

OFFERING OVERVIEW

# Oracle Gen 2 Exadata Cloud at Customer Powers Next-Gen Computing

**Oracle Unveils the Second Generation of its Exadata Cloud  
at Customer While Other Vendors Ponder Their First Foray**



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## EXECUTIVE SUMMARY

This report provides an overview of Oracle Gen 2 Exadata Cloud at Customer and analyzes its capabilities to meet enterprises' needs for a next-generation computing platform that would allow them to deploy workloads across both on-premises environments and the public cloud. Along with the new capabilities of Oracle Gen 2 Exadata Cloud at Customer, we look at the overall value proposition of Oracle Exadata Cloud at Customer for enterprises.

Oracle Exadata<sup>1</sup> Cloud at Customer is a manifestation of Oracle's vision for the "chip-to-click" integrated technology stack (i.e., from the CPU silicon, across all ISO layers and all the way to the end-user mouse click). As Oracle uses the same technology stack and machines in both its cloud and on-premises implementations, it has the highest degree of identity across these offerings to be found among all vendors that are part of Constellation Research's Market Overview on next-generation computing platforms. The others are Amazon Web Services' Outposts offline portfolio,<sup>2</sup> Google GKE On-Prem,<sup>3</sup> IBM Cloud Private and Microsoft Azure Stack.<sup>4,5</sup> Also of note is the Constellation Vendor Profile on the newest Oracle Exadata machine, Oracle Exadata X8M.<sup>6</sup>

### Business Themes



New C-Suite



Future of Work



Data to Decisions



Technology  
Optimization

# ABOUT ORACLE GEN 2 EXADATA CLOUD AT CUSTOMER

## Overview

Oracle has a unique vision among those in this technology vendor field, creating the largest integrated “chip-to-click” integrated hardware and software offering—one that ranges from the silicon (the “chip”) to the user (the “click”) in software-as-a-service (SaaS) offerings. Exadata Gen 2 is an integral part of the overall Oracle Exadata portfolio, serving as the database platform in both the Oracle Cloud and Oracle Cloud at Customer offerings.

For a long time, Oracle has stressed that its technology in its cloud infrastructure is very much the same as its on-premises stack with the Oracle Cloud at Customer portfolio. The functional scope is nearly identical, with very few capabilities unavailable in Oracle Cloud at Customer. Overall, compared with its competitors, Oracle has the largest functional scope available on-premises, including its software-as-a-service (SaaS), platform-as-a-service (PaaS)<sup>7</sup> and infrastructure-as-a-service (IaaS) capabilities, running on Oracle Exadata, Private Cloud Appliance and ZFS Storage Appliance. Oracle Cloud at Customer is the closest that customers can get to having the Oracle “chip-to-click” cloud stack running in their own data centers. Autonomous Database is slated for availability in customer data centers by mid-2020.

On-premises deployments of the Oracle Cloud at Customer portfolio are technically implemented in such a way that the on-premises installations act as instances of the Oracle Cloud, particularly with Exadata. This allows Oracle to offer the hardware and services on a subscription basis. Exadata, which has had time to mature for a decade, lies at the core.

New innovations with Oracle Gen 2 Exadata Cloud at Customer include:

- **Improved performance.** Thanks to the latest Intel Cascade Lake CPUs, Oracle Gen 2 Exadata Cloud at Customer offers a 28% faster clock rate. On the storage server side, there is 25% higher throughput compared with Exadata X7, which in combination with 24 storage cores eliminates the cost for encryption/decryption.

- **Improved architecture.** Oracle Gen 2 Exadata Cloud at Customer leverages a modern Cloud Control Plane that is deployed in the nearest Oracle Cloud Infrastructure (OCI) region. This enables enterprise cloud management with unmatched performance, scalability, availability and security, while also reducing space, power and cooling requirements of customers' own data centers. Customers can now use the same Gen 2 Oracle Cloud Web Interfaces and APIs to manage Exadata Cloud Service and Exadata Cloud at Customer.
- **Secure and resilient management.** Oracle also has introduced two lightweight control plane servers. They are used to provide secure and reliable management capabilities for key operations, even in the event of internet failure. They also provide secure access to the system for Oracle operations to manage the infrastructure. Integrated in the same rack as the rest of Exadata, they require no additional floor space.
- **Easier deployments.** With Oracle Gen 2 Exadata Cloud at Customer, customers can now directly connect their Exadata machines to their network. This allows them to run their familiar network operations tools and eliminates the workarounds and exceptions that previously were required.
- **Support for Oracle Database 19c.** Oracle Gen 2 Exadata Cloud at Customer offers full cloud automation support for the latest long-term supported release of the Oracle Database. This release is expected to be the preferred target for many deployments because customers tend to gravitate toward releases with long-term support.
- **Ready for Autonomous Database.** Oracle says Gen 2 Exadata Cloud at Customer will be ready to support Autonomous Database at Customer in the future. This will give customers the choice of management models—either customer-managed or autonomous—for their future deployments.

## Market Segment

### Market Definition

Oracle Exadata competes in the next-generation computing platforms market as a hardware, software and services offering. A next-generation computing platform is defined as a computing paradigm that runs the same infrastructure (with some limitations) for or by an enterprise on-premises and in the public cloud. When it comes to Oracle, that infrastructure is, to a large part, Oracle Exadata.

