Modern WhitePaper

DataOS® Series

A Modern Data Strategy for Enterprises

2nd edition

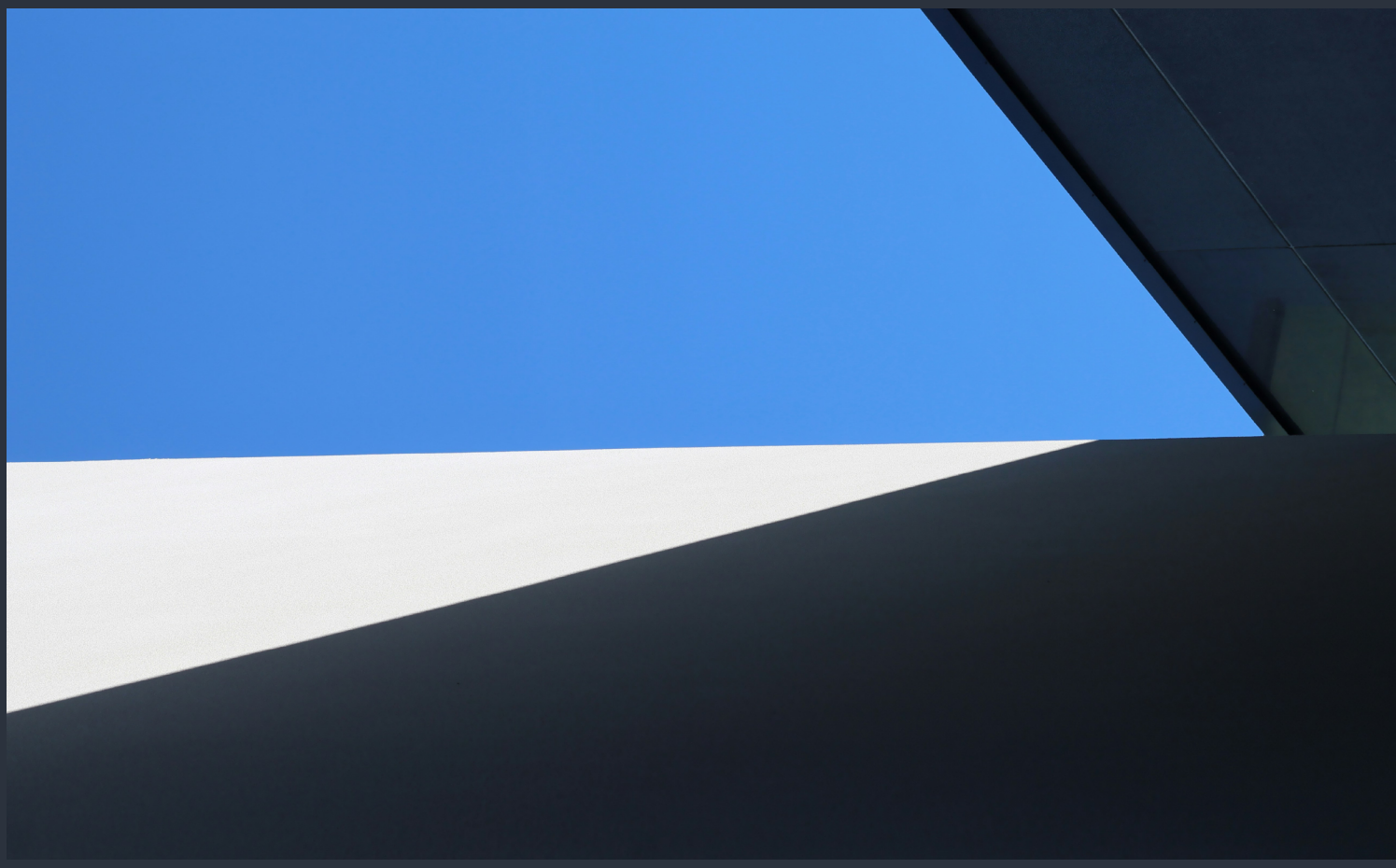

Table of Contents

TheModern DataCompany

Modern White Paper. DataOS® Series. A Modern Data Strategy for Enterprises. 2nd edition.

