

# Oracle Cloud At Customer Delivers the Cloud in Your Data Center

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*“We took a piece of the cloud, out of our cloud, lifted it up, and put it down in your data center.”*

**LARRY ELLISON**

EXECUTIVE CHAIRMAN AND CTO

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Cloud has emerged as a key enabler in the pursuit of innovation and speed to market, which are vital for every business. Oracle Cloud offers the broadest collection of cloud services on the market. For customers or industries in which Public Cloud adoption remains a barrier for all workloads, Oracle offers the Oracle Cloud At Customer that enables customers to run Oracle Cloud Platform as a Service and Infrastructure as a Service on-premises.

## Speed is the New Competitive Differentiator in Business

Business cycles are faster than ever. Over the last 50 years, the average lifespan of companies on the S&P 500 has shrunk from 60 to 18 years. In the past, businesses had little choice but to invest in a lot of hardware and software. Today, companies are created, acquired and go out of business much more rapidly than ever before forcing shorter cycles to prove their differentiation. In order to support innovation, IT needs to become agile, and automated to meet the changing demands of the business.

The traditional enterprise IT model no longer meets the requirements for today’s economy. For example, taking weeks to build a new development environment, self-managing all the software and hardware components, or waiting for the next quarterly release to change an application is not sustainable for an organization whose purpose is to innovate fast. This practice certainly works for back office and your current revenue-generating business applications. To be a leader in today’s fast-paced market, organizations need to look to software and innovative applications to accelerate business opportunities. Applications need to be developed quickly by small teams, consume cloud services as building blocks, release daily, deploy quickly, and scale across multiple data centers – a new style of IT.

Cloud is the defining characteristic and the key enabler of the new style of IT. Not only does it provide organizations with a flexible environment to run their existing applications, but it also enables them to build cloud-native applications, which are characterized by DevOps, consuming resources as a service, and distributed computing. Cloud has also changed how IT is consumed with a pay-as-you-go model, in which spending is aligned with usage, and value to the enterprise.

Cloud offers services aimed at accelerating the delivery and simplifying the management of commodity components needed to build applications such as data stores, messaging, integration, security, and caching systems. You can consume those cloud services as building blocks for your innovative application. To illustrate this, a food catering company in South Korea wanted to launch a new food delivery business for patients with special dietary needs, but they were not sure initially on how to size the offer, and manpower was limited. They chose Oracle Java Cloud Service as a building block for their application, which dramatically reduced the development cycle and the cost of the project.

## Why Do We Need Cloud On-Premises?



If cloud is the new paradigm for rapid innovation, how come 75% of all workloads are still running on-premises? Here are examples of reasons that may prevent a business from considering public cloud services:

- » **Data Sovereignty** – Data protection laws require that data reside within a specific governmental jurisdiction.  
A Swiss insurance company is having difficulties aligning their business model with the use of public cloud service. Swiss data protection legislation strongly regulates the transfer of any customer personal data outside of the country.  
In October 2015, the Telecoms Data Retention Law was adopted in Germany, which obliges telecoms operators to retain all traffic and location data on servers in Germany.
- » **Control** – Your revenue generating systems under your own requirements and service level.  
A retail organization, would like to move its e-commerce system to the cloud to benefit from the flexibility that the cloud offers. But, the company needs to keep control of the availability of its mission-critical system and therefore the windows of maintenance and upgrade for the cloud infrastructure.
- » **Latency** – Accessing data on your premises.  
A famous airline company figures out an innovative way to increase its flight occupancy rate. Engineers are about to build a web application in the cloud using cloud services to shorten the development cycle, giving them an edge over competition to be the first on the market. But this application requires fast and reliable access to the airline legacy billing system on-premises. The performance of this application running in public cloud accessing on-premises systems is a concern.

One might think that the solution to the above challenges is to adopt a private cloud. But available solutions on the market are limited in terms of vertical integration. These are essentially server virtualization solutions; some are integrated with hardware and others are platform solutions with no infrastructure integration. Moreover it creates another IT silo; private clouds are not integrated with any public cloud offerings. In addition, implementing and running private clouds has proven to be complex, resource-intensive, and time consuming. According to Forrester Consulting's 2015 study, the biggest barrier to private cloud adoption is the lack of expertise in internal IT teams. But it does not have to be that way.

Oracle Cloud is the industry's broadest and most integrated public cloud, offering best-in-class cloud services running on a secure and standards-based Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). Oracle Cloud helps organizations drive innovation and business transformation by increasing business agility, lowering costs, and reducing IT complexity. Oracle Cloud provides the customer the choice and control in consuming cloud services – in the Oracle Cloud and on the customer's premises.