There has been a lot of confusion around the term “cloud,” with vendors accusing each other of “cloud washing”—that is, trying to rebrand an old product by adding the word “cloud” to its name. In reality, cloud definitions vary from vendor to vendor and even from enterprise to enterprise.

For the purpose of this report, Constellation defines “cloud” as the elastic provisioning of computing, storage and networking. The elasticity manifests itself in the form of dynamic ramping up and ramping down of resource availability, driven by workload demand, even on a per-second basis. The mechanics for this kind of computing have been established and have matured with public cloud IaaS vendors.<sup>8</sup>

CxOs who have to manage on-premises workloads also find that value proposition—the elasticity of computing resources—attractive. IaaS vendors have realized this and added offerings that make parts of their IaaS infrastructure available on-premises. Effectively, the public cloud enables the era of “Infinite Computing.”<sup>9</sup>

This report discusses six trends shaping this market.

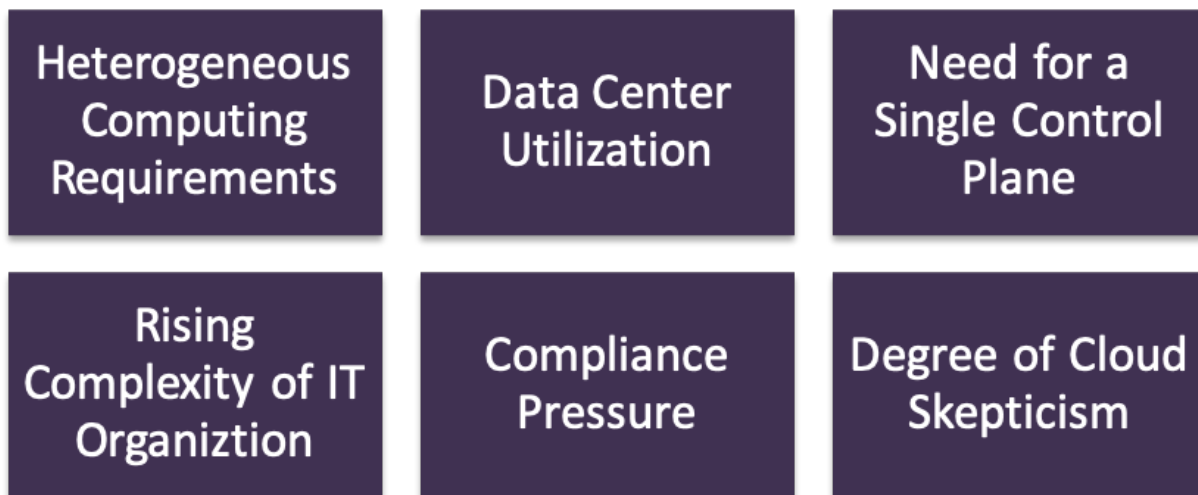
## Market Trends

The following six market trends characterize the management of computing infrastructure (see Figure 1):

### Heterogeneous Computing Demands

CxOs are confronted with rapidly changing computing demands. Barely having satisfied the business need for big data, the computing requirements that CIOs must answer stretch from support for machine learning to speech recognition for internal and external digital assistant/chatbot solutions, all the way to the edge of the enterprise. New computing platforms have entered the data center—for instance, with the advent of large GPU racks to run machine learning. A never-before-seen platform diversity manifests itself at the edge of the enterprise to support the Internet of Things (IoT). And the pace of change is not slowing down, as shown by new demands for additional workforce support (e.g., augmented/mixed/virtual reality) and new user experience support (e.g., holographic displays).

**Figure 1. Six Market Trends Defining a Next-Gen Computing Platform**



Source: Constellation Research

## Data Center Utilization

As workloads move from enterprise data centers to public cloud vendors, CIOs struggle to reach the level of utilization they intended when originally planning and investing in their data centers. One part of the challenge is the business practice of letting divisions choose their automation tools, which results in a lower degree of predictability for available workloads in on-premises data centers. An additional hurdle for CIOs is that physical infrastructure requests are moving slower and have a much longer-lasting financial impact. Data center utilization can quickly change from full capacity to two-thirds of utilization. Dropping a single server-refresh cycle will create that scenario, which CxOs experience as they move workloads to the public cloud.

## The Need for a Single Control Plane

The era of CxOs simply accepting that new products bring a new control plane is history. CxOs operating next-generation applications<sup>10</sup> must run them as efficiently as possible, via a single control plane. This not only allows for more efficiency to manage infrastructure but also is the best way to manage a heterogeneous landscape effectively. Ramping down and ramping up resources as demand requires cannot be done from a “zoo” of instrumentation. At the same time, the automation of resource scaling is essential, so humans can focus on oversight instead of spending time and energy on operational tasks.

## Rising Complexity of IT Operations

The cloud has not fulfilled its promise to simplify IT for most organizations because they are operating on a fluid automation plane that includes the public cloud and on-premises computing resources. Business priorities, timing and write-down cycles all determine the specific time a load may be moved to the public cloud or whether it should remain on-premises. Changes in executive management often result in a shifting workload mix (for instance, due to SaaS portfolio changes) that affects the overall computing mix. A greater diversity in workloads and new next-gen application use cases create more heterogeneity and increase the complexity of IT operations.