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Usable Data

Ask any company about digital transformation and three obstacles inevitably make it into the conversation.

1. They're struggling to find their way in a vast sea of mediocre data.
2. Their analysts spend more time wrangling data than gaining insight.
3. Reports that should allow them to make timely decisions and pivot quickly to future-proof operations arrive too late.

What Is The Breakdown?

Data has no value unless it's used. To be usable, data must be accessible to the people who need it. When companies free their data, all departments — from IT to marketing to finance —can convert this data into compelling insights by adding meaning, context, and nuance — enabling them to generate exceptional business value.

This is the goal of digital transformation, and it's exactly what DataOS® achieves. Modern's data product platform helps turn the overwhelming amount of data that every enterprise inevitably owns into usable data.

"Usable data" possesses three key traits.

High Quality

The data quality must be exceptionally high. Even more important, quality must remain consistent, no matter what the data source.

Universal Access

Even with a rigorous permissions structure, everyone must be able to access the data they need when they need it.

Rich Meaning

Users must be able to clearly understand the meaning of the data they use and the context behind every data element.

We Treat Data as an Asset

We recognize that data, when transformed into accessible and actionable data products, becomes a crucial business asset. The ability of a company to swiftly and efficiently derive value from its data can mark the difference between thriving and merely surviving in today's competitive landscape.

To realize this potential, forward-thinking enterprises are moving away from traditional ETL processes and cumbersome APIs. These older methods are often too slow, costly, and inflexible to meet the dynamic demands of modern business.

In place of these outdated approaches, there's a growing shift towards leveraging data products as part of a unified data strategy. Data products deliver truly usable data to stakeholders that need it most, allowing the company to leverage near real-time decision-making without worrying about data quality or integration challenges. This paradigm treats data not just as a byproduct of applications but as a central, productized asset that drives business value.

By integrating data products into a single, comprehensive data ecosystem, enterprises gain the agility to leverage their data across various analytics applications, ML models, and third-party collaborations. The seamless, automatic integration of these data products—for example, within a data fabric or data mesh—ensures that enterprises can maximize their data's potential without the overhead of complex integrations. This approach heralds a new era of data management, where data products are the linchpins in an organization's data strategy, offering unparalleled efficiency, scalability, and innovation potential."

Adopting a data strategy focused on data products enables organizations to maximize the potential of tools like Tableau, R, Python, Power BI, Adobe, and Snowflake. This approach transforms these significant investments into powerful assets that deliver the exceptional return on investment (ROI) that organizations anticipate and require.

The key lies in how data products optimize the use of these tools. Data products, designed to be self-contained, relevant, and easily accessible, serve as refined, high-value data entities. They can be seamlessly integrated and utilized across various platforms and tools. This integration ensures that the analytics performed using these tools are powered by robust, reliable, high-quality, and real-time data.

Organizations can supercharge their data analytics capabilities by centering their data strategy around data products. This shift enhances the effectiveness of their existing toolset and paves the way for more advanced analytics and decision-making processes. Data products empower users across the organization, from data scientists to business analysts, to extract meaningful insights more efficiently and accurately. This holistic and product-centric approach to data transforms the data analytics landscape, leading to more informed decisions, streamlined operations, and, ultimately, a significant competitive advantage in the market.

This is what DataOS® does.

The Modern approach enables organizations to put all data to excellent use and drive informed decisions with the lowest possible risk.

The Need for a Data Product Platform

Traditional data management platforms are too rigid and unscalable, despite the hefty price tags. Consequently, they've left organizations with large amounts of "technical debt," meaning high embedded cost and low flexibility. Burdened with thousands of unmanageable ETL jobs, countless tables, and piles of reports that only a small group of specialized experts can understand, the insights have not been commensurate with the costs.

