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Making the Complete Data Platform a Reality

A comprehensive data platform that is open and meets end-to-end data needs shouldn't require compromises and self-assembly.

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Businesses are awash in data. They're constantly adding more data sources and new and better ways to use and analyze it. But faced with a multitude of technologies and business processes that don't necessarily operate seamlessly together, they're often frustrated by integration woes, governance and security headaches, and underutilization of their data.

Organizations want a data platform to meet the end-to-end data needs for their entire suite of applications with high performance and security. The goal is a unified data management system that intelligently manages and provides secure access to data from all sources across the enterprise, spanning websites, data centers, and edge devices. The case for a data platform is simple, but many potential solutions fall short because of their limited nature or the complexity they introduce.

The Oracle Data Platform, in contrast, helps organizations meet their end-to-end data needs while avoiding the frustration of having to self-integrate multiple, single-purpose services. Its comprehensive, open, and integrated design combines versatile services, including data integration, databases, data lakes, AI/ML, and analytics. Users from throughout the organization can access the data that they need through applications and easy-to-use pre-built environments.

The data management complexity challenge

Many organizations are managing multiple, single-purpose, or limited-function data platforms. They don't have a unified way of supporting the full range of data types, databases, and workloads found in a typical enterprise. As a result, IT teams are forced to create a somewhat workable but inelegant "frankenstack" of bolted-on technologies stitched together from dozens of stand-alone services.

Making these patchwork solutions meet an organization's needs is difficult and time-consuming since they have different ways of formatting, managing, and securing data. For instance, real-time insights used to make crucial business decisions are often delayed while data is extracted from an online transaction processing (OLTP) database, reformatted, and loaded into a data warehouse for analysis.

As a result, an organization's modernization efforts can be saddled with uncertain performance, fragmented security, and excessive administration. "Organizations often apply data-driven approaches—from predictive systems to AI-driven automation—sporadically throughout the organization, leaving value on the table and creating inefficiencies," McKinsey analysts write, in explaining why business problems can take months or years to resolve.

Data platform requirements

What every organization ultimately needs is a single data platform that helps collect, curate, and manage all transactional, warehouse, analytical, and other data assets regardless of data type and origin. Such a platform should be deployable wherever customers need it—in public clouds, regulated clouds, hybrid clouds, or customer data centers. It should support any application, use case, or data type.

"In a few short years, data and analytics will drive and predict the most important decisions, processes, and interactions of the enterprise," EY consultants write. "Instead of siloed, restricted sets of facts, a data fabric will be integrated across the enterprise."

An open and modular data platform allows IT organizations to use a comprehensive set of capabilities as-is, replace them with alternatives, and augment them as business needs evolve. To reduce manual labor and free scarce resources for new initiatives, such a solution should support an enterprise's full suite of workloads

with a minimum amount of integration points, self-assembly, data movement, and data transformations.

Moving beyond hype to implementation

Many vendors offer what they call data platforms, but for the most part they are geared to a single purpose or a narrow set of purposes. That leaves IT organizations struggling to integrate and manage multiple services, pay for each, and train everyone on how to use them.

Oracle's roots in managing data across different types of business-critical workloads, packaged apps, and SaaS environments enable it to provide unique capabilities with Oracle Data Platform that simplify the data lifecycle and deliver insights faster.

The Oracle Data Platform combines Oracle's data integration, database, data lake, AI/ML, and analytics services to create a comprehensive, open, and integrated environment. Its modular approach with extensive built-in capabilities reduces the number of services organizations need to use, integrate, manage, and secure to meet their end-to-end needs.

Existing packaged and new cloud-native applications run together on Oracle Data Platform so that organizations can continue to use proven applications and processes while also introducing cloud-native ones so they can benefit from innovative new approaches. In short, it provides capabilities that can't be touched by single-purpose, limited-function environments that customers must self-integrate.

Oracle Data Platform leverages Oracle Autonomous Database running on Oracle Exadata Cloud Infrastructure with AMD EPYC™ processors to provide a highly integrated database environment that delivers performance, scale, and availability. It also provides automatic threat detection and threat remediation, so organizations don't have to rely on clumsy, manual approaches to try and obtain maximum security levels.

The versatility of Oracle Autonomous Database enables organizations to efficiently work with any type of data including relational, document, graph, spatial, blockchain tables, and more. Customers can use the same data to support many different types of workloads, from OLTP to data lakes and analytics. Oracle Data Platform can be deployed in Oracle Cloud Infrastructure (OCI), multi-cloud environments, and customer data centers with an Exadata Cloud@Customer hybrid cloud solution.

While competitive offerings have limited functionality—such as working with a single type of data, supporting a single workload, or available only in the cloud, Oracle Data Platform can support the breadth of an enterprise's application portfolio. And its built-in tools support microservices, low-code, and traditional application development approaches.

"Oracle Cloud Infrastructure combines the elasticity and utility of the public cloud with the granular control, security, and predictability

of on-premises infrastructure," according to IDC analysts. "OCI is designed to run critical enterprise applications with high performance, scale, and availability while lowering costs."

Ultimate data platform power

Oracle Data Platform allows organizations to run data workloads from across the enterprise with high performance. The platform's Autonomous Database capabilities are powered by Oracle Exadata, which enables OLTP applications to run quickly with I/O latencies of less than 19 microseconds and analytics workloads to process more data in less time with up to 2.8 Tbps of scan throughput.

Exadata Cloud Infrastructure's scale-out architecture combines up to 32 high-performance database servers, 64 intelligent storage servers, and unique optimizations that accelerate database workloads. It employs AMD EPYC™ processors in database servers to ramp up performance and scale to incredible levels.

"AMD provides the highest core count and the fastest x86 cores," Mark Staimer writes for Wikibon. "Just as Oracle consistently pushes the performance envelope for its products and services, AMD is pushing the performance standard in CPUs."

AMD EPYC processors provide 2.5x more cores than previous generation Exadata systems, scaling from just over 250 cores of database server processing in small systems to full configurations with more than 4,000 cores and 3 petabytes of database capacity.

From a business perspective, AMD EPYC processors in Exadata Cloud Infrastructure allow organizations to greatly simplify their IT environment and lower costs, provide better customer experiences, and develop deeper insights by thoroughly analyzing ever-growing amounts of data. This means that organizations of virtually any size can process more transactions, analyze more data, and run more complex AI/ML models with the same sized platform, or they can save money by consolidating databases and downsizing the cloud resources required to run their existing workloads. Most organizations will likely take a middle ground that enables them to run faster and reduce costs.

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>
> **— according to IDC analysts**

The comprehensive Oracle Data Platform is the best way to meet an enterprise's extensive and expanding data processing needs. A single, integrated environment stores, processes, and analyzes all classes of information with high performance, regardless of where that information comes from or how it is used. While others profess to have a complete data platform, in reality they can deliver one-fourth to one-third of what Oracle is delivering today.

Learn more about the Oracle Data Platform.