## Compliance Pressure

Enterprises see themselves confronted with a rise in compliance requirements that, because of the operation of larger software portfolios, affect more of the computing and storage infrastructure than ever before. Data privacy and data residency regulations often require enterprises to move loads to different physical locations, and sometimes from the cloud back to on-premises. Enterprises have not even recovered from the European Union's recently enforced General Data Protection Regulation, and they see more data residency rules coming their way, such as the California Consumer Privacy Act. The rate of regulation will only increase, making CxOs desire a more fluid way to move workloads.

## Degrees of Cloud Skepticism

Although many next-generation application use cases are best (and sometimes only) operated in the cloud, there is still a degree of skepticism over computing in the public cloud. It ranges from rational challenges (such as whether IaaS vendor data instances are available inside of a necessary jurisdiction) to reasonable challenges (hardware write-downs and connections to existing on-premises computing resources, such as mainframes) to less-rational concerns (for instance, regarding data safety). Nonetheless, it means that CIOs need to implement and operate workloads in local data centers for at least the next decade.

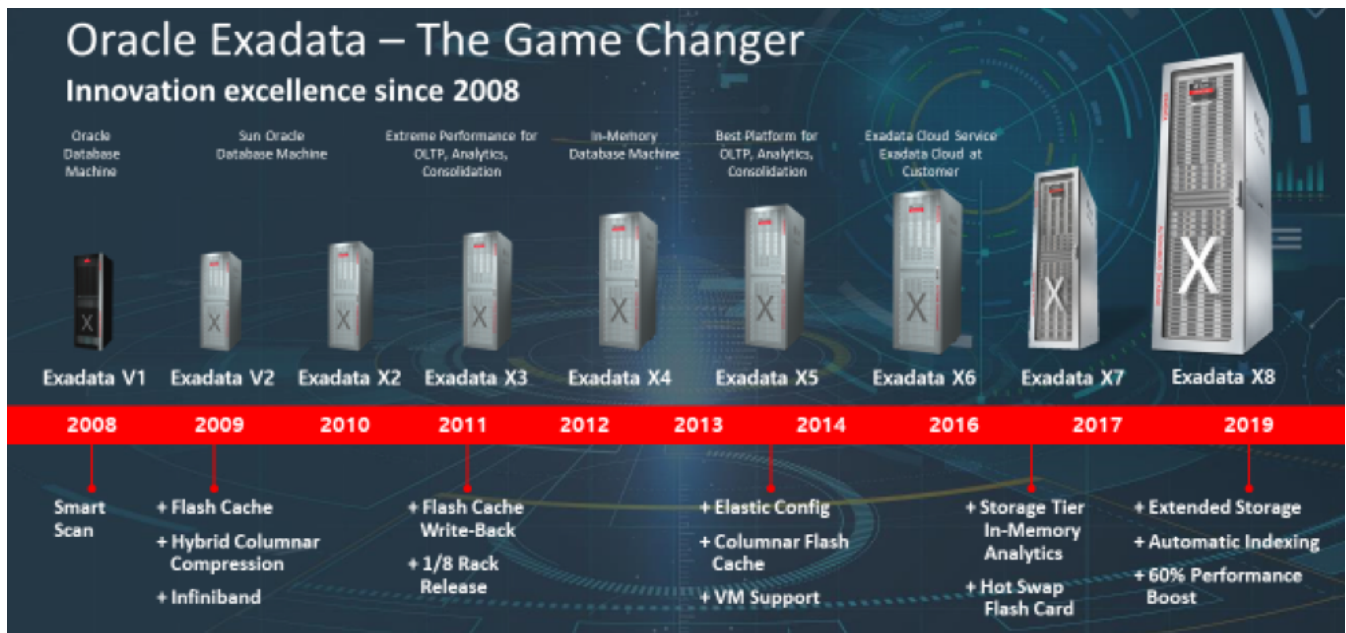
## KEY CAPABILITIES

This section describes the key capabilities of the Oracle Exadata offering.

### A 10+ Year Proven Platform for Critical Enterprise Computing

Oracle started to ship Exadata in 2008 and has upgraded the platform over the last 10 years with new innovations featured on every release (see Figure 2). Originally a partnership between Oracle and Hewlett-Packard, Exadata V2 evolved to combine hardware assets from the subsequent Sun Microsystems acquisition as well as additional R&D. Oracle created a hardware and software combination engineered to work together, which has received a very strong reception in the market, with several customers now running over 100 Exadata in production environments and some running north of 200 Exadata.

