

Benefits of Deploying Oracle E-Business Suite on Oracle Cloud At Customer

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Executive Overview

Oracle's E-Business Suite software is a premier Enterprise Resource Planning (ERP) solution that has been successfully used by many organizations around the world over the past two decades. Traditionally, E-Business Suite (EBS) has been deployed on commodity hardware that was sized based on initial deployment requirements, with additional hardware being added or upgraded as the scalability and performance needs grew over time. This patchwork architecture is unable to take advantage of the current trends in cloud computing, such as Infrastructure as a Service (IaaS) and Platform as a Service (PaaS), which can provide advantages to organizations in areas such as reducing total cost of ownership, becoming more agile and competitive, and meeting requirements of E-Business Suite in the areas of integration, customization, scalability and availability

This whitepaper will outline how Oracle Cloud At Customer (OCC) provides benefits for running E-Business Suite on the following fronts -

Cloud On Premises – Realize all of the resilience, scalability and functionality of cloud computing with Oracle Cloud At Customer, which delivers Oracle Public Cloud capabilities in a customer's data center. This allows customers to conform to all legal, regulatory, data sovereignty and privacy requirements for their E-business Suite and other applications hosted on Oracle Cloud At Customer.

Oracle Compute Cloud IaaS – Modern and resilient platform to host E-Business Suite and other applications, with seeded orchestrations and cookbooks available for E-Business Suite to automate deployments and migrate E-Business Suite environments from current hardware to Cloud. It also provides improvements in the lifecycle activities of E-Business Suite such as cloning and backup.

Oracle PaaS Services – Utilize Oracle PaaS services available on Oracle Cloud At Customer, which are identical to the PaaS services available on Oracle Public Cloud to provide out-of-the-box capabilities for E-Business Suite in various facets for customization and personalization (using Java Cloud Service) and integration (using Integration Cloud Service), among many others.

Single Platform / Lower TCO – Modernize your hardware, lower your operating costs, increase availability and consolidate E-Business Suite and other applications onto a single platform – Oracle Cloud At Customer. Achieve overall lower total cost of ownership (TCO) – Oracle installs, manages, maintains and supports Oracle Cloud At Customer, enabling customers to focus on IT and running their business.

Business Value of Deploying E-Business Suite on Oracle Cloud At Customer

Customers deploying E-Business Suite on Oracle Cloud At Customer gain benefits in these major areas -

- **IaaS Benefits** – Oracle Cloud At Customer provides orchestrations and cookbooks for E-Business Suite, which utilize the Oracle Compute Cloud IaaS service and enable quick deployment of E-Business Suite instances in as little as a few hours. These orchestrations employ recommended practices from Oracle, and include migration of E-Business Suite from on-premises hardware to cloud. In addition, the storage and network capabilities are built in to the IaaS layer and will reduce time taken for lifecycle activities such as cloning, backup, restore and patching.
- **PaaS Benefits** – Oracle Cloud At Customer includes the same PaaS services that are available in Oracle Cloud, such as Java Cloud Service (JCS) and Integration Cloud Service (ICS). JCS is used to deploy customizations and extensions to E-Business Suite to quickly tailor the application to suit business requirements, while ICS implements simplified integration of E-Business Suite with other applications, both on-premise and in the cloud, using a point-and-click UI with no coding involved.
- **Cloud Benefits** - Customers consolidate disparate E-Business Suite instances into an Oracle Cloud At Customer configuration that is suitable for them today, to be assured of growth, availability and scalability in the future. Consolidation can include other Oracle applications, Oracle Fusion Middleware and third-party applications. Fewer E-Business Suite and other application instances on a standard platform results in lower administrative costs. With Oracle maintaining and managing Oracle Cloud At Customer, customer resources are better utilized to focus on adding IT and business value.

