

# Retailers Benefit from Moving to Fortinet-Secured Oracle Cloud Infrastructure

## Executive Summary

More than ever, companies are adopting cloud architectures to support their digital innovation initiatives. Many organizations are already using Oracle applications on-premises or in the cloud, such as **E-Business Suite (EBS)** for order management, procurement, manufacturing, logistics, and financials. Whether migrating to Oracle Cloud Infrastructure (OCI) or already deployed on OCI, companies are opting for zero-trust security across their environments with better automation and consistent security.

Oracle and Fortinet have partnered together to simplify the retail customer cloud journey by using validated designs for Enterprise Resource Planning (ERP), such as EBS, running securely in OCI. OCI and Fortinet enable organizations to take advantage of improved performance and Fortinet Dynamic Cloud security with better flexibility and cost savings compared to on-premises or other cloud-based options.

## Introduction

Oracle E-Business Suite runs on OCI just like the Oracle EBS that you run on-premises in your data center today—the same applications you may have customized, bought, and trained your staff on, but on a combination of Oracle’s Infrastructure as a Service (IaaS) and Database as a Service (DBaaS).

### Benefits of Fortinet Security Solutions for EBS in OCI

- Threat detection based on analysis of 10 billion daily alerts
- Zero-day threat, OWASP Top 10, and distributed denial-of-service (DDoS) attack detection
- Consistent security policies across clouds and data centers
- Secure cloud on-ramp for enhanced network performance
- Support for Payment Card Industry Data Security Standard (PCI DSS) reporting



Figure 1: The Oracle E-Business Suite applications.

Moving EBS to OCI enables organizations to take advantage of cloud infrastructure designed to support Oracle applications and with a price/performance that far outstrips offerings such as Amazon Web Services (AWS):

- **Lower total cost of ownership (TCO).** Hosting EBS on OCI offers a total cost of ownership (TCO) that is 38% lower than an on-premises deployment and 44% lower than a similar deployment on AWS.<sup>1</sup>
- **Improved performance.** OCI offers performance guarantees 2X - 10X improvement in performance than an on-premises deployment.<sup>2</sup>
- **Consistent quality of experience (QoE).** Applications hosted on OCI are accessible to retail locations worldwide, eliminating variability across the retail enterprise.
- **Better support for innovation.** Cloud-based infrastructure provides greater flexibility, scalability, and agility than an on-premises deployment.
- **Improved reliability and operational efficiency.** Oracle Cloud Autonomous Database uses machine learning (ML) to eliminate human labor, human error, and manual tuning.

When migrating EBS to the cloud, it is essential to provide enterprise-level threat protection for the application and the data. Fortinet has partnered with Oracle to provide best-of-breed security solutions that deploy natively within OCI. This provides retailers with a number of key security benefits:

- **Lower risk and improved compliance.** Fortinet’s broad, integrated, and ML-automated threat protection minimizes the impact of any breaches and protects the privacy and integrity of customer data.
- **Easier end-to-end security management.** Lean retail IT teams benefit from single-pane-of-glass visibility and management of on-premises and cloud-based infrastructure.
- **Easy, consistent provisioning.** OCI-native Fortinet solutions are available via the Oracle Cloud Marketplace. Tight integration between Fortinet and OCI facilitates configuration and minimizes security gaps.
- **Simplified billing.** Oracle customers can use Universal Credits within the Oracle Cloud Marketplace to pay for Fortinet solutions and services on OCI.

### Advantages of Moving EBS to OCI:

- Lower TCO
- Improved SLAs
- Consistent QoE
- Better support for innovation
- Improved reliability and operational efficiency

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### Advantages of Securing OCI with Fortinet:

- Lower risk and improved compliance
- Easier end-to-end security management
- Easy, consistent provisioning
- Simplified billing