Figure 2. Oracle Exadata 10-Year Innovation Track Record



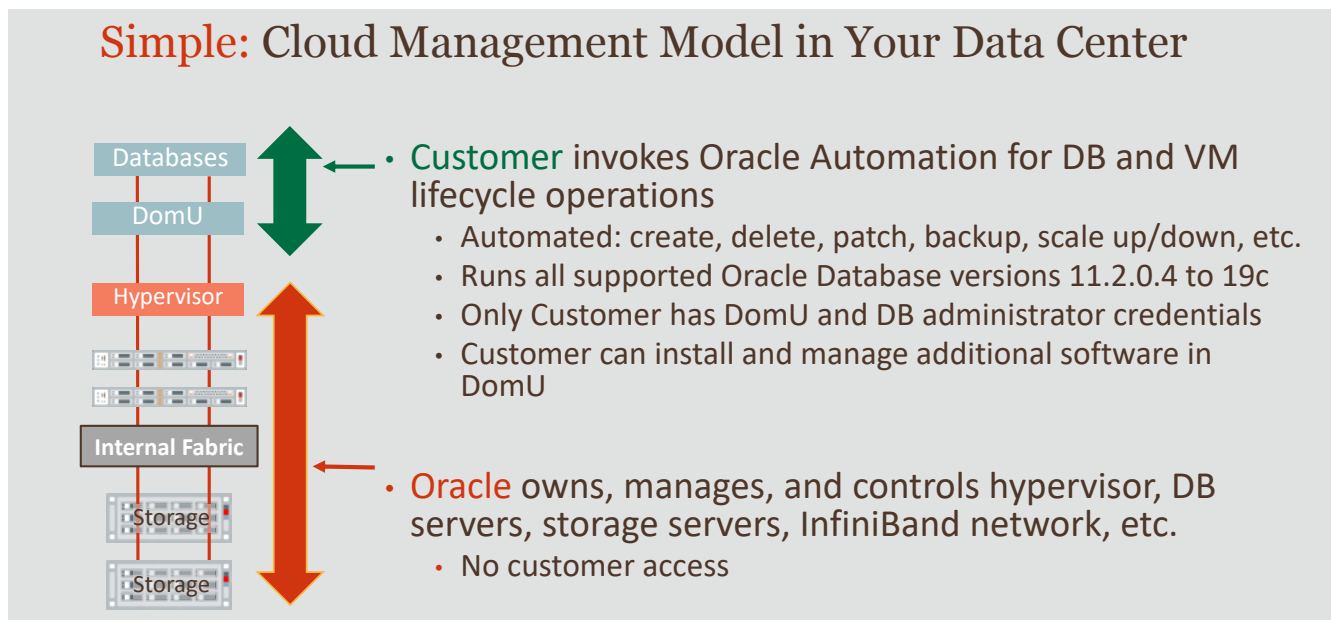
Source: Oracle

Today, Oracle Exadata can be found to a predominant degree within global enterprises that care the most for performance while operating under the very challenging conditions from an operational uptime perspective.

- 77% of the Fortune Global 100 run Exadata.
- 25% of the Fortune Global 100 have adopted Exadata Cloud Service.
- Fortune Global 100 adoption of Exadata Cloud Service increased 150% in 2018.

In 2017, Oracle introduced Oracle Exadata Cloud at Customer, allowing enterprise users to deploy cloud-ready Oracle Exadata machines and architecture—completely managed by Oracle—on-premises (see Figure 3). CxOs welcomed that offering because it allowed them to let Oracle do what Oracle knows best, managing the infrastructure supporting Oracle Databases. Oracle is able to offer these services in a very efficient manner, as Oracle Cloud at Customer instances are managed the same way that Oracle manages its OCI-based Oracle Exadata instances. In fact, customer instances of Oracle Cloud at Customer are logical extensions of OCI, giving the CxOs the certainty that their instances would be managed as well as Oracle manages its cloud-based instances of Oracle Exadata.

Figure 3. An Example of the Division of Labor Between Customer and Oracle for Oracle Exadata Cloud at Customer



Source: Oracle

Oracle Exadata Cloud at Customer has encountered positive enterprise uptake. Here are some highlights:

- **Better efficiencies and security.** Dialog Semiconductor improved operational agility (e.g., the creation of new databases now takes minutes, not days) and security (5x–6x faster backups).
- **Bursting to the cloud for better customer experience.** Sejel Technology uses cloud bursting to meet demand peaks related to the travel needs of more than 10 million pilgrims visiting Saudi Arabia seasonally, and it saw 4x improvement in performance compared with the previous system.
- **Better performance and faster ROI.** Sentry Data Systems benefits from a 60% decrease of batch processing times, while being able to increase online transactions by 60%. And it reached 100% ROI in six months after first operating Oracle Exadata Cloud at Customer.

## Highest Degree of Identicality

Identicality is crucial for a next-generation computing platform because it allows CxOs to confidently move workloads between on-premises locations and the cloud. The lower the degree of identicality, the more difficult it is to move workloads, and the fewer the loads that can be transferred automatically. Oracle has built its cloud offering over the last decade while always keeping identicality a paramount objective. For Oracle, identicality has reached the point where the same machines, configurations and software versions are running on the Oracle Cloud and on Oracle Cloud at Customer.

With Oracle Cloud at Customer, Oracle has delivered a complete public cloud experience that is delivered in a customer's data center and behind their firewall. Oracle not only provides the same technical feature set but also the public cloud financial model, enabling pay-as-you-go mechanisms. Likewise, the operational model of the public cloud is supported by Oracle Cloud at Customer, with Oracle providing system operations and maintenance, not the customer. This enables enterprises to retain physical control over the hardware because they are in charge of physical security. Effectively, Oracle Cloud at Customer enables a hybrid cloud operating model, should an enterprise require this.