Oracle E-Business Suite

Oracle E-Business Suite is the most comprehensive suite of integrated, global business applications available on the market. It enables organizations to make better decisions, reduce costs and increase customer satisfaction. Some of the common challenges faced by customers when implementing E-Business Suite are –

- Integrating E-Business Suite with other Oracle applications that are on-premises or in the cloud
- Utilizing a standards-based toolset to personalize, customize and extend E-Business Suite
- Quickly provisioning, cloning, backing up or restoring E-Business Suite instances
- Scaling in/out E-Business Suite environments dynamically to meet user demand

As business needs grow and evolve, customers also choose to implement functionality in SaaS applications such as Oracle ERP Cloud and Oracle HCM Cloud. These hybrid deployments involving E-Business Suite are becoming more common, as they allow customers to uptake the latest capabilities and features that SaaS applications provide. To support business requirements, E-Business Suite must be integrated with these SaaS applications, and also utilize PaaS services in a layered approach to extend current functionality.

Oracle Cloud At Customer

Oracle Cloud At Customer (OCC) consists of Oracle IaaS and PaaS cloud software, hardware, and a managed service offered on a subscription basis and available in a customer's data center. It runs the same cloud software as in Oracle Cloud - all delivered as a service on-premises and offer the same benefits of cloud – agility, simplicity, availability and automation. OCC allows customers to concentrate on tasks that add value to their business, while Oracle installs, maintains and manages the hardware and IaaS and PaaS services running on the hardware.

Oracle Cloud At Customer, as shown in Figure 1, includes two components – Oracle Compute Cloud IaaS, which bundles services such as compute, storage, network and identity services to form the basis upon which virtual servers can be instantiated and run, and Oracle PaaS services such as Java Cloud Service, Integration Cloud Service and Database Cloud Service, which utilize the same technology as Oracle Public Cloud and provide the exact same functionality. As more Oracle PaaS services are offered on Oracle Public Cloud in the future, the same PaaS services will also be offered on Oracle Cloud At Customer.

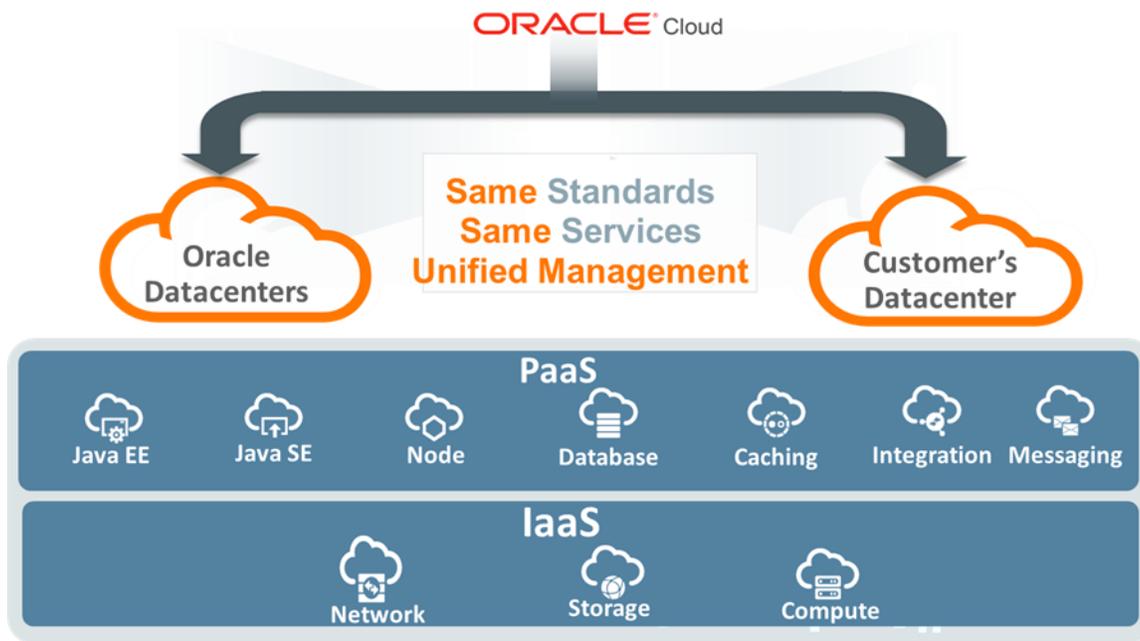


Figure 1 – Oracle Cloud At Customer

Leveraging Oracle Cloud At Customer for E-Business Suite

Oracle Cloud At Customer is ideally suited when E-Business Suite has to be integrated with a number of applications where low latency is required, or where legal, regulatory, data sovereignty or privacy requirements need to be adhered to, or where application response SLAs are high. Since OCC is located in a data center chosen by the customer, it meets all compliance requirements for customer applications, including E-Business Suite.

