



# Hosting Oracle Retail V13 solutions on Intel based Linux servers

Whitepaper

By Quickborn Consulting LLC

## Preface

This whitepaper details best practice approach to hosting Oracle Retail V13 solutions: Merchandising Operations Management, Planning and Optimization solutions - all solutions comprising version 13 of the Oracle Retail product suite on Intel based Linux servers in virtualized instances.

For further information about these and other issues and solutions encountered during installation, configuration, sizing, maintenance, operation and administration of Oracle Retail version 13 solutions on virtualized Linux servers on Intel based hardware, please do not hesitate to contact the author: Quickborn Consulting LLC on our website: [www.quickbornconsulting.com](http://www.quickbornconsulting.com).

## Overview

This white paper describes how Quickborn Consulting successfully hosts the Oracle Retail Merchandising System and other Oracle Retail MOM modules and further Oracle Retail modules such as Retail Planning and Optimization on an Intel based server hardware running Linux OS, utilizing virtualization technology to further increase efficiency of environment maintenance and to enable implementation of both high availability and failover capability.

## Hardware description

The following summary describes the hardware used to host the OR solutions. There are two separate lines of servers, one for disk storage the other for application. The application servers are configured to use the disk provided by the disk storage servers via multiple gigabit links for storing data. Disk storage is configured to be HA and failover to prevent loss of data and storage service due to server or disk failure. Each disk server also utilizes RAID technology to prevent data loss due to disk failure.

### **Disk storage servers (2 identical servers):**

**OS:** Openfiler NSA 2.3

**CPU:** 2 Intel(R) Core(TM)2 Quad CPU Q9400 @ 2.66GHz

**Memory:** 8GB RAM

**Network:** 4-4 Gigabit Ethernet in 2-2 bond  
one for interlink, one for external addresses

**Disk:** 2x1TB HDD RAID 1

6x1TB RAID5 (1 spare) ~ 4TB Available shared storage space

**Application servers (2 identical servers):**

**OS:** Xen Server 6.0

**CPU:** 2 Intel® Xeon® Processor E5506 series, @ 2.13Ghz

**Memory:** 16 GB RAM

**Network:** 2-2 Gigabit Ethernet in bond

**Disk:** 2 x 500 GB HDD in RAID1

**Virtual disk:** 2Tb via iSCSI on Openfilers

### Software description

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The physical application servers run XEN server which allows them to host multiple virtual servers. 2 virtual server nodes are configured for the Oracle Retail environment which runs on a 64 bit clustered hardware - one virtual node is for the application server and the other virtual node is for the database server. All disk storage was provided to the virtual servers by a virtual iSCSI Storage (RAID Drive) served by the Openfiler disk storage servers. Each of the physical servers has 2 Ethernet modules, which are bonded for communication to the storage servers to avoid network latency and ensure high availability.

**DB Server (Virtual Linux running Oracle Enterprise Linux 5.2 (OEL 5u2) on x86 Intel)**

Virtual server with 11gR1 database 11.1.0.6 in x86 Intel based architecture in a virtual environment running with 1 CPU, 500 Gb iSCSI disk and 4 Gb memory. This instance serves the Oracle Retail database needs for RMS for example.