This gives Oracle Cloud at Customer users the ability to experience public cloud benefits—most prominently, elasticity. Customers also benefit from the financial model of the cloud, as they have to pay only for IT resources that are being consumed. Moreover, the operational model is characterized by high scalability because clients use the same operational model to run their on-premises computing as Oracle does in the Oracle Cloud. The big benefit for customers, as in all on-premises deployments, is that they retain physical control over machines, data and workloads all in their data center. These are important qualities from data privacy/locality, performance and peace-of-mind perspectives. Perhaps most importantly, identicality enables a seamless load transfer between on-premises environments and the public cloud, moving workloads between locations as needed by an enterprise and giving CxOs a maximum degree of workload deployment flexibility.

Such identicality is not trivial, as many new computing architecture offerings have been designed cloud-first, without on-premises operating requirements in mind. Scaling them back and making them work on-premises is not easy and typically results in a compromise. Oracle, on the other hand, has designed its Oracle Cloud and Oracle Cloud at Customer technology stacks to be the same, resulting in the

highest degree of identity. This enables CxOs using Oracle to benefit from the R&D put into the cloud technology stack in their own data centers. Oracle has achieved the highest identity among the cloud and on-premises technology stacks from all vendors reviewed by Constellation in the recent Market Overview on next-generation computing platforms.

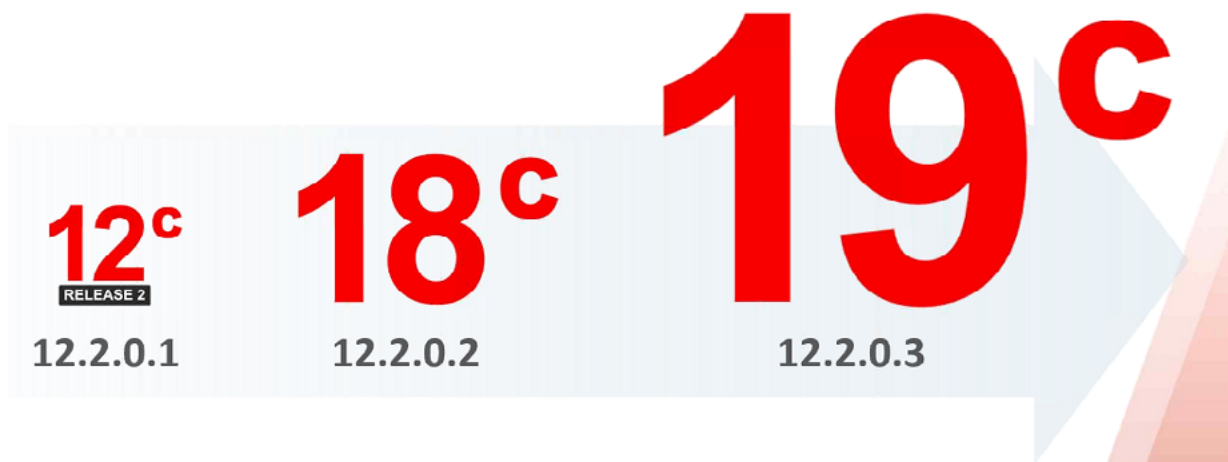
## The Platform for the Oracle Database

Oracle has designed and architected the Oracle Exadata platform to be the best platform for the Oracle Database. So, it is no surprise that customers are seeing the best performance times and total cost of ownership (TCO) numbers using Oracle Exadata to run Oracle Database loads (see Figure 4).

Oracle Gen 2 Exadata Cloud at Customer provides full cloud automation support for Oracle Database 19c. This is important because this is the last release in the “12.2” family and is the latest long-term supported release. Customers tend to prefer to adopt long-term supported releases because this removes the need to continually upgrade their environments. The Exadata platform will also support new feature releases as they become available, providing new and improved functionality for customers that may require or benefit from these enhancements. Because enterprises have critical workloads

Figure 4. Exadata Cloud at Customer Oracle Database Support

Supports Oracle Database 19c  
Long Term Support Release of the 12.2 Family



Source: Oracle

running on the Oracle Database, it is crucial for CxOs to have the freedom to operate platforms that support critical databases as long as it is advantageous to their enterprise.

Oracle Database 19c also brings features from Oracle Autonomous Database (see Figure 5), such as Automatic Indexing, to on-premises Exadata and Exadata Cloud at Customer. Not surprisingly, CxOs also want Oracle to provide support for its autonomous database service, so Oracle made Oracle Gen 2 Exadata Cloud at Customer ready for the deployment of the autonomous versions of the Oracle Database. This brings all the self-driving benefits to the on-premises deployments and will help to fortify the resilience of critical loads running on the Oracle Cloud at Customer platform. Full-blown Autonomous Database support for Exadata Cloud at Customer deployments is expected by mid-2020.