This complexity is further exasperated through data lock-ins, vendor lock-ins and other constraints that hinder enterprises from really owning and using their own data. Whether it's a data fabric, data mesh, lakehouse or any new desired architecture, enterprises need a way to self prescribe the architecture they want and to be able to configure it themselves - without the need for integrations or highly specialized resources.

Deploying such architectures requires technology that is composable and flexible enough to adapt to changing environments. It needs to enable an organization to put its data to its highest and best use. For example, that may come in the form of business intelligence reports that clarify market conditions, machine learning algorithms that predict the future, or real-time operation systems that transform high-quality data into minute-by-minute management insights.

The problem is that conventional data management has put this vision out of reach — until now.

DataOS® Accelerates Digital Transformations

At The Modern Data Company, we have pioneered a revolutionary platform dedicated to data products. We call it DataOS, and its primary mission is to simplify data complexity, elevate data quality, and ensure the real-time accessibility of data.

This platform represents a transformative step for companies aiming to future-proof their data ecosystems. DataOS accomplishes this by seamlessly integrating all essential components into a cohesive whole. It represents a paradigm shift in data management, moving away from disparate systems to a unified platform that prioritizes creating, managing, and disseminating data products.

For the first time, enterprises have access to a fully integrated data product platform. This platform empowers organizations to develop and manage data as standalone products, enhancing data's value and usability across different business functions. By centralizing data into manageable, high-quality products, DataOS facilitates more efficient and impactful utilization of data, ushering in a new era of data-driven decision-making and innovation.

DataOS® Is the Right Solution for Today and Tomorrow

DataOS enables enterprises to ingest, process, transform, govern, and orchestrate data from an unlimited number of disparate data sources and delivers a trustworthy real- time view of data for activation.

A data product platform is not just a collection of tools; it's a profound data management transformation. Consequently, it has to be designed according to sound principles. These are the core principles behind the Modern data data product platform:

Core Principle #1: Data is an Asset

Modern treats a data set the same way an eCommerce business treats products and services — with great care. Every data element and set has a description, schema definition, profile, quality index, sort tags, similarity markers, user profiles, and most common query reporting. This means that all data carries a semantic meaning, enabling DataOS to move any data element to any user or system in the format that the recipient requires. DataOS thus enables enterprises to productize and monetize their data assets.

Core Principle #2: Data Quality Should Be Measurable

The key to extracting value from data lies first in knowing its quality level and second in the capacity to transform it into higher quality information. DataOS facilitates this by automatically profiling all data and then performing a detailed analysis of quality attributes such as cardinality, completeness, missing values, uniqueness, etc. DataOS runs business-specific data validation rules that enable companies to objectively measure the quality of their data, rank it, and — most critically — factor data quality into their analytics.

Core Principle #3: Data Should Be Searchable

Currently, data for most organizations isn't actually available for use — it's segmented and siloed and access is sporadic. These challenges along with fragmentation across the entire enterprise all constitute huge impediments to productivity and make data less valuable and less useful than it should be.

To remedy this, DataOS catalogs all data — data sets, jobs, metrics, and KPIs — which makes them available through a simple search interface, just like Google. This provides instant access and enables companies to understand what they have and how to make the most of it.

Core Principle #4: Data Must Be Interoperable

Companies require the ability to intake data in ANY format, including data from mainframes, streaming systems, apps, IoT, sensors, and 5G, and in structured, unstructured, or semi-structured formats. They must be able to ingest it all in batch or in real-time, from one-time loads to any time loads and they must be able to make all data available in a secure and compliant manner, so that it is ready out-of-the-box to be used in ANY format — all of which DataOS® does.

Core Principle #5: Data Must Be Fit for Purpose

A data product platform makes data available for analytics, data science, and automation in the relevant format with proper security classification that is suited for particular use cases. DataOS enables teams to use data for a variety of needs without having to code case-specific data pipelines, transformations, governance, etc.

