

IDC PERSPECTIVE

Value Orchestration Guides Oracle's Next-Generation Digital Business Platform

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Value Orchestration Guides Oracle's Next-Generation Digital Business Platform

Business value drives technology buying decisions, from cloud infrastructure to innovative technologies such as AI and IoT and the SaaS applications that enable the transformation of jobs to be done. The concept of a digital business platform describes a collection of next-generation capabilities that seamlessly combine to facilitate multiple streams of business value for organizations on a digital transformation journey.

Key Takeaways

- Cloud computing provides a powerful foundation for building transformative digital capabilities that activate new streams of business value.
- Like pyramids, digital business platforms are architected from the top down but built from the bottom up, with a stable base foundation and core digital services that support next-gen cloud applications.
- A value stream describes the business value realized by customers that deploy SaaS business applications enriched with innovative core services running on sophisticated cloud infrastructure.
- Value streams are enhanced when suppliers have the freedom to innovate across the platform pyramid.

Recommended Actions

- Eliminate the cost and complexity associated with various point solutions by investing in a business platform that unites public cloud infrastructure with a new generation of cloud applications and developer tools for extending functionality while simplifying data and systems integration.
- Leverage a digital business platform to create a highly adaptable environment that balances today's operational needs with transformation imperatives and the changing needs of customers and users.
- To facilitate seamless integration, businesses should consider a modular business technology platform with autonomous capabilities for optimizing end-to-end processes and workflows in a unified workplace.
- Consider the role of data and analytics in nurturing a vibrant ecosystem. Data-driven insights are critical drivers to any DX initiative.

Source: IDC, 2021

SITUATION OVERVIEW

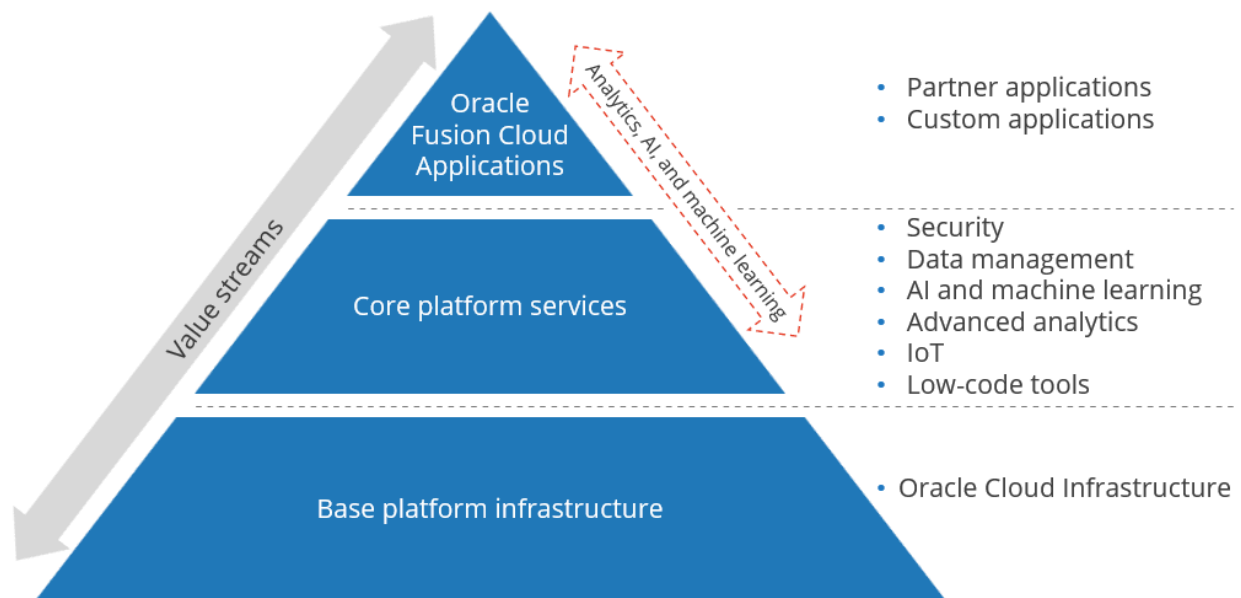
As companies recover from COVID-19 pandemic struggles and disruptive market challenges, the benefits enabled by digital technology have emerged as powerful differentiators. Businesses that are able to take advantage of tremendous amounts of data are proving to be more agile and resilient with satisfied customers and employees despite difficult conditions. Likewise, technology leaders have delivered innovative offerings that enable digital-first enterprises to thrive with platform offerings that are designed to accelerate value.

