Status Quo Must Go

In the current business landscape, real-time, data-backed insights are crucial. Sadly, many traditional data management techniques fall short. Here are some prevalent issues:

- **Data Lag:** Historically, data operations often ran in batches, leading to outdated information. Modern businesses require real-time data access.
- **Lack of Agility:** Traditional data methods can't match today's dynamic business needs. Providing immediate responses, like addressing customer grievances in real time, is essential.
- **Inconsistent Data Versions:** Legacy systems often resulted in multiple data versions across departments. This can lead to discrepancies, such as different records for a single customer's address.
- **Regulatory Challenges:** Copying data for various departments can be expensive and risky. The ever-evolving regulatory landscape, with rules like GDPR and CCPA, further complicates data management.
- **Data Silos:** Even with vast amounts of data, silos hinder a company's ability to fully understand and utilize their data. These isolated data pockets limit potential insights and developments.

For businesses to thrive in this data-rich era, there's a pressing need to overhaul traditional data management methods, emphasizing real-time access, consistency, and compliance.

Essential Needs for Modern Data Management

The Requirement:

For companies striving to enhance customer experience, undergo digital transformation, or introduce modern products, data needs to be integrated seamlessly into every business process. Given the vast distribution of data, the efficiency and speed of consolidating and availing it become critical success factors. This demands certain essential capabilities:

- **Unified Access:** Organizations should be able to retrieve data from any system, irrespective of its format, and amalgamate it for application and service use, regardless of the diverse hybrid environment.
- **Legacy System Utilization:** It's vital to harness the performance, scalability, and security features of older back-end systems, even while incorporating their data into new-age applications.
- **Data Fusion:** The capacity to merge data from various in-house and third-party sources, breaking conventional silos, is crucial to extract new insights.



The Changing Landscape of Projects:

Earlier, when embarking on a data initiative, organizations could allocate a dedicated team to oversee all project facets, from data access to its transformation and end-use. Such a setup was feasible when only a handful of projects were in motion.

Today, however, this is far from reality. Multiple departments and business units continuously roll out data-centric projects. This surge in projects means that the old, manual methods of managing data no longer suffice, given limited time and resources.

More and more, companies are leaning towards intelligent and automated data access and analytics. A prime example is the rising dependency on smart data pipelines. These pipelines are designed to extract data directly from the source, apply transformation rules, and then channel the processed data to its destination. They adeptly manage the ingestion and integration of data from siloed sources.

Given the variability in data structures based on their origin, organizations now invest efforts in complex pipeline transformations. Typical operations include merging or joining datasets, adjusting data types, transforming data formats (like converting JSON to Parquet), and masking personal data for privacy adherence.

Incorporating such strategies is instrumental in streamlining data-related processes, offering much-needed flexibility, and accelerating all facets of data access, integration, and use.

Enter the Data Developer Platform and the DataOS

The Evolutionary Leap in Data Management: Unraveling the Data Developer Platform and DataOS

Navigating the Modern Data Landscape: The expanse of today's data world is not just about vastness but also about the intricate tapestry of varied data threads that interweave to form the digital realm. Though many enterprise data management solutions claim to unlock the potential of this tapestry, none have met the objectives of data users. What has been lacking is a vision to treat data not just as an asset but as a product that needs to be crafted, honed, and presented with finesse.

A Modern Data Vision: That transformation from data as merely an asset to a more formal product needs to be backed up with an appropriate strategy and solution. That's where The Modern Data Company can help. Its data product platform, DataOS®, gives data teams the ability to build, deploy, and manage data Products efficiently and collaboratively.

Embracing the DataOS Paradigm: A core tenant of Modern's approach with its DataOS is to embrace a Data Platform Specification touted by DataDeveloperPlatform.org. To that end, DataOS optimizes the developer experience by abstracting away low-level complexities, enabling developers to focus on creating sophisticated data products.

Embracing the DataOS Paradigm: Central to Modern's innovative approach is DataOS, an embodiment of the Data Developer Platform Specification. But what does DataOS bring to the table?

