

Move Your On-Premises Workloads to Oracle Cloud



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Don't miss out on the cost savings and convenience of the Cloud.

Drive innovation and achieve cost optimization, elastic scalability, global expansion, and address data sovereignty with Oracle Cloud Infrastructure database offerings.

In this age of disruptive innovation, every company must be adept at adapting to new market demands. They must innovate faster to seize exceptional opportunities and adopt new technologies or succumb to the competition.

As the American academic and business consultant Clayton Christensen said, “The reason why it is so difficult for existing firms to capitalize on disruptive innovations is that their processes and their business model that make them good at the existing business actually make them bad at competing for the disruption.”

The case of Blockbuster and Netflix aptly illustrates Christensen’s point. Netflix, a small niche service, upended Blockbuster’s well-oiled machine and disrupted the entertainment industry by offering a revolutionary subscription model for renting movies by mail with no late fees, no drop-box kiosks, no stores and unlimited online streaming of thousands of movies and TV shows. Netflix was one of the most disruptive innovations of its time because it found a way to lower operating costs without penalizing its patrons. Although Blockbuster had achieved operational excellence, the only way it could have competed with Netflix was by changing its business model and hurting its own profitability.

Netflix became the US\$297 billion Oscar- and Emmy-winning streaming giant because of its timely response to market needs. Whereas Blockbuster, which boasted 9,000 locations and US\$6 billion in annual revenue at the height of its success, was blindsided by change and reduced to a single franchised store in Bend, Oregon.

What are the areas that are keeping your organization from driving innovation in today’s market? If you’re still running your business out of a data center, it’s worth reassessing your approach. Hosting data in a data center is much like hosting movies in a video rental store whereas you could choose the on-demand availability offered by the cloud, which works on a pay-per-use subscription model, with automation and as-a-service delivery. This blog will help you assess your readiness to exit your data center and manage your data more efficiently in the cloud.

Challenges with on-premises data centers

Before the advent of the cloud, businesses had to acquire and manage IT infrastructure to support their solutions. They acquired or leased land, built buildings, put all their IT acquisitions there, arranged for the facilities to run at the optimal temperature, provided 24/7 electricity, and built a team to manage and maintain all those resources, resulting in a significant total cost of ownership (TCO). Before the cloud was an option, this expense was justified as a vital investment to sustain their competitive advantage. However, in the context of the cloud and disruptive innovation, on-premises data centers are not only daunting, but they may also no longer be economical.

Anyone who has worked for years to maximize the utilization of on-premises servers knows that on-premises data centers can’t keep supporting the expected pace of business growth. Innovation at speed and pragmatism are both key to success; businesses need to be able to support faster time to market and growth by maximizing their current investments in technology and applying new technology to solve new challenges. For example, VMware

virtualization may help you get more value from your technology infrastructure, but running these workloads while maintaining full control and without changing existing processes can be challenging.



Expansive on-premises data centers are expensive to staff, lease, and support with growing utility bills, generating costs that are ancillary to your core products and services. They also slow down momentum by keeping IT teams focused on maintaining depreciating hardware and facilities, rather than on activities that add business value and competitive differentiation. It's challenging to meet demand fluctuations because on-premises systems don't gain more hardware capacity without capital investments. On-premises data centers are slow and expensive to scale up and difficult to scale down. It is also challenging for IT teams to keep up with hardware patching as security and compliance needs evolve. AI Infrastructure, and the increasing pace of new advancements in GPUs, further compounds this issue.

Such challenges led to the innovation of cloud computing in the 2000s. Today, the cloud is ubiquitous, offering key features such as on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured services. The cloud allows enterprises to minimize or avoid up-front IT infrastructure costs and get applications up and running faster with improved manageability and less maintenance. It empowers IT teams to adjust resources in congruence with fluctuating and unpredictable demand, allowing them to harness higher computing power when they need it.

And yet, despite the many challenges of hosting workloads in on-premises data centers and the numerous opportunities offered by the cloud, many companies still host workloads on-premises. Let's take a look at why.

Barriers to a data center exit

Cloud adoption faced initial challenges due to valid customer concerns, which induced hyperscalers to innovate and improve their offerings. Still, many companies continue to rely on their own data centers due to solvable concerns.

Data security

Companies need to maintain control of their sensitive data and are understandably reticent to put their data on multitenant platforms that involve resource sharing. However, while data security and privacy concerns are valid, they can also be addressed in the cloud.