Oracle's Next-Generation Platform

The concept of a digital business platform describes a collection of next-generation capabilities that are combined in an integrated fashion to facilitate value orchestration. The term *platform* has been used in different contexts: technology platforms, collaboration platforms, communication platforms, and integration and developer platforms. This document focuses on Oracle's next-generation platform for digital business, which combines powerful business applications functionality, comprehensive core services, and a sophisticated cloud infrastructure to support value streams (see Figure 2). It's important to note that these value streams drive innovation through the platform and ensure Oracle is aligned with its customers' critical business issues. Value streams, of course, vary by company and will be a balance of aspirational and operational drivers like business process transformation or the ability to pivot to new digital business models, with tactical goals like launching a new product, creating superior customer and employee experiences, designing resilient supply and value chains, or completing a financial close in a few days instead of a few weeks.

FIGURE 2

Value Stream Hierarchy



Source: IDC, 2021

Glenn Beeswanger, SVP SaaS Engineering at Oracle, summed up the impact of the value stream perspective as follows:

I think about value streams as value to the end customer, more so than the particular application or technology that's delivering it, 'What do we need to deliver to the customer from a SaaS perspective?' The customer's goals drive Oracle in this manner – application platform services are tuned to operate together within focused value streams.

That translates into seamless integration across all layers of the pyramid, from business applications to core services to a solid base of cloud infrastructure, united in the effort to deliver customer value. Larry Ellison recently pointed out during an Oracle Live discussion on the future of CRM (more information is available at www.oracle.com/events/live/future-of-crm/) that Oracle is uniquely positioned as a tier 1 player in both applications and cloud infrastructure; this approach has led to a unique perfect storm of capabilities. Vertical integration better enables successful business outcomes, and because this is focused integration to support value streams, it's not vertical integration for the sake of efficiency or control – although these are important considerations, full control over the entire stack manifests in greater business value for customers.

Daryl Eicher, Senior Principal Product Marketing Director at Oracle, used another analogy to describe the value stream approach:

The genius of the pyramid is that they are an engineering marvel, well designed, well architected, maybe even functional at levels we don't fully understand. Platforms like pyramids must be architected from the top down, but you must build from the bottom up, which is equivalent to architecting from the point of value delivery.

Because Oracle owns the entire platform from applications to core services and infrastructure, with tight integration throughout, its customers experience enhanced security, resiliency, stability, and availability, which are foundational value stream services. Full control over the entire platform means Oracle has the flexibility to drive business value for customers regardless of where it resides in the value stream. Beeswanger continued, "We can really laser in on the business process and build capabilities right down to the hardware level."

For example, when considering a new feature, Oracle has the flexibility to innovate anywhere on the platform the functionality is best suited: sometimes that may be a change to a specific Oracle Fusion Cloud Application; at other times, it may involve an update to the core or base infrastructure layer.

Thus Oracle's platform for digital business is more than a technology platform but a next-generation solution for digital transformation (DX). The remainder of this document highlights the three layers of the platform pyramid: Oracle Fusion Cloud business applications, core platform services, and Gen 2 cloud infrastructure. Oracle is unique in combining core platform services like data management and mobility, advanced analytics, and cognitive technologies with cloud infrastructure in Oracle Cloud Infrastructure (OCI) for reasons cited previously.

Oracle Fusion Cloud Applications and Ecosystem Partner Applications

At the top of the platform pyramid sits Oracle Fusion Cloud Applications, a fully integrated business suite with offerings to address the breadth of industry requirements, spanning manufacturing to financial services to healthcare, and more. There is seamless integration between applications that leverage a common data model, a common workflow engine, and a consistent responsive user interface to provide businesses with a single source of truth. Enterprise applications include:

- Oracle Fusion Cloud Enterprise Resource Planning (ERP)
- Oracle Fusion Cloud Enterprise Performance Management (EPM)
- Oracle Fusion Cloud Supply Chain & Manufacturing (SCM)
- Oracle Fusion Cloud Human Capital Management (HCM)
- Oracle Advertising
- Oracle Marketing
- Oracle Service
- Oracle Sales

Its position atop the pyramid means that Oracle Fusion Cloud Applications leverage the powerful capabilities that reside in core services and infrastructure layers that the applications are built upon. Consequently, the applications themselves are infused with functionality that leverages technologies like artificial intelligence (AI) and machine learning, advanced analytics, and Internet of Things (IoT). For example, there are prebuilt, pretrained algorithmic models so that customers can easily take advantage of machine learning. It is this set of capabilities that drive Oracle's pervasive AI strategy.