## Oracle Enables True Cloud Services On-Premises

Oracle Cloud At Customer (OCC) delivers Oracle Cloud in your data center. Rather than procuring hardware, installing software and managing the system, you easily consume Oracle Cloud services on your premises, just like you do in Oracle Public Cloud. Oracle Cloud At Customer includes a wide range of Oracle Cloud services - Oracle Platform as a Service (PaaS) including Java Cloud Service, Integration Cloud Service, Database Cloud Service and Infrastructure as a service (IaaS) including Oracle Compute Cloud Service. You can use these cloud services as building blocks to accelerate the development of your innovative applications while maintaining complete control of your data and systems.

Operated by Oracle in your data center for your convenience, and available as a subscription, Oracle Cloud At Customer delivers the benefit of aligning spending with the revenue realized from applications. Oracle supplies the hardware, installs the software, and handles the day-to-day operations.

## Oracle Cloud At Customer Benefits



Oracle Cloud At Customer brings the benefits of cloud to your organization and addresses the challenges of cloud adoption for on-premises customers.

### Oracle Cloud is delivered on-premises

Oracle Cloud At Customer delivers a homogenous cloud environment with the same technology as Oracle Cloud. Your organization benefits from hybrid cloud capabilities. Application developers write their application once and can deploy seamlessly on-premises on Oracle Cloud At Customer or off-premises in Oracle Cloud. For example, you might want to run your development and test environment in Oracle Cloud off-premises and your production environment on Oracle Cloud At Customer on-premises. Another example is an emerging trend; the frontend of your application (UI) can run in the public cloud to benefit from extreme scalability while the backend runs on Oracle Cloud At Customer for full control over your data.

From a DevOps perspective, you benefit from the automation brought by Oracle PaaS and IaaS Cloud services. Software and infrastructure delivery is fully automated. Application build, test and release are achieved through a rapid and repeatable process.

### Run your existing applications and drive innovation by building cloud-native applications

Oracle Cloud At Customer provides a real cloud environment to run both your existing applications, including non-Oracle workloads, and cloud-native applications. You can modernize and extend the capabilities of your business-critical applications by leveraging innovative functionalities from Oracle Cloud services and integrating with Oracle SaaS applications.

Other cloud providers deliver IaaS services, but their catalog of PaaS cloud services could be quite limiting. Consuming Oracle Cloud services as building blocks for development allows you to build your innovative applications faster. You can focus on your core competencies and let Oracle handle the tasks that provide supportive value to your business.

### Retain full control over your data and software and conform to regulatory and privacy frameworks

Oracle public cloud is offered from data centers distributed worldwide, and Oracle keeps opening new data centers. We understand that public cloud may not be an option for some of your applications and data. You may be under the obligation to keep your data on your premises to conform to internal privacy rules. Data protection regulations, such as the one in the European Union, may limit you from storing any customer data in a public cloud outside of your country or region. With Oracle Cloud At Customer running in your own data center or any location you choose, you enjoy the benefits of Oracle Cloud while complying with data sovereignty regulations.

The performance of your cloud applications may depend on how fast and how reliably you access data on-premises. Your Internet provider's Service Level Agreement (SLA) may not be aligned with your business requirements, preventing you from running mission-critical applications in the public cloud. Oracle Cloud At Customer, on your premises, communicates with any other applications running in your data center at the speed of your own network. You control the SLA of your revenue-generating applications.

## The Oracle Cloud Experience

Oracle Cloud At Customer runs the same technology as Oracle Cloud, including Platform as a Service (PaaS) and Infrastructure as a Service (IaaS).

### Oracle Platform as a Service (PaaS)



Oracle Cloud PaaS helps you to rapidly build and deploy rich applications - or extend Oracle Applications - using an enterprise cloud platform based on the industry's #1 database and application server based on Java. Oracle Cloud PaaS automates the deployment and manages the lifecycle of cloud services including patching, backup/restore, scaling, and high availability.

Many of Oracle Cloud services available in Oracle Cloud are already available on Oracle Cloud At Customer and belong to the following families of cloud services:

- » Application development cloud services provide a comprehensive suite of products and services for simplified development and rapid deployment resulting in a more agile development lifecycle.  
Examples: Java Cloud Service, Application Container Cloud Service
- » Data management cloud services provide a complete and integrated set of capabilities for building, deploying, and managing data driven applications.  
Example: Database Cloud Service
- » Integration cloud services provide seamless integration between applications, running on-premises or in public cloud.  
Examples: Integration Cloud Service, SOA Cloud Service
- » Security and Identity Management services provide cloud-based single sign-on and identity management

Oracle Cloud Platform as a Service relies on powerful automation capabilities that Oracle Cloud Infrastructure as a Service provides for the definition of the infrastructure.

### Oracle Infrastructure as a Service (IaaS)

Designed according to industry open standards, Oracle Cloud IaaS is the most effective and efficient software defined infrastructure. It offers a set of core infrastructure capabilities, like elastic compute, network and storage, to run any workload. You benefit from the same infrastructure across public and on-premises cloud, automated with a consistent API and standard infrastructure automation tools including Chef, Puppet, Ansible, and more.

