Cloud **Essentials**

Oracle Cloud Infrastructure

Purpose-built for the enterprise.

ORACLE
Cloud

Oracle Cloud Infrastructure

Given the choice, virtually all businesses would prefer IT solutions that support innovation and minimize costs. Pursuit of this ideal is increasingly driving organizations to the cloud. According to 451 Research, there is now a strong public-cloud option for almost every kind of application and workload, and an entire generation of IT talent has grown up with the infrastructure-as-a-service (IaaS) model.[1]

Whereas the overall trend is clear, enterprise applications and legacy infrastructure often remain in on-premise data centers, partly because IT leaders are skeptical about a public-cloud provider's ability to meet enterprise requirements.

Their skepticism is warranted: most public clouds lack the capabilities necessary to host high-end, mission-critical applications. First-generation cloud vendors offer commodity, multitenant cloud infrastructure that can't easily support high-end-computing demands—often failing to provide the consistency, low latency, and high performance required by enterprise applications.

Oracle Cloud Infrastructure, on the other hand, delivers an enterprise-grade public cloud. Oracle architected it specifically to run enterprise applications and databases. It also includes tools and utilities for constructing new cloud native and mobile apps, all on a unified platform and networking fabric. Oracle Cloud Infrastructure delivers the performance, versatility, and governance required by enterprise IT while offering a level of performance often exceeding what is commonly found in on-premise, high-performance computing environments. Oracle also offers tools to migrate existing applications to the cloud without forcing you to rearchitect those applications—along with focused cloud support for Oracle applications such as Oracle E-Business Suite, JD Edwards, PeopleSoft, Siebel, and more.

Read on to learn more about this unique enterprise cloud service offering from Oracle.

[1] 451 Research, "Moving Critical Applications to the Cloud: Understanding the Benefits and Challenges," study sponsored by Oracle, February 2018, oracle.com/us/solutions/cloud/move-critical-apps-to-cloud-4441209.pdf.

Welcome to the Next Generation

Oracle Cloud Infrastructure combines the elasticity and utility of the public cloud with the control, security, performance, and predictability of on-premise computing environments. Oracle Cloud Infrastructure customers receive consistent, dependable service levels for all types of applications and computing environments, including complex, technical computing workloads such as simulating crash tests, modeling insurance risks, and testing new manufacturing materials.

First-generation public-cloud offerings were not architected to accommodate these traditional application architectures. Enterprise and performance-intensive workloads don't run well in these hypervisor-based environments, where multiple tenants virtually share the same physical infrastructure and contend for limited resources. Oracle Cloud Infrastructure, by contrast, moves the virtualization layer into the physical network—a concept referred to as *off-box virtualization.* Customers enjoy their own network, called a *virtual cloud network,* isolated from every other customer's network. These virtual cloud networks can include single-tenant, high-performance, bare metal servers that contain no provider software, enabling organizations to customize their computing and environments and run applications in the same manner as they do on premise.

Increase agility and maximize investments with Oracle Cloud Infrastructure.

Increase the pace of innovation.

- Launch and scale new apps quickly with on-demand infrastructure
- Focus on competitive differentiation, not on routine IT tasks
- Put IT infrastructure in the hands of those who need it quickly

Maximize IT spending.

- Reduce your reliance on data center infrastructure
- Minimize costs by paying only for what you consume
- Maximize value by matching capacity with demand

Workload agility for apps in Oracle Cloud.

DevTest in the cloud.

- Test customizations and new app versions
- Validate patches
- Test cloud native technologies and frameworks like containers and Continuous integration and deployment

Production in the cloud.

- Utilize bare metal for consistency and industry-leading price/performance
- Use multiple availability domains, load balancing, and RAC for high availability

Backup and DR in the cloud.

- Take advantage of built-in storage resiliency, availability and security
- Use automation/virtual appliances to back up and restore key files and archive infrequently accessed files