Like the approach Oracle uses to leverage the platform to deliver superior customer value, ecosystem partners including global systems integrators and independent software vendors (ISVs) leverage the platform in much the same way. Because the platform is modular by design and includes APIs at every level, partners can build new solutions or extend Oracle Fusion Cloud Applications functionality and take full advantage of OCI and core platform services. In this way, modules interoperate within the platform ecosystem that is made up of Oracle products and other SaaS, on-premises, and custom applications.

Oracle Fusion Cloud Applications typically address about 80% of what customers are looking for, with the remaining 20% addressed by extensions executed by the customer or a partner, often using Oracle platform's low-code and no-code capabilities.

A full treatise on Oracle Fusion Cloud Applications was published in *Oracle Innovation Manifests in a New Generation of Cloud Applications* (IDC #US46799319, September 2020).

Core Platform Services

At the core of the platform sits a portfolio of digital services, which brings together Oracle Fusion Cloud Applications with Oracle's Gen 2 cloud infrastructure to enable value orchestration. This set of capabilities makes the Oracle platform for digital business even more impactful, providing next-generation functionality for digital-first businesses and those wanting to undergo digital transformation. While some of these services are occasionally included in the base infrastructure or application discussions, for the purposes of this document, IDC covers them together as the central core of the platform, which are discussed in the sections that follow.

Every Business Is a Data Business

True to its legacy, Oracle's data management capabilities provide advanced functionality that allows customers to process large volumes of data in real time. Enterprises acknowledge that the volume and velocity of data have exceeded existing system capacities and have become major drivers for migrating to the cloud: In a 2021 IDC survey of more than 2,000 businesses worldwide (source: IDC's 2021 *Industry CloudPath Survey*; "Data as the priority initiative for cloud across industries."), 36.3% of respondents cited the explosion of data as a primary trigger for the move to cloud. The same survey highlights the emerging role of chief data officer in the evaluation (32%), recommendation (42%), and selection (37%) of a primary cloud service provider.

Data management is multifaceted and spans the entire life cycle, from creation and storage to the application of technologies like machine learning and advanced analytics to the resulting insights that inform business decisions. Oracle's autonomous data solutions have inbuilt capabilities that differentiate the company in the market, including Oracle Machine Learning (OML) and Spatial and Graph that are part of the database product itself, as well as services that facilitate sophisticated analytics workloads. AI Apps solutions are embedded within Oracle Fusion Cloud Applications. Therefore, Oracle makes these technologies accessible, with many prebuilt and pretrained models as well as third-party data that is used for training the more than 30 and growing algorithms. Oracle customers experience the value of AI and machine learning without having to employ a team of data scientists. The autonomous self-driving, self-securing capabilities are part of the constantly expanding portfolio, which now includes Python language services and an autonomous graph product all bundled together. Oracle's data management portfolio is a core element of the platform and foundational for Fusion Cloud Applications and includes Spatial and Graph, Oracle Machine Learning and Artificial Intelligence, Autonomous Data Warehouse, and ATP Autonomous Cloud Services for Transaction Processing.

Finally, because these elements are built in to Oracle's data management solution, rather than added piecemeal afterward, the data products as well as the applications built on top of this core are easier and faster to work with. Oracle Fusion Cloud Applications are built to be data centric and are designed to securely support the ability to extract insight from data and support customer value streams from end to end.

The analytics solutions are designed to help different departments understand what is happening in the business and why to leverage existing knowledge. Owing to the integration with Oracle Fusion Cloud Applications, the intelligence layer is a combination of applications and data analytics that takes advantage of Oracle's overall data strengths. This combination accelerates the journey from data to insight-driven action and provides prebuilt analyses and KPIs along with tools to collect, modify, and extend applications.

Across any organization, people in different departments need a unified view of business performance but are challenged with data silos and the time and effort required by IT teams to enable collaboration on key metrics, shared analyses, and projections for business users. To adapt and innovate at a competitive pace, businesses need to access, share, and make sense of data. Oracle's strategy is to provide visual, self-service analytics with embedded machine learning integrated with the company's business applications.

Customers can choose from an analytics platform or prebuilt analytics applications for lines of business based on the same technology foundation. The analytics platform is a cloud-native service that enables IT or business users to create the needed analytical views of the business. The analytics platform includes prebuilt Oracle Analytics applications designed to help people within and across

departments visualize what is happening and why and what is likely to happen next. The applications include a cross-functional data model, high-performance data pipelines, and role-based metrics and KPIs. The technology foundation for Oracle Analytics, described throughout this document, allows people to securely extend business analysis and projections and deepen understanding by combining data from additional internal or external sources.