Cloud providers can allocate resources to solve security issues that many companies may not be able to afford to tackle or may lack the technical skills to address. Cloud offers centralization of data security and security-focused resources. While Oracle's traditional database offerings have been a secure vault for more than four decades, Oracle Cloud Infrastructure (OCI) database offerings have encryption enabled by default, both at rest and in motion. [Oracle Autonomous Database](#) offerings, which include [Oracle Autonomous Database Serverless](#) and [Oracle Autonomous Database on Dedicated Exadata Infrastructure](#), don't allow access to the database without a secure wallet connection. [Oracle Exadata Database Service](#) is best deployed in private subnets that restrict network access. The Autonomous Database offering has a trust-but-verify policy implemented via [operator access control](#), which helps ensure that even Oracle's cloud administrators can't access a customer's database without permission and all actions are logged. These are just a few features that address data security. You can learn more about Oracle's comprehensive data security strategies [here](#).

Despite the best preventive actions, the cloud alone can't wave a magic wand to summon data security. Cloud administrators must design a robust security posture and build zero trust database architectures to facilitate the highest levels of data security.

Network latency

Many companies, especially those with global operations, are concerned about performance and network latency between client applications and the cloud data centers that host those applications and databases. But the right cloud provider can address these concerns.

Oracle [built a high performance network](#) to help mitigate latency between cloud data centers. The [availability domains](#) within the same region are connected to each other by a low-latency, high-bandwidth network. OCI has regions across the world designed to reduce latencies from the cloud to customers. Oracle's edge solutions such as Oracle Cloud@Customer bring OCI services closer to field-based assets and customer resources respectively. Applications that are

hypersensitive to latency can benefit from Oracle's [distributed cloud](#) solutions, including [Oracle Cloud Infrastructure Dedicated Region](#), [Oracle Compute Cloud@Customer](#), and [Oracle Exadata Cloud@Customer](#), which offer public cloud services in a self-contained, independent cloud region in a physical location of your choice.



Customer applications that require low latency can use dedicated channels established between customer data centers and OCI using [Oracle Cloud Infrastructure FastConnect](#). Applications deployed in other clouds that need Oracle Database services can leverage offerings delivered by Oracle in partnership with Microsoft Azure, Google Cloud, and Amazon Web Services (AWS).

OCI Cluster Placement Groups collocate cloud resources in an availability domain near each other to achieve low network latency requirements. OCI's network backbone is built using [Clos architecture](#), which enables a flat, nonblocking topology with maximum two-hop connectivity in a region, facilitating predictable performance and an exclusive [network performance SLA](#). All the networking on OCI relies on nonblocking switches and off-box virtualization to yield minimum latency. Oracle's network supports Remote Direct Memory Access over Converged Ethernet to deliver consistently low latency.

Cloud pricing

Despite the promised cost savings of the cloud, one of the primary concerns for IT leaders is cost management. The cloud traditionally relies on shared resources and a pay-as-you-go model that may shift capital expenses (CapEx) to operating expenses (OpEx), which can be unexpected to some. It can be a guessing game as to how much cloud capacity is needed. Many cloud providers offer discount programs for compute services with the trade-off being a specific

required commitment. Companies that overcommit end up having excess capacity for one or three years per the typical terms of the discount programs. Companies that under-commit must purchase additional capacity at list rates. Companies that commit to a single cloud provider to simplify management often end up with inefficient resource use, which results in higher expenses. Again, these concerns can be addressed.

A better approach is to choose the right cloud for your needs and embrace multicloud or hybrid cloud architecture to optimize costs while meeting your computational needs. Instead of requiring a negotiated contract or asking customers to navigate multiple discount programs, OCI offers better cloud economics with flexible compute and up to [10X lower data egress fees](#) than other providers to eliminate unnecessary overpayment and billing surprises. In contrast to other providers, OCI services are priced the same for all global regions (including government regions), OCI Dedicated Region, and [Oracle Alloy](#). Committed use discounts, software license portability, and rewards for OCI consumption are also available. Companies can get value just by consuming services on OCI through [Oracle Support Rewards](#), which cuts on-premises technical support costs by US\$0.25 for every US\$1 spent on OCI, potentially down to zero.*

As a result of Oracle's partnerships with Azure, Google Cloud, and AWS, companies can adopt multicloud architecture to use OCI database services and leverage Oracle Bring Your Own License initiatives to bring existing licenses to the cloud of their choice and thus optimize expenses.