- **Native Data Product Development:** By simplifying data stack complexity, DataOS facilitates a transformative data experience, enabling organizations to build, manage, and share data products seamlessly. In the process, it accelerates value realization and drives business autonomy and agility, all while ensuring developers can stay focused on value creation rather than infrastructure challenges.
- **Business Autonomy & Accelerated Decisions:** One of DataOS's standout features is its ability to democratize data. Business teams can access, analyze, and leverage data without the traditional reliance on IT or data engineering teams. This results in more autonomous and swift data-driven decision-making processes.
- **Adaptability & Cloud-Agnosticism:** In today's hybrid world, DataOS shines by providing impeccable support for both multi-cloud and hybrid-cloud environments. It offers the flexibility to capitalize on data from a multitude of cloud providers and even on-premises setups.
- **Enhanced Developer Productivity:** DataOS recognizes the invaluable role developers play. By enabling them to manage infrastructure autonomously, automate deployments, and simplify configurations, the platform minimizes the need for specialized resources, leading to significant productivity gains.
- **Revitalizing Organizational Data Culture:** DataOS isn't about obliterating the old but layering atop the existing infrastructure to rejuvenate an organization's data capabilities. This unlocks modern data technologies, streamlining operations, and paves the way for unprecedented innovation and growth opportunities.
- **Economic Efficiency:** From an operational standpoint, DataOS offers tangible economic benefits. Simulating and automating data stack complexities ensures optimal resource utilization, heightens productivity, and leads to a significant reduction in overall data-related operational expenses.
- **Seamless Integration with Zero Disruption:** Organizations dread disruptions, especially when it concerns their data. DataOS is designed to integrate seamlessly with current data infrastructures, delivering value within weeks, all the while ensuring data operations remain unhindered.

Delving Deeper: The Essence of Data Products:

Modern's definition of Data Products stands as a testament to their forward-thinking approach. A Data Product is not just a container of data; it is a meticulously crafted unit amalgamating data with metadata, code, and infrastructure. This makes each Data Product self-contained, independently deployable, and incredibly versatile. These products, with their built-in transformation logic, security, governance, and infrastructure dependencies, are reusable, portable, cloud-neutral, and can be effortlessly integrated into any data stack.

A Comprehensive Lifecycle:

With DataOS, every Data Product undergoes a meticulously planned lifecycle:

- **Design:** Rapid prototyping capabilities enable previewing outcomes before actual data movement.
- **Build:** The platform facilitates seamless provisioning of resources and infrastructure for Data Product composition.
- **Deploy:** Offering unparalleled flexibility, Data Products can be deployed across public, private, hybrid clouds, or even on-premises setups.
- **Iterate:** Open APIs allow for the augmentation and leveraging of these Data Products, complete with comprehensive observability features.

DataOS in action:

Any data-driven business would benefit from using data as a product approach, which can be realized using DataOS. That said, different industries have different requirements and objectives. Here are some ways particular verticals are using DataOS to help their efforts.

Retail and consumer packaged goods (CPGs): DataOS enables retail and CPG organizations to access, manage, and share data seamlessly to impact every aspect of the business. It empowers businesses to focus on outcomes rather than data wrangling. For example, it can be used to create highly customized profiles based on data points generated throughout the customer's entire lifetime and then use those profiles to personalize experiences and offers.

Technology companies: DataOS can help technology companies build and deploy technology products at scale. It can help data engineers easily locate and access all data. The platform also provides them with many built-in tools to interact with the information, assess data risks, access control, and meet security or compliance requirements.

Distributors: DataOS provides access to relevant data that distributors need to derive insights to predict risk, address inefficiencies, and enhance operational visibility. That enables distributors to use strategic and rapid decision-making based on real-time inventory and logistics information aggregated into a single source of truth.

A final word

The Modern Data Company, with its DataOS platform, isn't just introducing a product but a paradigm shift. A paradigm where data is humanized, access democratized, and enterprises are poised for an AI-powered future. As the digital landscape evolves, Modern stands as a beacon, illuminating the path to an integrated, efficient, and revolutionary data management future.



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The Modern Data Company seeks to tame the complexities of customer data management for Customer 360 and other data-driven work. Its Data Developer Platform delivers a faster time to value through its features that simplify many data access and integration tasks. It provides needed controls, offering observability, governance, and alerts. And it delivers a low TCO since less data movement and lower skill sets are needed.