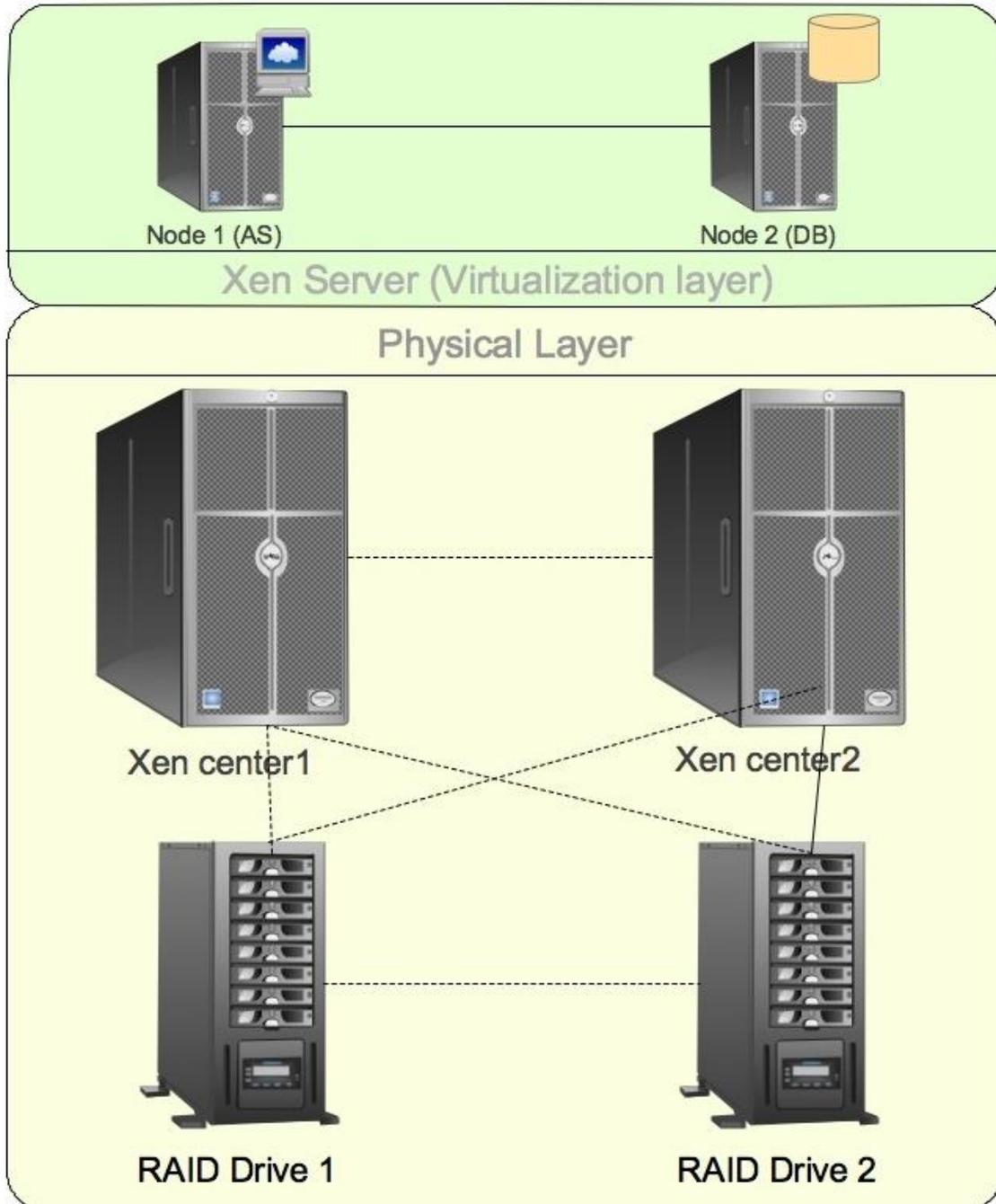
**Application Server (Virtual Linux running Oracle Enterprise Linux 5.2 on x86 Intel)**

Virtual server with Oracle Application Server 10.1.2.0 in x86 Intel based architecture in a virtual environment running with 2 CPU, 50 Gb iSCSI disk and 8 Gb memory.