Data sovereignty

Moving to the cloud increases compliance complexity because the cloud adds a third party to the environment. Over the past decade, customer needs have been evolving and countries have been implementing stringent data sovereignty laws; companies that are unable to conform with data residency requirements face millions of dollars in fines. The cloud can help.

OCI is the only hyperscaler with government regions in three countries: the US, the UK, and Australia. OCI has launched sovereign regions for the EU that are run by an EU-regulated subsidiary and operated by EU citizens. OCI's on-premises options—OCI Dedicated Region, Oracle Exadata Cloud@Customer, Oracle Compute Cloud@Customer, and Oracle Alloy—provide significant compliance certifications even while being deployed in a customer's data center. Oracle was rated highest for the digital sovereignty capability and use case in a major analyst's report on strategic cloud platforms.

OCI offers multiple ways to deploy database services in adherence to data sovereignty and data residency laws. Oracle Globally Distributed Autonomous Database is a fully managed service that allows companies to uphold data residency laws without having to manage their databases. This service runs on an isolated environment on Oracle Exadata Cloud Infrastructure. To further optimize costs while addressing data sovereignty requirements, customers can choose to deploy [Oracle Globally Distributed Exadata Database on Exascale Infrastructure](#).

Legacy applications

Companies with critical enterprise applications that weren't written for the cloud, aren't cloud compatible, or aren't suited for the cloud often decide to stick with their data center because rewriting traditional applications for the cloud involves time, money, and resources. Enterprise applications also require high levels of performance, availability, and manageability. Again, the right cloud provider can address these concerns.

OCI offers comprehensive [SLAs](#) and addresses the requirements of enterprise applications with its design—for example, it offers scale-up architectures for resource scaling, ultralow-latency networks, persistent connections to relational databases, database clustering, and other resources for availability. Another unique differentiator is its lift-and-shift approach, which allows companies to migrate highly customized legacy enterprise applications to the cloud with little or no change. This significantly reduces complexity and mitigates risk when exiting data centers and migrating to the cloud, and it also provides an opportunity for companies to review their legacy applications and strategize to move and improve them as needed. Customers have several options for moving legacy databases to OCI and can choose the one that best fits their use case.

Let's consider the case of an independent software vendor that plans to deploy its application stack and lacks the resources to make large-scale changes to it. The vendor can choose to deploy on [Oracle Base Database Service](#) or Oracle Exadata Database Service on OCI with minimal changes. As a part of their cloud migration, they can reevaluate their database and application stack and run tools such as [Oracle Estate Explorer](#) or [Oracle Cloud Premigration Advisor Tool](#) to determine if their databases are compatible with Autonomous Database. Moving to Autonomous Database offers an opportunity to run on the latest Oracle Database 23ai, and it reduces the mundane database management activities that strip time away from resources. Oracle Database 23ai is focused on developer productivity and AI, which enables companies to truly modernize their applications and embed AI into their stack. This adds more value to applications and helps companies build more business use cases and target new territories.



Contractual commitments

Even when there's a collective will to exit the data center, the penalties for terminating existing data center leases or hardware maintenance contracts early may deter companies from moving out. Planning a data center exit may not neatly coincide with the lifespan of existing contracts, and while you do need to consider the terms and impact of your existing contracts, you may well discover that the final cost savings outweigh the penalties. Keep in mind that business value doesn't translate only to dollar amounts; it's also about your competitive advantage. The concern about contractual commitments can be addressed through strategic approaches—for example, by considering the five-year total cost of ownership. Buying high performance computing infrastructure from traditional hardware vendors may not be sustainable over the long term, and it may make more sense to move to the cloud.

Heavy infrastructure investments

Even as Netflix grew, Blockbuster's leadership overlooked opportunities to pivot toward digital streaming due to their heavy investment in physical rental stores. Their decline was due to their own inability to break free from sunk costs. Many companies that are heavily invested in their infrastructure and applications also get caught up in the sunk cost fallacy. Reluctant to change direction, they continue investing in physical data centers due to the time, money, and effort already spent, even when the current and future outcomes appear unfavorable. Companies can address concerns about their existing infrastructure investment by looking at various options, including recycling infrastructure. For example, Oracle Exadata systems can be recycled after applying stringent measures for data destruction and handling customer data securely.