Benefits of Oracle Compute Cloud (IaaS)

OCC includes Oracle Compute Cloud IaaS service – the same exact service available in Oracle Public Cloud - which serves as the basis for hosting virtual servers in which Oracle E-Business Suite and other applications can be run. This IaaS service is characterized by –

- Highly automated and resilient cloud operations through a self-healing and self-organizing control plane
- Highly scalable through self-install and self-configuration of services in the control plane
- Self-service workflows for day to day user operations and administrative tasks

- Fully API driven deployment with the same API across both Oracle Public Cloud and OCC
- Out of the box integration with EMCC to provide single pane of management across IaaS/cloud services/hardware/apps/middleware

E-Business Suite Orchestrations - Oracle Compute IaaS hosts virtual servers that can run E-Business Suite and other applications. Cookbooks and orchestrations are available to deploy and provision E-Business Suite on Oracle Compute IaaS in various topologies, ranging from a simple single-VM Vision Demo instance, to a multi-tier, multi-VM scalable and highly-available architectures. The provisioning and deployment of E-Business Suite instances can be completed in as little as a few hours. The automation in the deployment process ensures quick, consistent and error-free experience, and also includes various best practices as recommended by Oracle.

Once E-Business Suite VMs are created on Oracle IaaS using the deployment process, the VMs can be customized and converted to VM templates to suit specific customer requirements. The templates can then be used to provision other E-Business Suite environments quickly in support of agile development processes. Instructions and cookbooks are also available to scale out/in EBS middle tier virtual machines (VMs) to meet increased/decreased user loads, and to migrate current EBS environments from on-premises traditional hardware to OCC.

E-Business Suite Lifecycle Operations - The IaaS layer includes storage snapshot capability, where copies of binaries and filesystems can be made instantaneously. This capability can be used to substantially reduce the time taken for E-Business Suite lifecycle activities such as cloning, backup and recovery. In the E-Business Suite cloning process, the majority of the elapsed cloning time is spent in copying the E-Business Suite binaries and database from the source instance to the target instance. Storage snapshots can be used to make copies instantaneously, shortening the elapsed cloning time to a few hours or less. The E-Business Suite cloning process can be automated as well, allowing for a more robust, consistent, error-free process to execute E-Business Suite clones, either on an on-demand or scheduled basis. The storage snapshot capability can also be used to easily facilitate rollback of an E-Business Suite patch, if so desired. A snapshot taken just before a patch is applied to E-Business Suite can be restored quickly to rollback the effects of a patch. Quick backups of entire E-Business Suite environments, as well as quick restores, are also possible using the IaaS snapshot capability.

The IaaS layer provides a consolidation platform for E-Business Suite, as OCC is capable of hosting all of the E-Business Suite instances required both during the implementation, and production support phases, of a deployment. During both phases, E-Business Suite requires a large number of instances (Dev, Test, QA, Conference Room Pilot, Patch, Sandbox, Pre-prod, Production etc) to support various needs. Consolidation of all these instances onto a single platform allows for standardization, reducing maintenance and management costs, and lowered TCO.

The IaaS layer is also architected to be resilient and highly-available - it serves as a high performance platform for applications – all features that are critical to the success of an E-Business Suite deployment.

Portability Between Oracle Public Cloud and OCC – Since the IaaS Compute Cloud Service on OCC is identical to that of Oracle Public Cloud, porting or migrating application instances, including E-Business Suite, between Oracle Public Cloud and OCC, is possible. Test, demo or sandbox instances of E-Business Suite can be deployed on Oracle Public Cloud and then cloned or moved to OCC as needed.

