

FINDING YOUR RIGHT CLOUD SOLUTION

Private & Public Clouds

The Oracle logo is displayed in red, bold, uppercase letters. It is positioned at the bottom center of the page, above the subtitle. The background of the entire page is a light gray, crumpled paper texture. At the bottom, there are several overlapping, semi-transparent gray circles of varying sizes, resembling clouds or abstract shapes.

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Industry Perspective





Executive Summary

As an information technology (IT) professional, you spend significant time purchasing, managing, upgrading and administering IT services. Often, these responsibilities are time-consuming and pull you away from fulfilling the most important mission-critical objectives at your agency.

That's why many IT departments have looked to the cloud to transform their operations. From the field worker to the database manager, it's cloud technology that has led to a radical shift in the way organizations conduct business. Today, business processes are more streamlined, efficient and agile, and the impact of the cloud has only just begun.

Take, for instance, the State of Texas, a public sector leader in leveraging cloud technology. To help various agencies across the state deploy the cloud, the Texas Department of Information Resources (DIR) created a cloud marketplace. Powered by a private cloud built with Oracle's Exadata and Exalogic Engineered Systems, the marketplace expedites and streamlines the process to procure database services for state agencies.

Now, Texas state agencies are using the cloud to deploy new kinds of IT delivery models, which are reducing costs, meeting efficiency targets and end-user demands from citizens and

employees, and assisting in maintaining compliance requirements (such as records retention).

But Texas is certainly not alone in their deployment of cloud. An [Oracle white paper](#) reports that the use of cloud computing is growing at a compound annual growth rate of 26 percent. And, a recent Deloitte report predicts that in 2020 cloud computing is expected to account for 18 percent of the global IT market (excluding IT services and client devices).

Leveraging Oracle solutions, the public sector can deploy a complete cloud solution. GovLoop spoke with Oracle subject matter experts to explore how the Oracle cloud is:

➤ **Open:** Oracle can provide key components for your cloud, like database, middleware and applications, all built on open standards.

➤ **Integrated:** From business process related to human resources, financial management, procurement and customer relationship management, they can all be integrated with the Oracle cloud.

➤ **Secure:** With an aggressive approach to security, Oracle offers a holistic solution to safely secure your agencies information in the cloud, while meeting federally mandated security standards.

➤ **Complete:** The Oracle cloud is complete, as it offers software-as-a-service (SaaS), platform-as-a-service (PaaS), and infrastructure-as-a-service (IaaS), along with options for on-premise and hybrid clouds to meet your business objectives.

With these offerings, agencies must consider a variety of different solutions. One of the key decisions is to select a public or private deployment model. "Before you make a decision, you should understand what the business drivers are so you don't go with a public cloud solution when you should go private cloud, or vice versa," advised Aaron Erickson, Director Government Innovation, Oracle. "You must understand what the drivers are and how to make the right decision."

In this report, we focus on Oracle's public and private cloud. More information on Oracle's hybrid and community cloud can be found by visiting [Oracle's Government Cloud](#) site.

Cloud Deployment Models

Four common cloud deployment models are public, private, hybrid, and community cloud. Each deployment model is different and dictates where services are hosted; who has access to data and information; who is managing the cloud; and customization of services.



The Public Cloud:

A public cloud is a cloud deployment built and managed by a Cloud Service Provider (CSP). Customers have limited visibility into the architecture of the service and cannot specify particular security protocols or service offerings. These are chosen by the CSP for all customers.



The Private Cloud:

A private cloud is a cloud deployment that is used exclusively for one customer. The customer can define everything about the cloud: the infrastructure, the security, the service offerings, the service level objectives. This does not mean the customer has to own or manage the cloud themselves, it just means it is exclusively under their control.



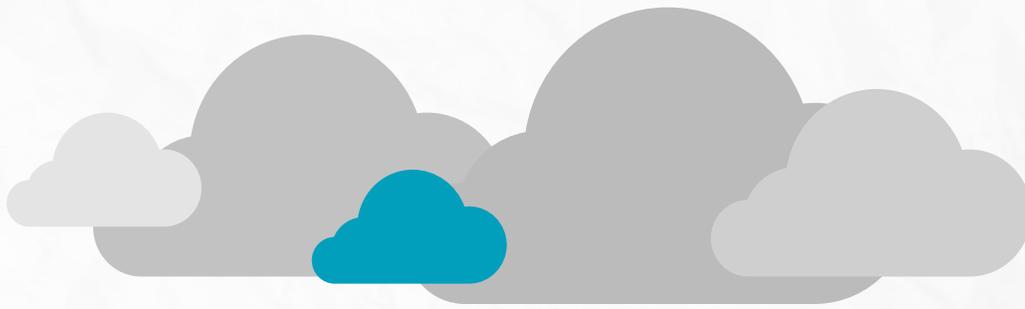
The Hybrid Cloud:

Consists of two or more deployment models. For instance, a hybrid cloud will contain both a public and private cloud and can easily segment data and transfer data between clouds as necessary.



The Community Cloud:

A community cloud is a model that provides access to multiple organizations that have similar interests in collaboration. This may look like a private cloud for one government organization, and a public cloud to other government organizations that share the services in the community cloud.



Benefits of the Public & Private Cloud

After an agency decides on the right deployment model, there are many benefits that they'll receive from using the cloud. The cloud delivers better utilization of IT resources, greater reliability, improved management, access to data, and reduced overall costs.