Let's consider the case of a financial technology company that invested in on-premises database appliances when it was an appropriate business decision. In the cloud era, they might be able to

save 30% or more on the TCO of the databases supporting their critical applications. By moving from on-premises database appliances to OCI Oracle Database offerings, they could gain a fully managed, fully automated, feature-rich cloud database with a 99.95% uptime SLA and save on hardware refresh, power, cooling, security, and networking costs. This would shift significant costs from CapEx to OpEx and reduce their Oracle technology support bill by 25 cents for every dollar spent on OCI through Oracle Support Rewards.* Discerning the real cost of data centers and understanding the true value proposition of the cloud can help companies break free from their existing infrastructure investments.

Resourcing

Companies that are reluctant to move to the cloud often cite concerns about the staff or resources that are supporting their data centers. Skill deficits can prevent companies from evolving, so it's important to properly improve and retrain staff.

Many cloud providers offer training and certification programs to help teams handle next-generation workloads. Oracle offers cloud engineering services as part of a customer's cloud subscription based on their investment to mitigate the risks of migrating to the cloud. Additionally, Oracle has various customer enablement programs, such as [Oracle Code Innovate](#), that are designed to jump-start your use of OCI services and help you address your most pressing use cases. Oracle also offers [LiveLabs](#), health checks, and tailored training programs to help teams learn and engage in interactive and self-paced settings.

Autonomy

Some companies maintain the status quo because they have a core belief that they alone can do IT best. Today's cloud has various options to meet this underlying need for autonomy—for example, infrastructure as a service is a service model that allows hyperscalers to provide cloud resources such as storage, network, servers, and virtualization, which mimics computer hardware. IaaS frees users from maintaining their own data center while allowing them to install and maintain the operating system and application software. It provides high-level APIs that allow customers to control the underlying infrastructure, such as backups, scaling, security, and physical computing resources.

Inertia

Ultimately, all action is prompted by will, which is a function of understanding. An object at rest tends to stay at rest unless and until there's a compelling reason for it to move. Some companies choose to take a business-as-usual approach for their critical applications simply because they don't want to rock the boat. When they perform a true cost-benefit analysis, they might learn that the value gained by leaving their data centers justifies the effort involved.



* The reduction in the technology support bill is subject to regional tax regulations. Taxes can't be paid with Support Rewards. Only the pretax invoice amount can be paid with Support Rewards.

Benefits of exiting data centers

The cloud delivers all the benefits of on-premises data centers without the drawbacks. Companies across all industries that want to cut costs, improve profits, accelerate time to market, and drive innovation are moving to the cloud because its inherent elasticity delivers the desired speed, performance, and cost optimization. OCI offers many benefits, including scalability, high availability, security, reduced cost, compliance, and more.

Scalability

Companies can economically meet demand fluctuations on OCI because of its scaling capabilities, such as its ability to autoscale compute instances to add additional instances in parallel. Traditional workloads, such as database-centric workloads, weren't built with scaling awareness, which limits their effectiveness in a cloud environment. OCI scales traditional workloads in multiple ways. Traditional, server-based workloads can be tuned with an exact amount of processor performance (cores) and memory. While the processors and memory can't be dynamically adjusted as the application runs, they can be adjusted during a reboot.

OCI also offers automatic scaling of the database tier and block storage. There are several deployment options for database workloads that allow you to automatically scale database