Benefits of Oracle PaaS Services

E-Business Suite is characterized by its ability to suit a multitude of business needs using customization, extensions and personalization. Java Cloud Service (JCS) includes Oracle Web Logic Server for developing and deploying custom applications and extensions to E-Business Suite. Specific functionality that is not available in E-Business Suite can easily be developed and integrated using JCS, which provides the necessary tooling for personalization, customization and extension of various facets of E-Business Suite. An example is building a simplified sales order

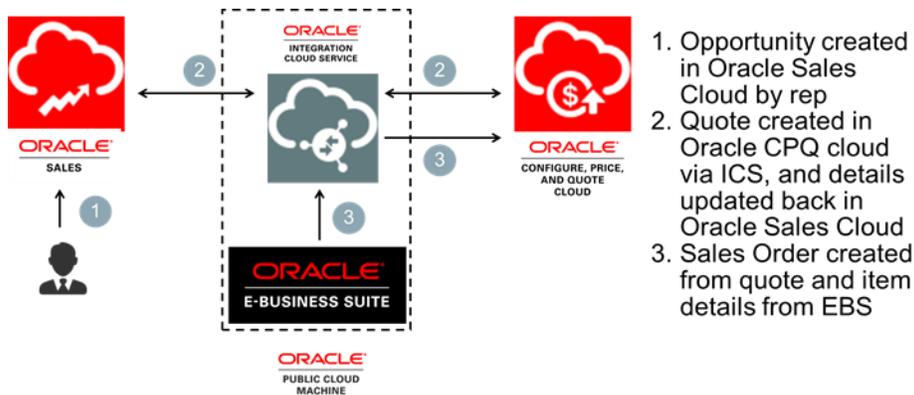
entry portal using JCS and Oracle Application Development Framework (ADF) that is a front end application integrating with E-Business Suite. Another example is utilizing the E-Business Suite security model to authenticate users to a custom mobile application developed in JCS and ADF for various approvals such as purchase orders, expense reports, vacation requests etc.

Integration Cloud Service (ICS) is a secure and intuitive platform to enable mission-critical integrations between E-Business Suite and other applications, whether on-premises or in the cloud. It simplifies development of integrations between applications without needing to write any code, and includes pre-built integrations between various Oracle and third-party software offerings. ICS can be used in conjunction with Integrated SOA Gateway or REST API functionality built into E-Business Suite to provide EBS integration capabilities without having to write any code. ICS also includes an E-Business Suite adapter which leverages the functionality of Oracle E-Business Suite Integrated SOA Gateway (ISG), provides the connectivity between Oracle E-Business Suite and other applications, and significantly simplifies the complexity of typical integration experiences.

There are several types of integrations that can be achieved with ICS on OCC –

Integrate with on-premise applications – E-Business Suite can be integrated with other on-premises applications, whether Oracle or third-party. An example is integrating E-Business Suite with PeopleSoft, where PeopleSoft is the system of record for HR data, and ICS integration synchronizes HR data from PeopleSoft to E-Business Suite.

Integrate with Oracle SaaS applications - An example is an ICS mapping that can be used to send item details in 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, as shown in Figure 2.



1. Opportunity created in Oracle Sales Cloud by rep
2. Quote created in Oracle CPQ cloud via ICS, and details updated back in Oracle Sales Cloud
3. Sales Order created from quote and item details from EBS

Figure 2 – Example integration Of E-Business Suite with Oracle SaaS applications

Integrate with third-party SaaS applications - An example is E-Business Suite running on OCC integrated with Salesforce. Pre-built adapters and process flows allow EBS to automatically synch opportunity, contact and quote data, as shown in Figure 3. The opportunity to quote cycle can be easily automated using features in ICS, freeing business users from basic data entry and integration. Salesforce.com application integration requires more than simply connecting a few web service calls. You must also consider important issues related to authentication, session management and transformation mappings, all of which can easily be achieved using ICS.