"With the cloud you have the ability to move workloads if you need to, and even when you're doing things like patching or backing up data, you can move the workload to another server, patch the original server and then move it back without realizing any down time," said Mark Johnson, Senior Vice President, Oracle Public Sector.

These benefits can be witnessed in both the private or public cloud. "Sometimes people forget that cloud can mean private as well as public," said Johnson. "They think when they say cloud they mean multi-tenant architectures. However, research has shown repeatedly that the private cloud is growing faster than public clouds and will continue to be a larger part of enterprise IT for the foreseeable future." Let's look further at the benefits of both public and private clouds.

Top 3 Benefits of the Public Cloud

Public clouds are used by multiple organizations, and hosted by third party partners, such as Oracle. They can help provide improved access to information for public consumption or data sharing across entities. Some of the benefits that are unique to the public cloud include:

- **Ease of management:** Agencies IT departments do not manage their public cloud; they rely on Oracle to administer the cloud.
- **Ease of deployment:** With the public cloud, there is low barrier to entry, so you can quickly configure and stand up a cloud.
- **Short-term cost savings:** With the public cloud, the short-term operating expenses are decreased and capital expenses avoided, as you're not purchasing or managing expensive infrastructure.

Top 3 Benefits of the Private Cloud

The private cloud can be used for anything workloads within an organization, including applications with sensitive or confidential information. Some of the benefits of the private cloud include:

- **Control of data and information:** IT can control the security of data, set compliance requirements, and optimize networks more effectively with cloud.
- **Ease of integration:** Applications can be moved to the private cloud, and provide users with access to their trusted applications and services, with improved reliability and availability.
- **Reduced long-term costs:** Over the long-term, private clouds usually are less expensive than public clouds since you own, not rent, the infrastructure.

To capitalize on these benefits, organizations must understand their business drivers and reasons to move to the cloud. "Public cloud makes more financial sense for short term projects, and private cloud is more fiscally advantageous for long term production systems," said Johnson. Once a decision has been made to choose public or private, Oracle can provide the right solution for your agency.

Thinking about Hybrid Clouds

For these reasons, when thinking about a complete cloud strategy, governments should focus on solutions that allow them to take advantage of both types of cloud in a hybrid environment. That may mean moving development projects from public clouds to private when they go into production. It may

also mean "surging" from a private cloud deployment into the public cloud when additional resources are needed by an agency for a short period of time.

Looking at these use-cases, it becomes apparent that governments should also look to clouds that are easy to move between. A solid long-term

cloud strategy should not result in lock-in to any particular cloud or particular technology. Moving workloads from one cloud to another and integrating between multiple clouds are important tasks in a hybrid environment and should be as simple as possible.



Hybrid Cloud: the Oracle Advantage

Oracle's public and private cloud solutions use the same technology. This enables users to have the best of both worlds, including features like self-service, metering, and chargeback capabilities – all of which help to control costs and provide increased visibility into the network.

With Oracle, your agency has access to a scalable hybrid cloud solution, which consolidates existing databases and applications into a standard platform in any environment. Additionally, Oracle's world-class middleware products reduce costs by effectively connecting software components and enterprise applications across a network, helping agencies to fully leverage the benefits of a shared platform.

The Oracle cloud is a complete cloud, built on enterprise-ready infrastructure that is well-tested and secure. With a complete selection of servers, storage, networking, virtualization, operating systems and management, Oracle clouds are designed to fully support a diverse set of cloud applications.

"We can provide an honest evaluation with our customers of what makes sense for them," said Erickson. "We can help them achieve their objectives with their unique business case."

Oracle is also the leader in cloud security, taking a "defense in depth" approach. For instance, Oracle:

- Provides a 24x7 nerve center that monitors specific KPIs for clients. The center is 100% managed by Oracle badged employees who have cleared background checks.

- Dedicated cloud security teams who provide: detection, mitigation, forensics, and notification to clients.

- Supports best in class infrastructure and management. Oracle owns the complete stack and can create security defenses across the whole stack accordingly.

Cloud computing is one of the most important trends changing how government meets its complex missions. With Oracle, your agency can have a fully supported enterprise solution, which supports the public and private cloud, giving you the flexibility you need to meet your mission objectives.

About Oracle

Oracle (NASDAQ: ORCL) is the world's most complete, open, and integrated business software and hardware systems company. With more than 370,000 customers—including 100 of the Fortune 100—in more than 145 countries around the globe, Oracle is the only vendor able to offer a complete technology stack in which every layer is engineered to work together as a single system. Oracle's industry-leading public sector solutions give organizations unmatched benefits including unbreakable security, high availability, scalability, energy efficiency, powerful performance, and low total cost of ownership.

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About GovLoop

GovLoop's mission is to "connect government to improve government." We aim to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 200,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to connect and improve government.

For more information about this report, please reach out to
Catherine Andrews, GovLoop's Director of Content,
at catherine@govloop.com

GovLoop 1152 15th St NW, Suite 800 Washington, DC 20005

Phone: (202) 407-7421 • Fax: (202) 407-7501

www.govloop.com

Twitter: [@GovLoop](https://twitter.com/GovLoop)



GovLoop
1152 15th St NW, Suite 800
Washington, DC 20005

Phone: (202) 407-7421 | Fax: (202) 407-7501

www.govloop.com