Core Principle #6: Data Access Is Key

Data ownership is an artificial constraint that hinders data usability in many organizations. It leads to "data prisons" across the enterprise, which are difficult to govern and impossible to manage. It also creates a considerable number of vulnerability points and increases the risk of data breaches.

DataOS transforms the data ownership prison-house into a data access enabling paradigm. In DataOS, data is owned by the enterprise and not by individual teams, so any user or system that needs access to data can do so in a compliant manner by leveraging foundational security capabilities that are built-in. Security features include row and column level redactions, data abstraction, data masking, and data observability, which ensure that every user or system has access to the data they need, in the format they need, and with proper governance rules applied automatically.

Core Principle #7: Security, Compliance, and Flexibility Are Mandatory

DataOS is a post-GDPR solution. It doesn't have the baggage of rigid architectures or old technologies that inhibit large systems from achieving compliance with standards such as GDPR or CCPA. Extensive tagging capabilities enables security and priority classifications at the most atomic level, which makes new regulatory compliance needs a simple business logic solution rather than a prohibitively expensive re-architecture that could take months or years.

This DataOS innovation transforms the management of data governance with a tag-based governance engine that provides users with the flexibility to institute role-based, attribute-based, and tag-based access controls. This empowers teams to set up conditional access controls, such as the ability to access a given data set on a specific network or during a certain period of time. All of which provides unprecedented flexibility together with unprecedented security.

Core Principle #8: High-Performance Collaboration

In this new era where many teams work remotely, the ability to collaborate on data workloads in the same way that teams work together using tools like Slack, Asana, Jira, and Google Docs provides essential leverage. DataOS has a powerful collaboration layer that reaches across the entire platform to allow teams to join forces on everything from data prep to data blending, queries to dashboarding, or charting to data quality.

Now the power is in the hands of the enterprise.

The Modern Transformation

Enterprises are spending heavily on a wide range of data solutions that have to be bolted together to get an end-to-end data ecosystem. These solutions require significant integration work and customization. Yet they lack a critical business attribute — flexibility.

DataOS® is different. It breaks down data silos and transforms companies as they take steps towards gaining profound business insights in real-time.

Plug-and-Play Data Products

The Modern approach to data enables customers to adopt value-driving data products like Snowflake, Google Tensor Flow, Azure ML, C3.ai, and a host of others, in a plug-and- play fashion, without the need for extensive integration work.

Gone are the days when organizations needed to manage tens of thousands of ETL scripts without even knowing where all of the data and jobs are. Instead, this new world allows companies to bring on the best data and analytics tools to drive value without having to consider architecture changes, implementation challenges, or exorbitant professional services costs.

Control Is Not in the Hands of Vendors

This approach centralizes data management, data quality control, data governance, and data security to ensure that the enterprise can control the data in its own organization.

Business Agility

For businesses to succeed in the new normal, understanding the changes that are happening in and to a business in real-time and immediately responding to them and innovating has become essential. Organizations must have a data operations infrastructure that makes the technology invisible so that they can focus on putting data to work to grow the business and delight customers.

Real-Time Alerts

DataOS automatically identifies changes in data patterns and recognizes anomalies in data values — all in real-time. It then provides multiple ways to act on these insights by empowering complementary systems like SAP Hybris and Salesforce to respond to these real-time alerts.

Experiment Vividly

DataOS makes it easy to share data with vendors in a secure, scalable, and compliant fashion. It enables data experimentation and makes it easy to launch PoC experiments in a matter of days, rather than weeks or months.

The Modern DataOS® Advantage

Free Your Data

Don't power innovative tools with bad data. Instead, power them with secure, well-governed, and high-quality data to drive better decisions with reliable data every time.