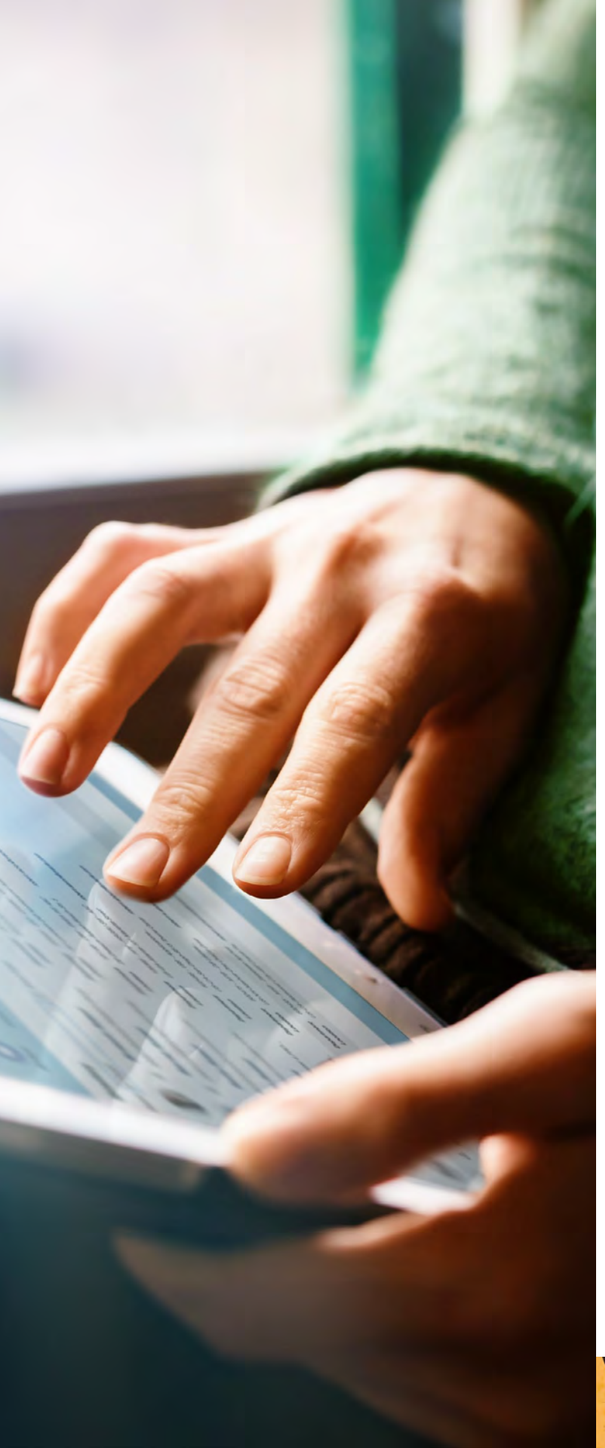
Extend the data center to the cloud.

- Connect an on-premise data center to the cloud using VPN or FastConnect
- Reduce the risk of technology obsolescence by accessing the latest infrastructure

Rapid Expansion Around the World

Oracle Gen 2 Cloud continues to expand rapidly around the world. Oracle continues to offer more choices by delivering true multicloud innovation for the enterprise. Our recent partnerships with Microsoft Azure and VMware are enabling you to leverage their existing investments and connecting best-in-class cloud services.

Oracle continues to expand its regional presence with 36 regions available coming soon. Ultimately, this provides better availability and disaster recovery for those customers who want to store their data in-country or in-region.



Get Enterprise Apps into the Cloud Quickly

Oracle has specialized, field-tested tools and programs to help customers move enterprise applications such as Oracle E-Business Suite, JD Edwards, PeopleSoft, and Siebel to Oracle Cloud Infrastructure. A suite of migration, provisioning, and management tools for these applications and their associated databases means minimal architecture changes, helping you get online rapidly. Oracle's purpose-built migration tools simplify the transition and can even capture application customizations.

Move and improve application workloads.

Only Oracle offers:

- An easy, cost-effective way to move mission-critical Oracle Applications to the cloud
- Capabilities to improve application performance, resiliency, and agility in a purpose-built enterprise cloud
- A range of deployment and licensing options to meet any business need

Get more from your Oracle apps by moving to Oracle Cloud Infrastructure.

Move

Expert migration assistance
Use automated tools and/or experts to expedite the migration process

Automated migration tools
Migrate workloads with minimum retooling

Maintain your architecture
Lowest-cost, fastest way to move to the cloud

Improve

Enterprise cloud infrastructure
Superior performance, availability domains, support, high availability, and disaster recovery

Enterprise-grade database and platform services
Fastest, most resilient and full-featured Oracle Database

Rapid provisioning and scalable capacity
Quickly create multiple environments as needed, and programmatically increase/reduce capacity

Case in Point: Migrating ERP Functionality to the Cloud

UNIVERSIDAD DE SANTIAGO DE CHILE

Organization

The University of Santiago, one of the oldest universities in Chile, worked with Astute, an Oracle partner, to implement a PeopleSoft Campus Solution on Oracle Cloud Infrastructure.

Problem

The university's PeopleSoft solution is a critical part of its IT infrastructure. However, as time passed, the enterprise software application required significant effort to maintain, secure, and update. The deployment lacked modern features and capabilities, and the application couldn't easily integrate with other information systems. The university struggled to keep the software current and maintain high levels of availability.