## Oracle Gen 2 Exadata Cloud at Customer Extends Its Lead

As with every update of a new engineered systems platform, it is critical that hardware specs are reviewed and upgraded (see Figure 6). And Oracle has done exactly that for Oracle Gen 2 Exadata Cloud at Customer:

- **Faster CPUs.** Using Intel's latest Cascade Lake processors, the Database Server CPUs now have a 28% faster clock rate.

Figure 5. The Oracle Autonomous Database for Oracle Exadata Cloud at Customer

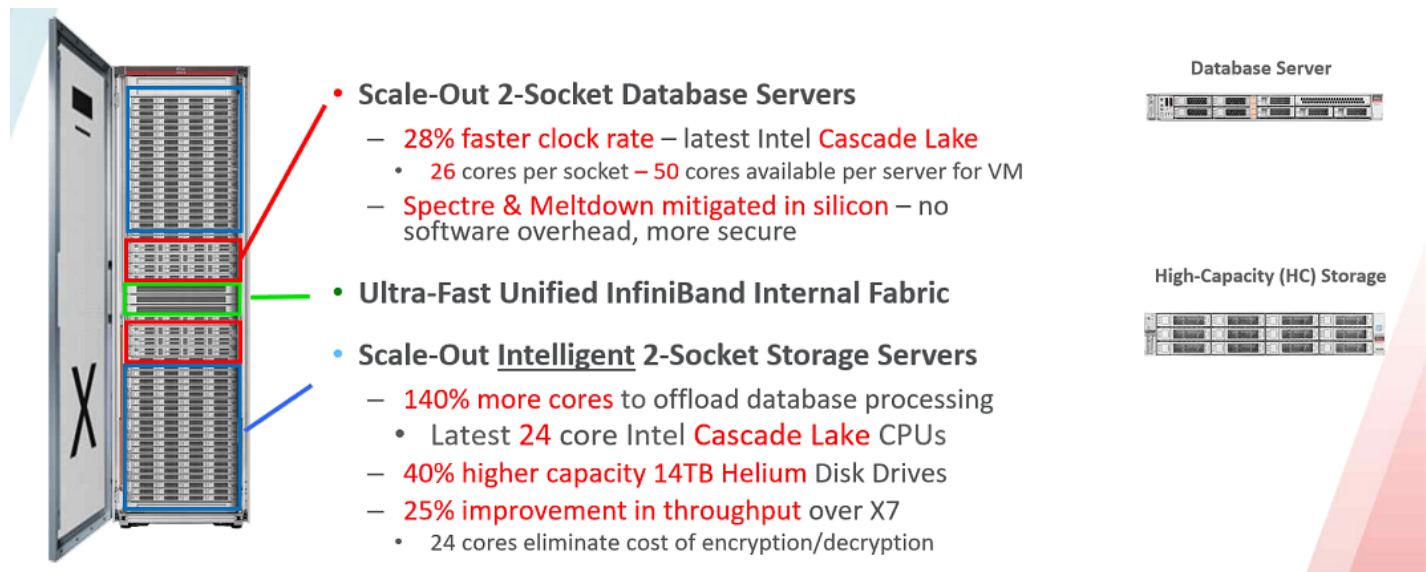
- All the benefits of Autonomous Database **in your data center**
  - Self-Driving
  - Self-Securing
  - Self-Repairing
- Highest isolation and security
- Low latency access to your applications
- Customizable operational policies



Source: Oracle



Figure 6. Oracle Gen 2 Exadata Cloud at Customer Spec Upgrade



Source: Oracle

- **More cores.** The number of cores is up for both the Database Server (from 24 to 26 cores) and for the Storage Servers (from 10 to 24 cores).
- **Higher security.** The Intel Cascade Lake CPUs now have silicon-mitigated protection against the Spectre and Meltdown exploits.
- **More storage.** Forty percent higher capacity on 14 TB Oracle Helium disk drives.
- **Fast networking.** Oracle stays with ultra-fast, unified InfiniBand for the internal fabric.
- **Higher throughput.** Twenty-five percent higher throughput in Oracle Gen 2 Exadata Cloud at Customer compared with the previous underlying Exadata Version 7. This, for instance, eliminates the cost of encryption on the storage servers.

## A Platform for Next-Gen Apps

Enterprises must respond to the storms caused by digital transformation, and one likely consequence is that they will need to turn themselves into software companies. This means they must build software

themselves in order to differentiate themselves in the marketplace, respond to competitive challenges, create market-changing new offerings and generally become faster and more agile.

However, as much as digital transformation is about creating next-generation applications, companies still must be able to tie these into the enterprise backbone, the mission-critical systems of record that every enterprise needs. And many, if not most, of these mission-critical applications run on the Oracle Database.