Your production, development, and test environments can run independently and fully isolated, as Oracle Cloud IaaS provides strict privacy and confinement among tenant identity domains running virtual machines. The business units within your company run their workloads fully isolated from one another.

Additionally, Oracle Cloud IaaS relies on open source components such as Linux and Xen. But more importantly, it is the ideal to run all popular open source applications and development environments, and an extensive library of those packages is made available in Oracle Cloud. It provides a consistent, secure, and optimized experience for users to deploy applications that rely on open source frameworks.

## Use Cases

### 1 - Innovate by building cloud-native applications

Once you have Oracle Cloud services on-premises, you can consume them as building blocks to develop your innovative cloud applications. Cloud services automate tasks such as infrastructure provisioning, installing software, configuring clustering and managing patching. Your teams can focus on building and improving their core innovative applications instead of spending time on the infrastructure and software configuration that Oracle delivers as commodity components.

We discussed the example of the South Korean food catering company earlier in this paper. The time to bring their new cloud-native application to market was reduced to a few weeks compared to months with a traditional development approach. The catering company did not have to wait for infrastructure, database, the middleware, load



balancer, and the lifecycle operations (backup/restore, patching, etc.) to be ready. They simply provisioned their development and production environments with Oracle Java Cloud Service and Oracle Database Cloud Service and were up and running quickly.

## 2 - Run your existing applications with Oracle Cloud At Customer PaaS and IaaS

Your existing Java EE applications can move to Oracle Java Cloud Service on-premises, freeing your IT from the operational tasks of installing or upgrading the underlying Weblogic Server domains. Users accomplish software operational and lifecycle activities (patching, backup) via intuitive self-service capabilities.

Oracle Cloud At Customer provides you with an environment to run your legacy applications and still benefit from the flexibility that the cloud offers. You can run your custom applications as well as third party applications, since Oracle Cloud IaaS follows industry standards. Oracle Cloud IaaS is certified and optimized to run all Oracle Applications, such as E-Business Suite, PeopleSoft, JD-Edwards, and Siebel. To ensure that the Oracle Applications installation is quick, consistent, error-free, and that it follows best practices, Oracle provides automation procedures written with open source configuration frameworks, including Chef.

## 3 - Extend the capabilities of your Oracle packaged applications leveraging cloud services

Modern applications need tailoring and extensions to enable businesses to meet requirements or changing business needs. Using Oracle Java Cloud Service to customize an application simplifies development, reduces operational costs, improves service quality, and enhances customer satisfaction.

Applications also need to use data from other packaged applications, either on-premises or in the cloud. Application data can be made available for integrations with other business applications using Oracle Integration Cloud Service. One example is a pre-built ICS mapping that can be used to send item details in Oracle E-Business Suite to Oracle Configure, Price and Quote (CPQ) cloud, which is mapped to item and quote details to Oracle Sales Cloud to generate a sales order. This ICS capability available with Oracle Cloud At Customer significantly simplifies the integration of E-Business Suite with any other application, whether on-premises or in the cloud.

## 4 - Workload portability across Oracle Cloud At Customer on-premises and off-premises Oracle cloud

Your applications can be deployed across both Oracle Cloud At Customer on-premises and off-premises based on your business needs. With Oracle Enterprise Manager Cloud Control you can discover your application assets on both Oracle Cloud At Customer and on Oracle public cloud via a single pane of management and then easily move the application between your data center and Oracle Cloud. For example – you can do development and testing of your Java application running on Java Cloud Service in Oracle public cloud and then use Enterprise Manager Cloud Control to effortlessly move that application to Oracle Cloud At Customer on-premises.

## A Turnkey Solution

Typically, one roadblock to adopting on-premises cloud solutions is ramping up internal IT skills to operate the cloud platform. Oracle eliminates this problem by including for your convenience a Cloud Operation Service that provides complete cloud operations including cloud infrastructure management, updates, monitoring, support, and cloud administration. Oracle Cloud At Customer integrates with your own infrastructure and data center services such as DNS, LDAP, and firewall. Your IT staff is free to focus on strategic projects for your business, building and innovating on your business applications.



## Conclusion

Oracle Cloud At Customer allows you to achieve all the benefits brought by Oracle Cloud and also addresses the challenges of public cloud adoption. As Oracle Cloud At Customer runs in your own data center, you can:

- » Comply with data residency regulations
- » Connect cloud-native applications to legacy applications at the speed of your own network
- » Control your mission-critical applications according to your requirements
- » Gain the flexibility of deploying applications in public cloud or on-premises
- » Benefit from cloud operations operated by Oracle in your data center
- » Get flexibility of subscription based pricing

For more information on the Oracle Cloud At Customer, visit [oracle.com/cloudatcustomer](https://oracle.com/cloudatcustomer)



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**Integrated Cloud Applications & Platform Services**

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