Solution

Astute and Oracle provided a full-featured PeopleSoft Campus Solution in Oracle Cloud as a managed service. The primary installation took only two weeks and cost a few thousand US dollars. Today, the university uses the built-in PeopleSoft Cloud Manager feature instead of its previous manual tools and processes, and it takes advantage of independent availability domains to improve stability, reliability, and security.

Success

The cloud-based PeopleSoft solution cost 35 percent less than other options. Astute demonstrated the solution in days, tested it in weeks, and deployed it fully in less than six months. Based on this quick success, the university is moving its DevTest activities and other key applications to Oracle Cloud Infrastructure.

"This has been a great initial experience with public-cloud IaaS, and we're already exploring moving additional applications to Oracle Cloud Infrastructure."

Francisco Acuña Castillo,
Project Manager, University of Santiago

"This is the University of Santiago's first major foray into the cloud, and they were amazed at how fast we were able to build, demonstrate, and deploy a solution with Oracle Cloud Infrastructure. We consistently recommend Oracle Cloud Infrastructure because it's built for just this sort of enterprise production application."

Sudhir Mehandru,
Cofounder and COO, Astute

Get Exceptional Performance and Granular Control with Oracle Cloud Infrastructure

Enterprise applications, high-performance computing, transactional database applications, real-time analytics—all these workloads require peak levels of performance and predictability that are often lacking in first-generation cloud environments. Oracle's next-generation cloud infrastructure offers powerful CPU options, massive memory capabilities, and dense storage capacity. It can deliver millions of transactions per second within a single compute instance at a superior price per transaction.

Oracle's high-bandwidth low-latency cloud network connects these servers to file, block, and object storage resources. Highly available database options include two-node Oracle Real Application Clusters (RAC) and Oracle Exadata Database Machine, as well as Oracle Autonomous Data Warehouse Cloud—all running on the same infrastructure as bare metal and virtual machine instances.

Customers seeking the highest levels of performance for challenging workloads—such as processing jobs that require a tightly coupled infrastructure—can provision bare metal servers in conjunction with semi persistent, nonvolatile memory express (NVMe) drives that have 51.2TB of capacity and are capable of 5 million I/O operations per second.

Graphics-intensive workloads such as engineering simulations and 3D rendering jobs can be directed to graphical processing units (GPUs) based on the NVIDIA Tesla P100 and V100 processors.

According to customer reports, the above scenarios often deliver equal or better performance than dedicated on-premise database environments.

Gain maximum control.

Oracle Cloud enables you to run traditional enterprise apps along with cloud native apps, all on the same platform, reducing operational overhead and enabling direct connectivity between both types of workloads. You can start small with a single virtual server and gradually expand to include an Oracle Exadata system, an Oracle RAC cluster, and bare metal servers that can accommodate the exact operating systems, middleware, databases, and applications that you need to install. In fact, you can run it all on the same networking fabric—a fully programmable and customizable virtual cloud network (VCN).

Integrated governance and control.

Users access Oracle Cloud Infrastructure resources via Oracle Identity and Access Management technology, which supports role-based access controls and granular allocation and auditing capabilities. Cloud administrators can set access policies and grant permissions to cloud resources, setting`up specific compartments on a per-project, per-person, or per-group basis. All usage is rolled up under a single account structure, simplifying billing and administration.

At a macro level, Oracle protects Oracle Cloud Infrastructure with a highly trained, 24/7 network operations center staff. Single-tenant bare metal servers are isolated from all other tenants, and no vendor software of any kind is run on these machines, giving customers complete control over the environment. Oracle Cloud is built around multiple layers of security and multiple levels of defense throughout the technology stack, from the application layer to the silicon layer.

Become a Cloud Innovator

Longitude Research surveyed 730 senior IT leaders to determine key cloud trends.[5]
Here are the top five motivations for moving to the cloud:

- Save on IT costs (33 percent)
- Improve IT resource management (32 percent)
- Update IT infrastructure (27 percent)
- Improve the speed of innovation (25 percent)
- Improve customer or client interactions (24 percent)

Why migrate to Oracle Cloud.

Innovation

Accelerate business transformation

Cost

Improve resource utilization

Value

Add business value without infrastructure headaches

Peace of mind

Lower risk with single-vendor accountability

Agility

Gain agility for rapidly changing environments

[5] Longitude Research, "Cloud Insights," study sponsored by Oracle and Intel, August 2017, oracle.com/cloud/your-cloud-platform-lessons-form.html. [registration required].

