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3 Ways to Move Application Development to the Cloud

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Datamation®
Executive Brief

Introduction

In today's highly competitive business economy, companies that can more quickly react to new opportunities beat competitors to market. Being first and fast to market is critical for success.

Unfortunately, whether updating an existing application or creating a new one, traditional development approaches, combined with a squeeze on resources where companies are asking IT and development teams to do more with less, can result in long development times, high costs, and missed business opportunities.

To speed development, many companies are looking to cloud-based development platforms to overcome these challenges. In particular, companies can accelerate innovation, avoid complexity, and increase developer productivity with Oracle Cloud Platform Services for application development and testing, as well as production deployment.

Cloud services for development environment

Software development has traditionally relied on IT to set up development environments, including servers, storage, networks, and platform software whenever a new project got under way. In many organizations, the process can take weeks or months, often slowed by approvals, equipment delays, and the time constraints of the IT staff.

In today's hyper-competitive markets, driving innovation to stay ahead of the competition relies on the ability to seize new opportunities to develop IT solutions faster and more efficiently. This Executive Brief discusses how organizations can accomplish these things by moving development of enterprise applications to the cloud by leveraging Platform-as-a-Service (PaaS), and in the process reduce development costs, avoid complexity, and increase developer productivity.

During the software development process, the utilization of computing resources varies greatly. There are often periods of high utilization and periods of low utilization. On average, utilization rates of dedicated dev/test servers can be 10 percent or lower. Clouds provide access to a shared pool of resources, enabling higher resource utilization.

As developers and quality assurance engineers perform their work, provisioning and de-provisioning is required. Clouds provide self-service provisioning and high levels of automation, giving users fast access

to computing resources and greatly lowering the costs of the supporting IT organization.

There is also the matter of ongoing configuration and maintenance tasks such as patching, refreshing, and backing up environments. The required management of development environments creates significant overhead and cost for IT, taking up valuable resources better spent on innovation to drive the business. In addition, system maintenance results in downtime, making environments unavailable, thus lengthening the development cycle time.

With increased pressure to get solutions to market faster and at lower cost, organizations are increasingly turning to the cloud for application development. Here are three ways to tap the power and benefits of cloud services for improved application development:

Remove core infrastructure obstacles: The demands on IT to set up and maintain hardware infrastructure for development are enormous. The work consumes staff time and IT budget dollars. And there are inherent delays that can slow development, adding significant time to a project's timeline. To overcome these issues, some organizations are turning to cloud services to satisfy the basic infrastructure needs of their test and development efforts.

While some organizations have been hesitant to trust their mission-critical and production applications to the cloud just yet, many have embraced the cloud for application development. A survey[1] of 600 global enterprise and mid-market companies published in early 2012 found that 27 percent were using public cloud Infrastructure-as-a-Service (IaaS) solutions. (That was 10 percent higher

than what was found in a similar survey published in 2011.)

Such cloud solutions address both the cost and speed issues associated with application testing and development. With IaaS, organizations do not need to buy hardware, avoiding the upfront CAPEX costs. IaaS also lowers OPEX costs associated with managing servers and other equipment, as well as the costs for power, cooling, and maintaining data center space.

To address the speed to development issue, cloud solutions are typically provisioned on-demand in a self-service model, eliminating the wait times that can occur when IT staff must get involved in setting up systems. Developers can select from a service catalog of standard services which are automatically and rapidly provisioned on demand without the need for IT action.

Furthermore, cloud solutions offer the flexibility that is needed in a test/dev environment. Most cloud services offer a pay-as-you-go approach that gives organizations the ability to not just scale up to meet peak development demands, but they also allow an organization to cut back when things

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return to normal or a development project is completed.

Go beyond basic infrastructure with PaaS: Even with the benefits of using public IaaS clouds, application development often requires application platforms, which can introduce significant complexity and require a great deal of effort to maintain. For example, organizations will still need IT staff to install, configure, and maintain database and middleware software upon the infrastructure layer in order to support their application development and deployment environments.