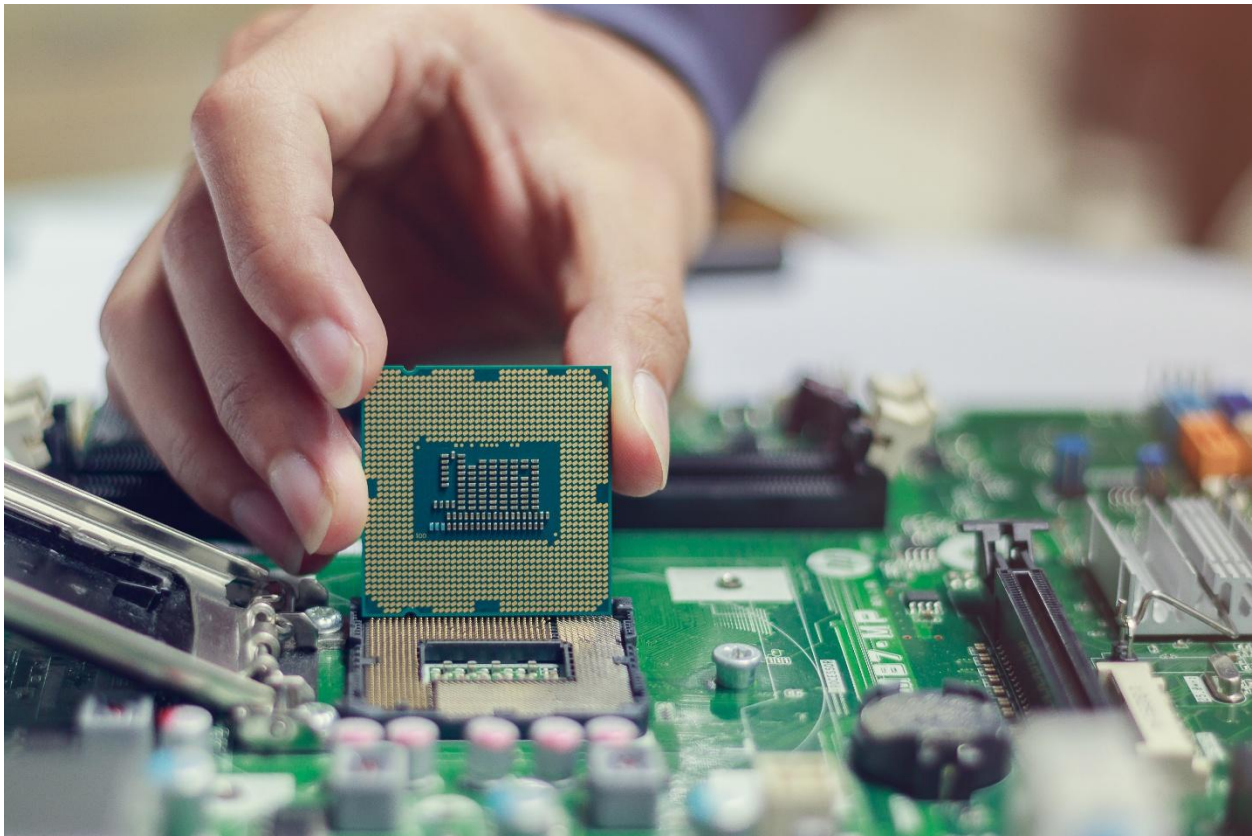
performance while it's in use. OCI offers autoscaling options for block storage so applications that require attached disk storage can benefit from performance adjustments (in IOPS) while in use. Altogether, these capabilities enable OCI to scale performance, even for traditional workloads, and allow companies to dynamically respond to demand.

Cost optimization

While the cloud presents a significant opportunity for cost reduction, overspending on cloud services is a common concern. Reducing costs in the cloud is the first step toward profitability, which is becoming more important to investors than just absolute growth. OCI is designed to help customers manage their cloud spend with included services that provide budget guidelines and recommendations regarding underutilized services. Oracle also charges considerably less for core compute, storage, and networking than other hyperscalers, so even when their workload needs grow, companies can keep their IT spending reasonable and within budget. Oracle is the only hyperscaler which charges the same consistent low pricing in any region, anywhere across the globe; and, when compared to other hyperscalers, is generally 50% less expensive for compute, 70% less expensive for block storage, and 80% less expensive for networking or egress. Check out [Oracle's Cloud Economics website](#) to learn more.

Agility and innovation

Moving your on-premises workloads to the cloud can help boost agility and innovation, which, in turn, can help you respond quickly to market conditions to protect and increase your market share. OCI helps you enhance your agility by letting you keep your existing architecture when moving to the cloud. This can reduce risk, complexity, and migration time. The sooner you can move your workload to OCI, the sooner you can experience the benefits of simpler administration, increased performance, and the ability to better meet fluctuating demand.



For example, VMware workloads, which a lot of companies are deeply invested in, can typically be moved as-is to OCI. This means companies can continue to use their existing administrative tools and procedures to manage their VMware-based workloads. The ability to rapidly migrate workloads to OCI allows your team to focus more on adding valuable capabilities to meet market needs and less on the mundane task of maintaining infrastructure.

Compliance

If compliance is already a significant expense, moving to the cloud is unlikely to reduce it; in fact, it will probably increase because the cloud adds a third party to the environment. Most cloud providers provide compliance certifications and attestations required by customers using public cloud regions. However, customer needs are evolving. A governmental agency may require separate facilities to avoid the leakage of sensitive data. A supranational entity may require data residency within its member states. Customers currently using on-premises options from cloud providers probably expect the same compliance as in their public regions. [With 80+ compliance certifications](#), across standards and regulations such as SOC, HIPAA, GDPR, NIST, FedRAMP, HITRUST, and more, Oracle Cloud enables customers to address the regulatory policy within their selected geography. Oracle Cloud also has broad and deep experience in global regulatory environments, including multiple existing contracts which public and private organizations can use as an easier way to migrate to OCI while meeting local regulations.