Case in Point: High-Performance Workloads on Oracle Cloud Infrastructure

Organization

Zenotech—a UK-based company from Bristol—provides its customers with cloud solutions for computational fluid dynamics (CFD).

These performance-intensive simulations are essential across a number of industries—from aerospace and automotive, to civil engineering and many scientific fields—to help reduce costs associated with performing physical tests.

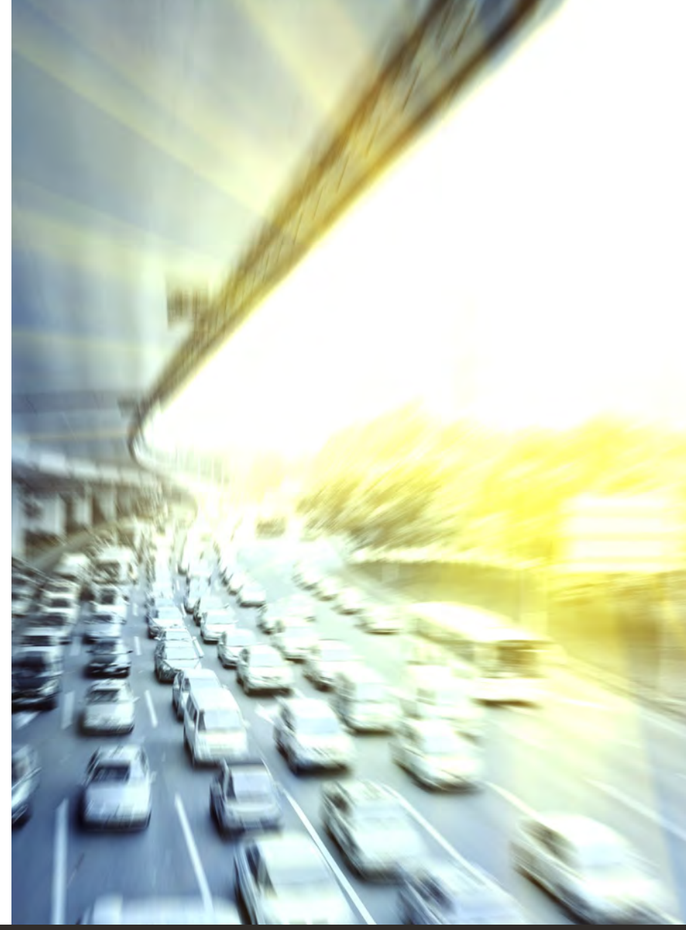
As you can imagine, Zenotech depends on technical computing and special characteristics that a shared infrastructure simply cannot deliver.

Problem

CFD and computational aerodynamics consume huge amounts of computing resources, including dedicated technical computing clusters with thousands of compute nodes and large core counts. As a result, maintaining these highly complex infrastructures requires specialized knowledge and expertise.

Success

By integrating its own Elastic Private Interactive Cloud (EPIC) with Oracle Cloud Infrastructure, Zenotech is able to provide its customers with a scalable, flexible cloud environment to run CFD projects. Now, thanks to cloud compute clusters that include up to 30 Oracle bare metal servers—each with 52 cores, 768GB of RAM, and either local SSD storage or block volumes—customers can scale their clusters down to minimize costs associated with inactive resources. It's an easier, cost-efficient way for any company to run technical computing simulations and performance-intensive workloads.



> "Oracle has established performance-enhancing capabilities at the network level. Oracle Cloud Infrastructure keeps our application performance steady, even when we scale out among availability domains, which is very important when we need to estimate job run time."
>
> Mike Turner, Product Lead, Zenotech

Service-Level Guarantees

Oracle is the only major cloud provider to back its cloud offering with service-level agreements (SLAs) for performance, availability, and manageability. Oracle guarantees that its cloud resources are available for mission-critical enterprise applications as well as for processor-intensive workloads such as engineering simulations, financial modeling, AI, and machine learning (ML).

- **Availability SLAs.** Your cloud workloads will experience outstanding uptime thanks to Oracle's high-availability compute, block volume, object storage, and FastConnect services
- **Manageability SLAs.** Oracle is the first cloud vendor to provide manageability SLAs, ensuring you can manage, monitor, and modify your resources as you see fit
- **Performance SLAs.** It's not enough for your applications to be merely accessible. They should perform consistently—and Oracle is the first cloud vendor to guarantee performance levels

SLAs are an integral part of production workloads, and a strong assurance for customers wanting to shift enterprise workloads to the cloud. Al Gillen, GVP of software development and open source at IDC, summed it up succinctly: "Customers expect service-level commitments for uptime to mean that their applications are not only available, but manageable and performing as expected, regardless of where that application may be located. Unfortunately, many cloud SLAs don't make that broad commitment. Oracle's revised SLAs provide customers the guarantees they need to run mission-critical enterprise applications in cloud environments with confidence."