This is an area where Platform-as-a-Service (PaaS) offerings can help. PaaS provides a cloud-based platform for developing and deploying applications without the cost and complexity of managing the underlying middleware, database software, and infrastructure hardware. This gives organizations the ability to develop new applications faster and more cost-effectively than ever before. In today's global business environment, PaaS also provides the advantage of enabling geographically dispersed teams to more easily collaborate on development projects.

PaaS offers a pooled, shared, and elastically scalable platform for development of multiple applications. PaaS also provides standardization on a common middleware and database platform. This reduces complexity

and lowers development costs. It also provides a level of integration and portability, should it be needed in the future. At the same time, a standardized platform speeds development of new applications because there are fewer technologies to learn. Using a PaaS solution, organizations can focus on innovating instead of setting up and managing development and deployment environments.

Oracle Cloud Platform Services:
Given the benefits a PaaS solution can bring to application development work, Oracle Cloud offers a variety of platform services that are enterprise-grade, open standards-based, and designed to be easy-to-use. All of the services are available on a subscription basis.

The services include:

Oracle Database Cloud Service:
This service provides the power of the Oracle Database in the cloud. The self-service solution is instantly provisioned and subscription-based, and fully managed by Oracle. It offers a declarative, Web-based development environment through Oracle Application Express and number of different choices for data access including SQL, PL/SQL, JDBC, and RESTful Web services. The Oracle Database Cloud Service provides complete schema isolation, so there is no comingling of data between different projects or customers.

Oracle Database Cloud Service includes tools to load data, develop and run SQL, and browse data and data structures. Oracle Database Cloud Service also includes a wizard-driven interface to quickly and easily create RESTful Web Services accessible from outside Oracle Cloud.

In addition, applications using the Oracle Database Cloud Service can be moved to Oracle Databases running on-premise or in other clouds. This portability allows for flexible and rapid deployment once an application is fully developed and tested.

Oracle Java Cloud Service:
With Oracle Java Cloud Service, organizations can run any Java EE application in Oracle Cloud. Like Oracle Database Cloud Service, Oracle Java Cloud Service is instantly provisioned, subscription-based, and fully managed by Oracle.

Oracle Java Cloud Services is based on Oracle WebLogic Server, the industry's leading application server, and supports popular development frameworks such as Oracle ADF and Spring. To make development easier, the service offers support integration with commonly used IDEs (Integrated Development Environments) including Eclipse, NetBeans, and Oracle JDeveloper. Developers can use Oracle Java Cloud Service to build new Java applications or use it to extend Software as a Service (SaaS) applications deployed in Oracle Cloud.

With the Oracle Java Cloud Service, organizations can create a production-ready environment for enterprise applications within minutes. Oracle Java Cloud Service instances are created with just a few clicks and come pre-configured with Oracle Database Cloud Service. This eliminates the

common approach where developers must spend weeks to create custom scripts for the creation of application environments.

As part of Oracle Cloud, both the Oracle Database Cloud Service and Oracle Java Cloud Services are deployed on an enterprise-grade infrastructure based on Oracle Exadata Database Machine and Oracle Exalogic Elastic Cloud. The services are geared for high performance and availability. The services offer full system backup and restore capabilities, data centers in multiple geographic locations, and industrial-strength physical and logical security. Furthermore, Oracle Cloud is backed by 24/7 multi-lingual support to ensure customers' needs in various regions are met.

In summary, Oracle Cloud Platform Services give application developers a way to accelerate innovation, avoid complexity, and lower development costs. The services are enterprise-grade, open standards-based, and designed to be easy-to-use.

Rather than having to wait for access to development environments, Oracle Cloud Platform Services offer self-service, instant access to environments. Being based on open-standards enables developers to leverage existing skills in Java, SQL, and other standards, as well as leverage development tools that are already familiar to them.

For more information about Oracle Cloud Platform Services, visit: www.oracle.com/cloud. ■

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[1] http://www.networkworld.com/supp/2012/enterprise2/040912-ecs-iaas-257610.html