Oracle Gen 2 Exadata Cloud at Customer is better at enabling CxOs to build these next-generation applications. The following capabilities are prominent:

- **In-database machine learning.** Machine learning is transforming enterprise software and is a key ingredient for successful next-generation applications. By allowing machine learning operations to run directly in the database, Oracle makes the creation of machine learning-powered next-generation applications radically simpler. Moreover, model creation, deployment and retraining are faster and cheaper than in conventional setups. Constellation sees the speed and cost to update machine learning-based next-generation applications as a key success factor for enterprises in the 21st century.
- **Automatic indexing.** Indexing is always critical for database performance—hence, the ability to make this a self-driving capability of the Oracle database is a key capability of Oracle Database 19c running in Oracle Gen 2 Exadata Cloud at Customer. The application of machine learning to this problem has shown more than convincing proof points—for instance, just running 24 hours of automatic indexing showed better results than 15 years of expert tuning on the same database. This allows CxOs to reuse precious DBA skills where they matter, on other, nonautomated critical tasks.
- **Cloud-adjacent architecture.** Data and processes, as well as the platforms that power next-generation applications, cannot be limited to a single platform—so it is critical for the technology players to provide connectivity. Oracle has advanced the capabilities of customers in this area by supporting the cloud-adjacent architecture in Equinix data centers for interconnecting servers, allowing customers to connect their Oracle Gen 2



Exadata Cloud at Customer instances with other workloads via a rapid cross connects. Oracle has announced the same capability with Microsoft Azure, allowing customers to combine Oracle Database loads with Azure applications and analytics workloads and capabilities.<sup>11</sup>

## PRICING

Oracle has optimized the pricing both from a technical (minimum number of cores) and a usage (CPU-based pricing) perspective. CxOs need to make sure that the minimum requirements are not too steep for their workloads and that they can derive a TCO advantage. As usual, enterprises should negotiate well with Oracle (as with any other vendor) because discounts, especially in the fourth quarter of the vendor's financial year, are always a possibility.

A detailed Exadata price list can be found here: <https://www.oracle.com/assets/exadata-pricelist-070598.pdf>

Pricing for the Oracle Exadata Cloud Service can be found here: [https://cloud.oracle.com/en\\_US/database/exadata/pricing](https://cloud.oracle.com/en_US/database/exadata/pricing)

And finally, pricing for Oracle Exadata Cloud at Customer can be found here: [https://cloud.oracle.com/en\\_US/database/exadata-cloudatcustomer/pricing](https://cloud.oracle.com/en_US/database/exadata-cloudatcustomer/pricing)

## ANALYSIS AND OBSERVATIONS

For CxOs making decisions regarding their next-generation computing platform, Oracle brings a lot to the table. With the highest identity of cloud and on-premises products available, Oracle makes it easy to transfer workloads from on-premises to the cloud and vice versa. Oracle Exadata is a key part of the overall offerings, delivering on many of these benefits. The biggest concern arises around commercial tactics.

## Strengths

Oracle Exadata possesses the following strengths compared with others in the market (see Figure 7):

- **Highest identity of cloud and on-premises functionality.** Oracle Exadata delivers flexibility at times of uncertainty, including from legislative, top management and best-practices perspectives. The main aspect of flexibility for computing platforms is the ability to transfer workloads between the cloud and on-premises. Enterprises are attracted to Oracle Exadata by the identity of the solution in this regard. They run on the same machines and have identical setups—the Oracle Exadata machines. A customer can run Oracle Databases on Exadata on-premises and then move the same Oracle Databases to another Exadata in the cloud and not have to make any software changes. No Oracle competitor can offer that—yet.
- **Integrated, chip-to-click stack.** Oracle is pursuing its founder and CTO Larry Ellison’s vision of becoming the IBM of the 21st century, offering a fully integrated technology stack, designed, engineered and operated together, from the silicon all the way to the mouse click of an end user using a SaaS application. No other vendor is currently pursuing that complete vision of a technology stack. This is likely one of the largest software and hardware engineering efforts of our time and, as such, offers substantial simplification, TCO and efficiency savings, and it all comes from Oracle. Users’ desire for the legendary “one butt to kick” has never been closer to being achieved.
- **One database for all needs.** The Oracle Database doesn’t only run relational database loads; it can also run Time Series, XML, Document, Graph and JSON natured database loads. Most Oracle competitors run these different loads in different databases. Oracle’s single-database approach makes administration and support easier and offers consolidation strategies using Exadata.
- **A very good product gets even better.** With the upgraded specs of Oracle Exadata Cloud at Customer, which provides even better performance than even the recent Oracle Exadata X8 on-premises release, CxOs know they can rely on a

better-performing platform. Faster clock speeds and more cores allow the operation of critical processes like encryption/decryption without a performance penalty. And a new architecture, which introduces two lightweight control servers, makes upgrading, monitoring and connecting to Oracle Gen 2 Exadata Cloud at Customer significantly more elegant and simpler.

## Weaknesses

Oracle Exadata possesses the following weaknesses compared with others in the market:

- **Oracle predominantly known as an RDBMS vendor.** Despite all the investments into PaaS<sup>12</sup> and SaaS, Oracle remains primarily known as a leading database vendor. CxOs traditionally have trusted various other vendors to enable their computing platform via a mix of hardware and networking solutions. Oracle needs to overcome that RDBMS perception from the past and position itself as a complete hardware, networking and software-layer vendor in the context of Exadata. Oracle Exadata can do much more than “just” running the Oracle Database very well. Overall, Oracle is starting to show signs that it has reached a leadership position in enterprise applications as well, as shown in recent market studies.
- **Catch-up mode on public cloud infrastructure vs. leaders.** Oracle has made numerous forays into the public cloud but what Oracle calls the second-generation IaaS has seen traction and success only recently. Oracle needs to showcase IaaS viability and capex investment to give CxOs the confidence that there will always be a cloud option to which they can migrate their workloads.
- **CxOs’ perception of Oracle.** At best, CxOs see Oracle as a challenging vendor. Too many stories of unfavorable and harsh business tactics are out there—some true, some in the realm of myth. Oracle must make itself easier to do business with and manage the transition from being a respected to a liked technology partner for CxOs.