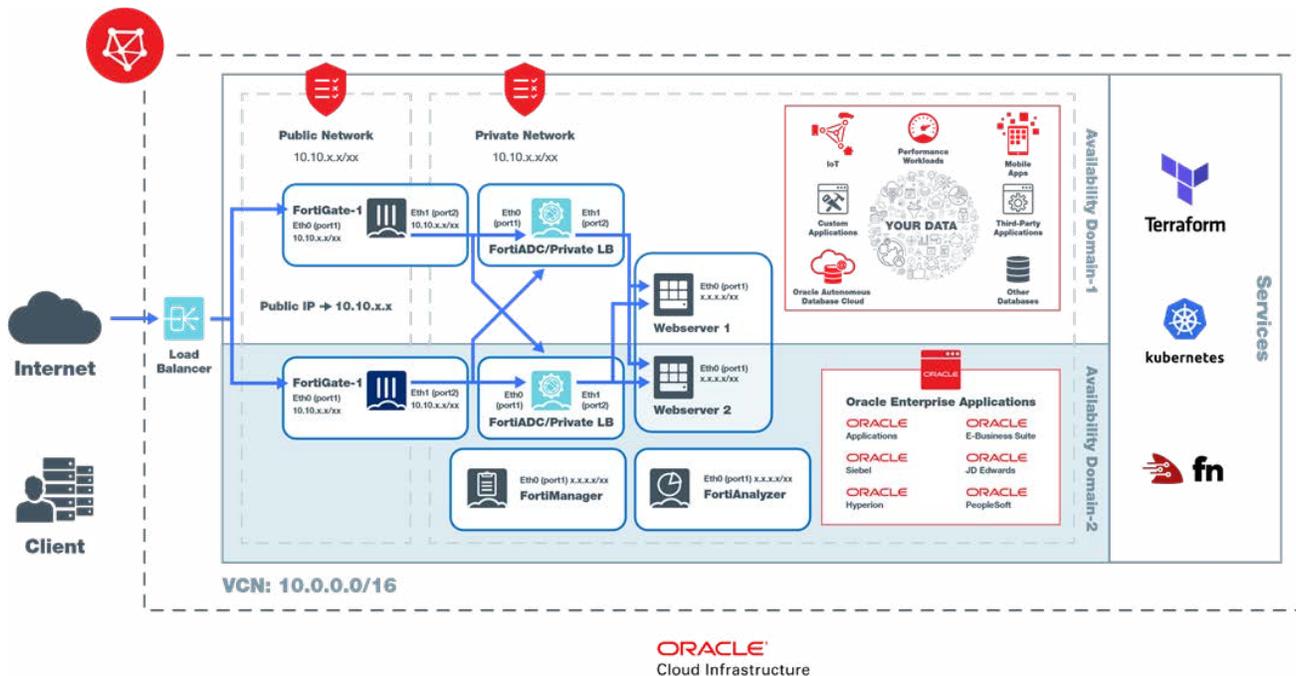


Figure 2: Reference architecture for securing Oracle applications with Fortinet solutions on OCI.

## Reference Architecture and Use Cases

To help retail organizations achieve optimal performance and security in OCI, Fortinet and Oracle have published a [security reference architecture](#).

Based on this reference architecture, retailers can deploy secure solutions on OCI for a variety of use cases, including terraform templates in OCI for High Availability implementations. Two common use cases are providing an omnichannel shopping experience for customers and maintaining PCI DSS compliance for distributed company networks.

### 1. Omnichannel experience

As retail locations work to provide an omnichannel shopping experience for customers, a move from on-premises infrastructure to OCI is a logical choice. OCI provides the flexibility and scalability required to support an optimal shopping experience for customers in-store and online.

Fortinet provides solutions to help retailers provide secure omnichannel shopping experiences:

- **Optimized routing.** FortiGate next-generation firewalls (NGFWs) include secure software-defined wide-area networking (SD-WAN) functionality to provide a secure cloud on-ramp to resources hosted on OCI.
- **Secure branch networking.** Secure SD-Branch solutions enable retailers to offer secure guest wireless access segmented from business networks.
- **Security integration.** Secure SD-WAN and SD-Branch provide security integration via the Fortinet Security Fabric, allowing centralized monitoring and management from a single pane of glass.

By combining these on-site solutions with infrastructure hosted in Oracle cloud, retailers can provide an omnichannel customer experience without sacrificing security.

### 2. PCI DSS compliance

While engaging in efforts to provide omnichannel shopping experiences and improve operational efficiency by leveraging cloud-based infrastructure, regulatory compliance is still a concern. Retailers must maintain PCI DSS compliance across their rapidly expanding and evolving networks.

The centralized visibility provided by the Fortinet Security Fabric is a major asset for organizations attempting to maintain regulatory compliance in sprawling networks because it enables centralized monitoring and security of protected data. In addition to this, Fortinet offers targeted solutions for many of retailers' regulatory needs:

- **Secure communications.** Secure SD-WAN, integrated into all FortiGate NGFWs, ensures that sensitive data is encrypted as it travels outside the corporate network.
- **Policy enforcement.** FortiNAC network access control solutions, deployed as part of Secure SD-Branch, enforce compliance with security policies before devices are permitted to access the network.
- **Web application firewall (WAFs).** FortiWeb WAFs, deployed on OCI, enable compliance with PCI DSS Requirement 6.6, which mandates use of a WAF or comprehensive security reviews for web applications.

## Securely Making the Move to OCI

Shifting Oracle applications, such as EBS, to OCI is the ideal choice for retailers already using these applications. By securing these applications with Fortinet solutions, available in cloud-native form factors on OCI and as physical appliances, organizations can transition from on-premises to OCI while ensuring security and compliance with PCI DSS.

Security is a shared responsibility between the customer and OCI. Fortinet provides security products to protect EBS applications from security threats outside and within tiers by deploying a zero-trust environment. The Oracle EBS and Fortinet security solution blueprint is a hub-spoke design where EBS tiers can be implemented.