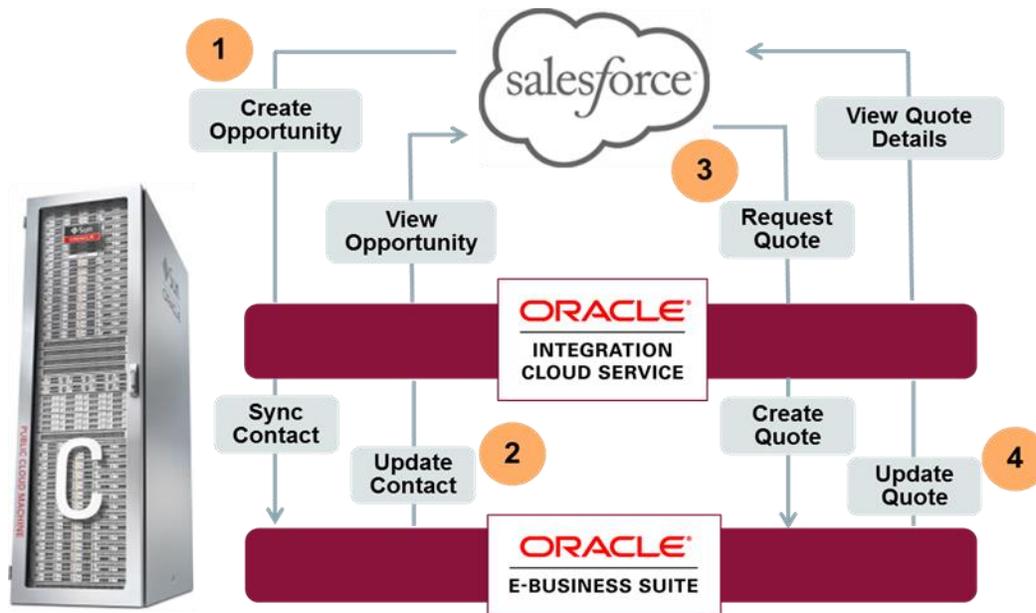


Figure 3 – Example integration of E-Business Suite with Third-party SaaS application

Other integration patterns that E-Business Suite can be utilized with ICS to support business flows and functionality are as follows -

- **Synchronous Request / Response** – In this scenario, an application sends a request to another application and waits for a response. Examples are Oracle Sales Cloud application fetching a list of service requests or orders from on-premise E-Business Suite to provide a unified customer view, or requesting a customer credit check from E-Business Suite.
- **Asynchronous Request** – In this case, an application sends a request to another application but does not wait for or need a response from another application. Examples include Oracle Marketing Cloud sending “Convert Opportunity to Quote” business event to E-Business Suite, or a “New Organization Created” event in E-Business Suite event that synchronizes data with other applications that maintain a copy of organization data.
- **Publish / Subscribe** – In this model, applications publish events or subscribe to events that other applications publish. Examples are E-Business Suite sending Item Master updates to other applications, or other applications subscribing to an “Employee Terminated” event in E-Business Suite to perform necessary employee account deactivations in other applications.



Summary

The Oracle Cloud IaaS and PaaS capabilities delivered with Oracle Cloud At Customer provide numerous benefits to customers running E-Business Suite. Oracle delivers the identical functionality of the Oracle Public Cloud in customers data centers by maintaining and managing the hardware and IaaS / PaaS services, allowing customer IT resources to execute on value-added activities. The IaaS service allows for accelerated lifecycle activities for E-Business Suite. It supports agile development methodologies like DevOps and provides a scalable, resilient, available and high performance platform to execute E-Business Suite. The PaaS services simplify customization, integration and extension capabilities for E-Business Suite.

Customers continue to push Oracle E-Business Suite to the limit to meet business needs. With Oracle Cloud At Customer, there is a new way to deploy with a platform that accelerates application agility to deliver business needs while easing management and reducing overall costs.

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