IoT and Blockchain: The Art of the Possible

IoT and blockchain allow companies to build processes that couldn't exist previously, and therefore, Oracle's implementation of these technologies enables new and unique business opportunities. To deliver the art of the possible to customer value streams, IoT and blockchain are very closely aligned with the Fusion Cloud application group at Oracle, which underscores the importance of an integrated platform. The goal of the IoT and blockchain solutions is to tap into data that was previously inaccessible, whether that data is operational, fed from sensors on equipment, or from a supplier. The platform accesses that data in real time and combines it with relevant enterprise data to generate new insights, contributing to a next-generation system of intelligence.

This technology is increasingly being combined with supply chain management as case studies become more viable and inquiries transition from visionary to general business needs. Oracle offers full-featured application solutions designed to drive business outcomes, rather than templates that can be cloned and customized to address specific requirements. Because of the nature of these engagements, the solutions focus on a select set of critical use cases that are deep in functionality. Oracle's IoT Intelligent Applications are unified under a single technology platform that is fully integrated with Fusion Cloud supply chain applications. These applications take advantage of insights and features to enable functionalities like real-time cargo monitoring, field monitoring, maintenance, and worker monitoring that engages the line of business directly. All the offerings converge into a set of use cases that address four business areas: connected assets, smart manufacturing, connected logistics, and worker safety.

Similarly, Oracle Intelligent Track and Trace offers a full-featured application built on Oracle Blockchain Platform to enable end-to-end visibility in multitiered supply chain networks. This application helps establish trust between trading partners over a secure private blockchain network. It enables members to track, trace, and monitor transactions and their associated assets, items, and documents. By automatically correlating documents from different trading partners and divisions in a supply chain, Oracle Intelligent Trace can provide complete traceability and genealogy of any lot-controlled or serial-controlled item as well as supply chain transactions. Smart contracts allow for automatic validation of transactions and enforce compliance to agreements. Oracle Intelligent Track and Trace provides prebuilt integrations with Fusion Cloud supply chain applications and has the ability to integrate with any third-party application.

Because IoT and blockchain are integrated from the center of the platform pyramid both up into applications and down into infrastructure, a closed loop cycle can be realized. For example, a manufacturing customer can track data and insights through a complete cycle of design, make, deliver, monitor, and back to make. Furthermore, performance and quality metrics can then be used by the PLM system to influence future product updates. Oracle thus provides an end-to-end solution that goes from PLM into manufacturing, then into the order, and onto logistics, warehouse, field monitoring, and back to quality management into the PLM. By reducing barriers to entry and making such technology accessible, Oracle customers can be more transparent with their customers and suppliers, increasing resiliency.

Keeping Systems Secure

With cyberthreats on the rise, the security and reliability of critical systems are top priorities for many companies. While Oracle certainly offers a breadth of security and identity management solutions, with the CIA as one of its first security customers, the differentiator is again the platform approach where functionality is embedded in the pyramid for all other services and applications to leverage. Thus the Fusion Cloud Applications along with ecosystem partner applications at the top of the pyramid, for example, leverage the platform's autonomous cyberdefense services to build and run next-generation highly secure, automated applications.

Tight value stream integration provides better security and complete control across the platform, without having to rely on a different cloud service provider, technology vendor, or ISV. This is a differentiator for Oracle and the advantage of a single cloud service provider approach. Partners, in turn, can take advantage of Oracle's comprehensive security services by integrating into the platform to enable critical services.

Oracle's security is automated with autonomous services that keep it up to date. The automated capabilities help reduce complexity and prevent human error, working toward closing the talent shortage gap. This includes automatically updating security patches, which is not a trivial effort; updates are implemented at the platform level, which has lowered administration costs significantly. Security is always on and was architected into the design of the Oracle platform from the beginning, allowing for continuous and seamless protection from infrastructure to applications. Advanced capabilities are built in and therefore are available at no additional cost, like Oracle Cloud Guard, which provides vulnerability scanning services to monitor for vulnerabilities and misconfigurations, with alerts and ultimately automated remediation.

Identity and access management is another important aspect of Oracle's approach to security. Because resources are widely distributed with people accessing them from different networks and often on unknown devices, it's critical to ensure that every request is properly authenticated and authorized. Identity management is built into Oracle Cloud Infrastructure, so it is automatically part of the platform. This enables first-time users to immediately benefit from features such as flexible access policies that allow access to the right people at the right time and adaptive authentication techniques that consider the session's context and tune security levels and identify life-cycle management capabilities. Consistency across the entire platform is essential and delivered through Oracle's value stream directive. Identity management offers a consistent security mechanism for managing access to infrastructure, core services, and applications.