OCI offers cloud services exactly where customers need them—whether its government regions in US, UK, and Australia, sovereign regions for the EU or on-premises options such as Dedicated Region, Exadata Cloud@Customer, Compute Cloud@Customer, and Oracle Alloy. We believe that these unique offerings are the reason why Oracle is highly rated for its strategic cloud capabilities.

Cost optimization, estate modernization, innovation, and an improved overall experience are some of the compelling reasons to exit your data center and move your databases and applications to the cloud.

OCI Oracle Database offerings

OCI Oracle Database offerings form a comprehensive data platform that serves the unique data processing needs of all kinds of organizations. Small and midsize businesses looking to optimize costs and deploy mission-critical applications such as Oracle's PeopleSoft or Oracle E-Business Suite leveraging [Oracle Real Application Clusters](#) and [Oracle Data Guard](#) technology can consider Oracle Base Database Service, which offers database features based on specific needs.

If you need to consolidate workloads, for instance after a merger or acquisition, or are modernizing your workloads to simplify IT management, centralize your data management platform, or achieve another business or technical goal, then you may benefit from [Oracle Exadata Database Service on Dedicated Infrastructure](#). Companies running workloads on commodity hardware on-premises tend to see a 20% to 30% increase in efficiency out of the box once they move to Exadata.

If you need to consolidate workloads and do not have enough workloads to justify running on Oracle Exadata Database Service on Dedicated Infrastructure (a quarter rack being the minimum requirement), you may consider Oracle's latest offering, [Oracle Exadata Database Service on Exascale Infrastructure](#). This service offers a configurable Exadata database virtual machine with a choice of size and shape. You'll be able to deploy Oracle Database 23ai, which is a [converged database](#). Oracle Database 23ai can handle any data type your application can generate and offers AI capabilities so you can build the most modern application, future-proofing your data platform. You can choose to upgrade your existing workloads to Oracle's long-term database release version or build new ones on Oracle Database, leveraging features such as Oracle AI Vector Search, Oracle JSON Relational Duality, and many others and using low-code development tools such as [Oracle APEX](#) to build productivity applications.

If you want to grow your business and shift your team's focus from mundane database activities, such as patching, backups, and monitoring, to more value-added work, you can consider [Oracle Autonomous Database](#). It leverages Oracle Exadata, cloud capabilities, and AI/ML to allow databases to detect potential failures and preemptively fix them. This results in soft money savings, as staff can focus on building intellectual property to accomplish business requirements faster and better, and it helps companies unlock new opportunities.

Autonomous Database comes in multiple flavors. Companies needing extreme isolation or with stringent requirements around patching cycles can choose Oracle Autonomous Database on Dedicated Exadata Infrastructure; for others, Oracle Autonomous Database Serverless can be a great fit. Both database offerings provide the benefits of elastic pools for consolidation and autoscaling to scale CPUs based on utilization. Companies can leverage either Autonomous Database or Oracle Exadata on the same infrastructure to either move and improve their applications or simply lift and shift to gain a cloud advantage. Learn how to [maximize your Oracle license investment with BYOL for Autonomous Database](#).

With Oracle Database, your company can achieve the ideal balance of price and performance while building a scalable, modern application. This approach allows you to maintain the flexibility and agility of your engineering teams and leverage their existing skills to modernize your data platform in the cloud of your choice. By selecting the right cloud, you can better optimize your costs, helping you drive both top-line growth and bottom-line savings.

Start your journey to the cloud with Oracle

The challenges of on-premises data centers and the opportunities to accelerate growth in the cloud are prompting more companies to make the move.

This blog provided some perspectives on the barriers to a data center exit and presented some benefits of exiting data centers and moving workloads to the cloud. It also showcased OCI Oracle Database offerings as a comprehensive and omnipresent data platform that serves your unique data processing needs. But seeing is believing, so please contact us for more information and sign up for a pilot-to-production workshop to tailor your solution to meet your business needs and accelerate your move to the cloud.

[Oracle Cloud Free Tier](#) offers a great way to test this process out for yourself with a 30-day free trial of Oracle Cloud Infrastructure, which includes our [Always Free Services](#).