Focus on Your Business, Not on the IT Underpinnings

Cloud computing is creating entirely new business categories and disrupting existing ones—and it's happening fast. Oracle built Oracle Cloud Infrastructure from the ground up to meet the requirements of large enterprises that want to reduce the cost of updating, maintaining, and operating corporate data centers. Moving your mission-critical workloads to Oracle Cloud Infrastructure enables you to focus on your core business instead of infrastructure forecasting, acquisition, hosting, and maintenance.

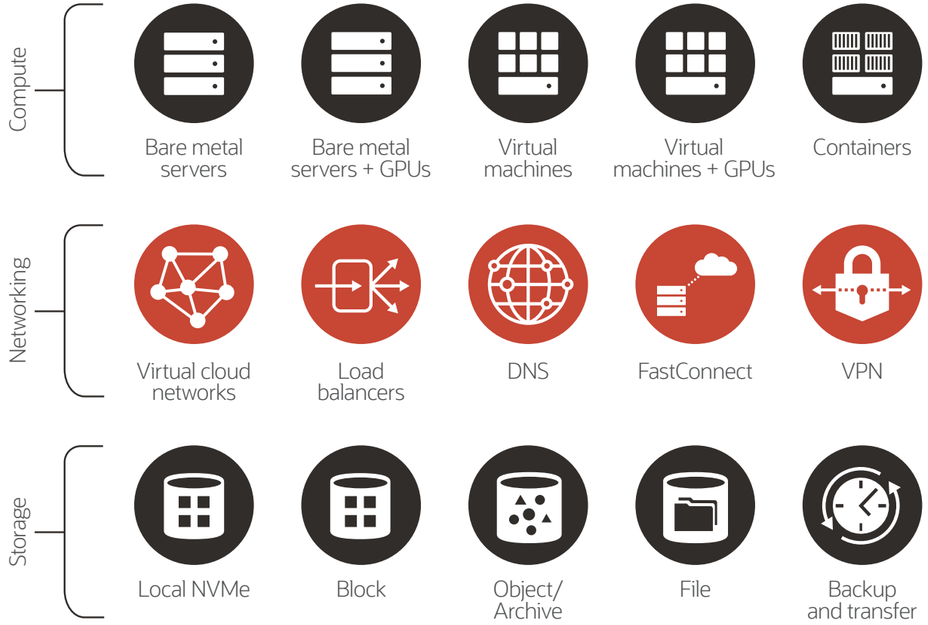
Oracle has everything you need to migrate and run Oracle applications quickly and easily, as well as to move traditional data center applications to the cloud—with no architecture changes. You can build new cloud native applications on the same flexible cloud infrastructure, and leverage the core tenets of versatility, performance, governance, and predictable pricing to address all your enterprise requirements.

Oracle Advanced Customer Services (ACS).

ACS provides complete lifecycle management of Oracle Applications Unlimited on Oracle Technology Cloud with industry-leading SLAs, disaster recovery, and critical business transaction monitoring enabled by a cloud automation platform on top of Oracle Cloud Infrastructure. These application lifecycle services include Planning, Transition and Validation, Application Design, Development and Test, and ongoing organizational support.

Test-drive Oracle Cloud Infrastructure now at oracle.com/cloud/free/.

Oracle Cloud Infrastructure



Oracle Cloud Infrastructure's powerful compute, storage, and network resources support applications requiring millions of I/O operations per second, millisecond latency, and many gigabytes per second of guaranteed bandwidth.

Within a single offering, Oracle Cloud Infrastructure combines the benefits of public cloud (self-service, on-demand availability, and scalability) with the advantages usually associated with on-premises environments (predictability, performance, and control).

Oracle Cloud Infrastructure takes advantage of high-scale, high-bandwidth networks that connect cloud servers to high-performance local, file, block, and object storage. This delivers a cloud platform that yields the highest performance for traditional and distributed applications, as well as highly available databases. In short, Oracle Cloud Infrastructure is architected to support the applications enterprises have been running for years, as well as those they are creating for the future.

It also offers the ability to run everything—from small virtual machines (VMs) to large bare metal clusters and highly available databases—on the same isolated networks. These are accessible through the same APIs and console—allowing apps to have direct, low latency access to high-performance databases running on physical or virtual servers in the same infrastructure.

Cloud **Essentials**

Learn more about Oracle Cloud Infrastructure, and find out what sets Oracle apart from other cloud providers. Try Oracle Cloud today: Go to oracle.com/cloud/free/

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