### Components of a Secure EBS Solution in OCI

- FortiGate NGFW
- FortiADC load balancer
- FortiWeb web application firewall
- FortiManager centralized management platform
- FortiAnalyzer centralized logging and reporting solution
- FortiNAC network access control on-premises
- FortiAuthenticator access management and single sign-on

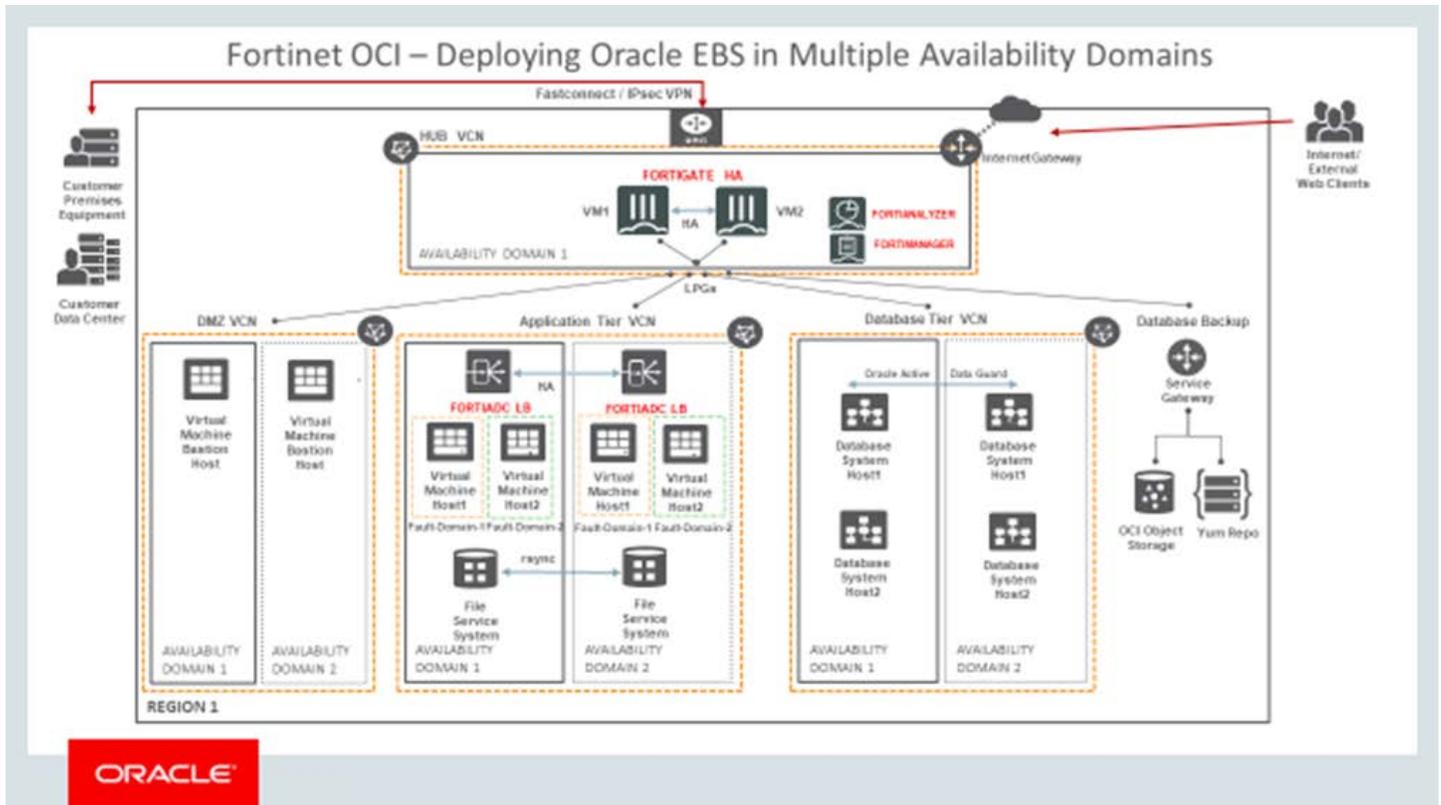


Figure 3: Oracle EBS and Fortinet security solution blueprint.

Each spoke virtual cloud network (VCN) and the hub includes a FortiGate NGFW. FortiGate NGFWs protect application environments from north-south traffic (e.g., internet connectivity, on-premises to OCI virtual private network (VPN)/FastConnect connectivity, outbound network address translation (NAT) internet connectivity, etc.). Also, FortiGate NGFWs provide east-west traffic monitoring between EBS tier spokes.

FortiADC (application delivery controller) load balancers act as a reverse-proxy that inspects all traffic flows before they arrive at the original web application. FortiADC comes predefined with OWASP Top 10 and compliance rules.

<sup>1</sup> "EBS on Oracle Cloud Infrastructure Validated Solution Guide," Oracle, October 24, 2019.

<sup>2</sup> Based on Oracle internal calculations.