- **Integrated stacks don't harmonize with heterogeneous systems landscapes.** As enterprises have built up considerable technical debt over time, they operate a vast number of systems and platforms. In some situations, enterprises need to keep operating these platforms for the foreseeable future and can't move to Oracle Exadata. But any database that runs on x86 and Linux can move to Oracle Exadata.

**Figure 7. Exadata's Strengths and Weaknesses**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Highest identity of cloud and on-premises functionality</li> <li>• Integrated, chip-to-click stack</li> <li>• One database for all needs</li> <li>• A very good product gets even better</li> </ul>	<ul style="list-style-type: none"> <li>• Oracle predominantly known as an RDBMS vendor</li> <li>• Catch-up mode on public cloud infrastructure vs. leaders</li> <li>• CxOs' perception of Oracle</li> <li>• Integrated stacks don't harmonize with heterogeneous systems landscapes</li> </ul>

Source: Constellation Research

## RECOMMENDATIONS

The following recommendations can be made for CxOs looking at their computing architecture:

- **Enable enterprise acceleration.** Enterprises need to move faster than ever before, and IT/computing infrastructures cannot continue to be the shackles on agility that they have been in the past. This is why CxOs look for next-generation computing platforms that allow them to transfer workloads from on-premises to the cloud and vice versa. This is a key strategy to help the technical side of an enterprise contribute to the overall objective and the necessity of enterprise acceleration.
- **Select vendors that have the greatest capability of identity.** Identity is the key to workload portability. The higher the identity between an on-premises architecture and a cloud architecture, the better the chances to move workloads. This

argument is intuitively clear to CxOs leading the transformation, and platforms with high identity are therefore clearly preferred. It's even better when vendors state that they design for identity and want to keep identity high—as high as technically feasible. As stated in this report, Oracle excels at identity between Exadata on-premises, Oracle Exadata Cloud Service, Oracle Autonomous Database and the Oracle Exadata Cloud at Customer platforms.

- **Pick your next-generation computing platform carefully.** There are substantial value proposition differences between the five vendors that Constellation has analyzed in the underlying Constellation Market Overview. Differences in hardware provisioning, ownership in managing the offering and functionalities make these five vendors very different partners for enterprises to manage their next-generation applications on the right next-generation computing platform.
- **Evaluate Oracle Exadata as existing Oracle Database customers.** Because most customers run the Oracle Database in one way or another, it is important that they familiarize themselves with the most prominent member of the Oracle Cloud at Customer product family, Oracle Exadata Cloud at Customer. Being able to lower TCO, reduce support and maintenance, fit sizing to the average load of the machine, consolidate databases, burst to the cloud for peaks and transfer loads between Oracle Cloud and on-premises are substantial benefit drivers that CxOs cannot ignore. Experienced Oracle customers know that the best deals are usually available in the fourth quarter.
- **Consider Oracle's Exadata offerings as a prospect.** Database and tech-stack migrations are challenging, so non-Oracle customers will look at Oracle Cloud at Customer from some distance. The benefits of Oracle Exadata are substantial, however, and CxOs need to talk with their respective cloud and technology stack vendors about what they can do in this regard. Should the projected gap of the future road map become too large, and the potential cost savings with Oracle Exadata substantial enough, it is time to pay attention—but consider a potential migration.

- **Take a stance on commercial prudence.** No matter the vendor, enterprises need to make sure they obtain the value they seek. For Oracle Exadata, CxOs must pay attention that licenses and services (for instance, costs to burst to the cloud) are still providing their enterprise with an attractive TCO. As with all services-related offerings, prices will fluctuate, need to be contractually agreed upon as long as desired and must be constantly monitored to avoid negative commercial surprises.

## RELATED RESEARCH

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For a Constellation ShortList™ on IaaS vendors, see: Holger Mueller, “Constellation ShortList Global IaaS for Next-Gen Applications,” Constellation Research, February 20, 2018. <https://www.constellationr.com/research/constellation-shortlist-global-iaas-next-gen-applications-2>

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For the people-leader perspective on the skills shortage and the need for enterprise acceleration, see: Holger Mueller, “Why People Leaders Must Embrace Enterprise Acceleration,” Constellation Research, July 3, 2018. <https://www.constellationr.com/research/why-people-leaders-must-embrace-enterprise-acceleration>

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Holger Mueller is vice president and principal analyst at Constellation Research, providing guidance for the fundamental enablers of the cloud, IaaS, PaaS, with forays up the tech stack into big data, analytics and SaaS. Holger provides strategy and counsel to key clients, including chief information officers (CIO), chief technology officers (CTO), chief product officers (CPO), investment analysts, venture capitalists, sell-side firms and technology buyers.

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