Extend Capabilities in the Marketplace

Oracle Cloud Marketplace accelerates time to value by allowing fast and easy access to Oracle and partner technology. Customers can extend their existing application functionality through the Marketplace, and because it is also part of the overall platform, solutions are integrated into the core services and infrastructure.

Low-Code/No-Code Extensions

Oracle empowers customers with low-code and no-code tools to efficiently tailor applications to address their unique business needs. As previously discussed, the Fusion Cloud Applications typically cover 80% of a customer's requirements, and with low-code visual designers and prebuilt application adapters and recipes, Oracle enables customers and partners to easily address the outstanding 20%. Low-code and no-code integration and intelligent automation allow customer SMEs and partners to

increase the speed of delivery for new services, in many cases from months to minutes, and to build custom applications or create new workflows that are protected from disruption when applications are upgraded. The resulting agility is a hallmark of digital businesses and critical to activating new value streams. The platform is engineered to allow businesses to architect processes that are essential to transformation, facilitating the connection of different business systems, environments, and ecosystems, perhaps as the result of M&A activity.

Base: Foundational Infrastructure

The most significant part of any pyramid is its base; it must be strong and stable enough to support all the layers on top, yet adaptable enough to meet various needs and evolve as the environment changes. Oracle Cloud Infrastructure provides traditional network, compute, and storage functionality as the base, but as part of the platform for digital business, it enables much more by supporting the core services and Fusion Cloud Applications that depend on it, making them better.

OCI is a deep and broad platform of public cloud services that enables customers to build and run a wide range of Oracle and ecosystem partner applications in a scalable, secure, highly available, and high-performance environment. Unlike other hyperscalers, OCI has elements of both base and core, as it provides both a cloud infrastructure and a full set of platform capabilities. Oracle's infrastructure includes all the technology required to build, extend, and interconnect applications including a comprehensive security solution, a complete set of solutions for managing data across diverse data types and sources, and AI-based visual analytics. The Gen 2 cloud infrastructure spans multiple services, including app dev with mobile, blockchain, AI/ML, and chatbots, as well as integration with partner applications. It also serves the critical function as the infrastructure for Oracle Autonomous Database, uniting all three layers of the platform through seamless integration to support customer value streams.

Economics are another differentiator for Oracle as the company was first in the industry to offer transparency with uniform pricing for OCI across all global locations. In addition, a study conducted by Oracle asserts that the AMD compute instances on OCI show 3x superior price performance compared with other leading cloud service providers. Finally, for enterprise private and hybrid cloud requirements, OCI is available with the new Dedicated Region Cloud@Customer behind a company's private firewall and in its datacenter.

ADVICE FOR THE TECHNOLOGY BUYER

- Eliminate the cost and complexity associated with a myriad of point solutions by investing in a business platform that unites public cloud infrastructure with a new generation of cloud applications and developer tools for extending functionality while simplifying data and systems integration.
- Create superior customer experiences that rely on digitally enabled processes and workflows that seamlessly span functions, systems, and locations. To facilitate seamless integration, businesses should consider a modular business technology platform with autonomous capabilities for optimizing end-to-end processes and workflows in a unified workplace.
- Leverage a digital business platform to create a highly adaptable environment that balances today's operational needs with the changing needs of customers, an increasingly decentralized workforce, and disruptive forces including potential worker shortages.

- Look for next-generation platforms that simplify integration, unify workflows and business processes across technology solutions, and enable standardization; therefore, engage cross-functional stakeholders throughout evaluation, selection, and implementation to ensure that all departmental needs are properly balanced against the transformation mandates of the business and technology requirements.
- Consider a provider's historical trajectory with data management; consider the role of data in nurturing a vibrant ecosystem. Intelligence and data-driven insights are likely critical drivers to any DX initiative and enabling capabilities should be considered carefully.

LEARN MORE

Related Research

- *Amplify Value Innovation with a Business Platform Strategy* (IDC #US47976221 June 2021)
- *Oracle Innovation Manifests in a New Generation of Cloud Applications* (IDC #US46799319 September 2020)

Synopsis

This IDC Perspective focuses on Oracle's next-generation platform for digital business, which combines powerful business applications functionality, comprehensive core services, and a sophisticated cloud infrastructure to support value streams.

"In a cloud-enabled digital economy, business value more than TCO drives technology buying decisions – from cloud infrastructure to innovative technologies like AI and IoT and the powerful SaaS applications that help manifest the future of work. The concept of a digital business platform describes a collection of next-generation capabilities that seamlessly combine across infrastructure, core services, and business applications to facilitate multiple streams of value to empower organizations on the digital transformation journey," according to Frank Della Rosa, research director, SaaS and Cloud Software, Business Platforms, and Ecosystems at IDC.

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