DataOS is designed to revolutionize the way organizations handle data by emphasizing the importance of data products. It features a suite of interoperable and composable primitives, services, and modules that empower organizations to construct and manage data products effectively. These foundational elements are the key to enabling flexible data architectures like data fabric, data mesh, lakehouse, etc.

This focus on data products allows enterprises to swiftly transition to a data-driven decision-making model, mirroring the efficiency of data-centric tech giants. The transformation, which previously took months or even years, can now be achieved in mere days and weeks.

Our platform offers comprehensive end-to-end data product management capabilities, steering organizations away from the inefficiencies of data swamps. It positions data as a tangible, strategic asset, enabling businesses to harness its full potential in today's dynamic market. By treating data as a product, enterprises can unlock profound insights and drive significant business value, adapting swiftly to the ever-evolving market demands

DataOS® Is Tailor-Made for The Post-COVID Data World

Data and analytics are essential for faster and better decision making. But the extreme disruption in the aftermath of COVID-19 has invalidated many prediction models that were based on historical data. Organizations using machine learning to build their recommendation engines will now have to rethink their approach to keep pace with changing customer behaviors.

And as the new normal is still emerging, validation of predictive models will remain a challenge for a long time to come. Thus, to make accurate business decisions in the uncertain and complex environment of today, you'll absolutely have to experiment.

The good news is that with reliable data from DataOS that comes to you in real time, you can quickly and easily test your hypotheses and see what is working in these turbulent times.

A trend report from Gartner[4] notes that traditional analytic approaches have already become obsolete, and that proof-of-concept analytic projects "outperformed traditional analytic approaches in multiple domains by at least a factor of 10." With its capability to integrate and support end-to-end data pipelines and provide you with real-time data governance and sharing abilities, DataOS gets you there today.

DataOS® Provides 10x The Value at 1/10th of The Cost

A Modern Data Product Platform for all things data

+ Simplified Access

+ Secure Data Exchange

in one product.

CONTACT US FOR A DEMO >

Sources

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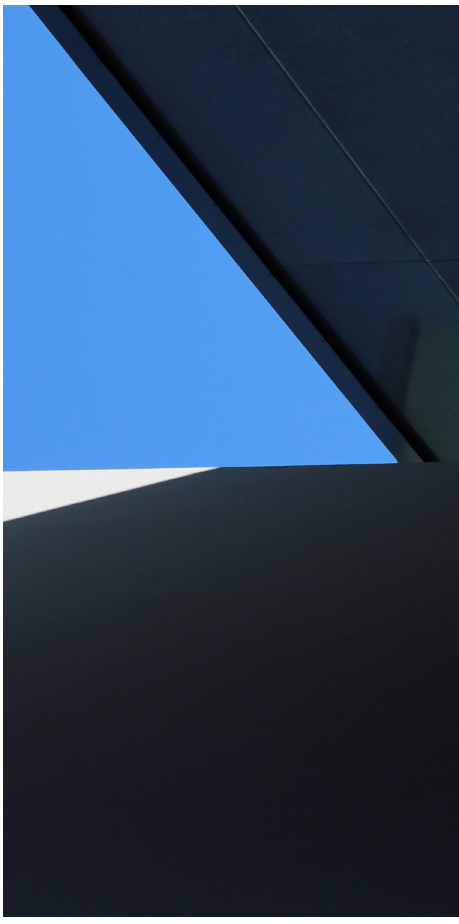
The Modern Data Company

DataOS® from The Modern Data Company is a groundbreaking data operating system that radically simplifies the intricacies of data. Treating data as software, it empowers organizations to build comprehensive data products that drive outcome-based, trusted decisions. Seamlessly integrating with any existing data architecture, DataOS® provides a unified and composable data ecosystem. This facilitates the smooth integration and operationalization of data products at scale, ensuring business processes remain uninterrupted. It enables cross-organizational data collaboration that is not only safer but also more efficient than ever before. Dive into the transformative world of data products to future-proof your data initiatives.



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