## Topology

Figure 1. Architectural diagram of the environment



## RAC Option

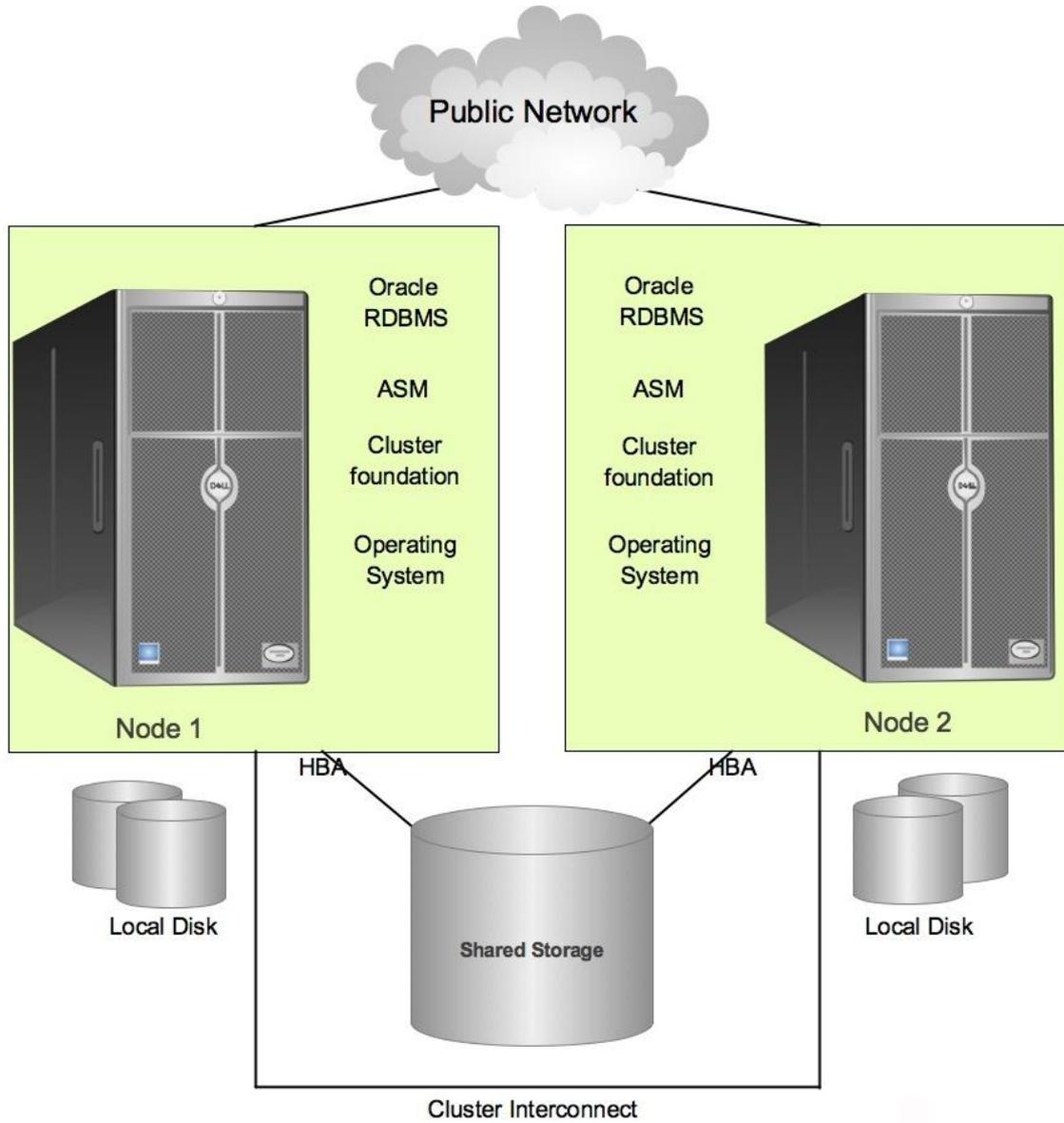
In case that the environment uses Oracle Real Application Cluster (RAC) for the database and clustered application server we can add several virtual nodes to the RAC database and to the AS which reduces the run times for the batch workload and CPU utilization for high number of online users, provided that physical resources are present to support higher number of virtual machines.

If the database is RAC, for a batch load the performance increase when going to 1-2 and 2-4 nodes is approximately 1.5 times faster and the consistent online load and CPU utilization typically go down by 50-60%. In this case the online response times are excellent.

RAC has the following benefits to the users:

- **High availability:** The shared-everything architecture guarantees that node failures do not imply loss of service. The remaining nodes of cluster will perform crash recovery for the failed instance, guaranteeing availability of the database.
- **Scalability:** Multiple nodes allow an application to scale beyond the limits imposed by single-node database.
- **Manageability:** Multiple databases can be consolidated into a RAC cluster.
- **Reduced cost of ownership:** RAC can be deployed on industry standard hardware, offsetting the licensing cost with lower hardware cost.

**Figure 2. Overview of the RAC technology**



**About Quickborn Consulting:**

Quickborn Consulting is a provider of business consulting, IT systems integration, solutions development and support services for the global retail industry. The company supports retailers on their business and IT transformation programs to improve their performance and increase their competitiveness. Quickborn Consulting has local presence in USA, France, Germany, Hungary, India and Ireland, and is present globally through its international network. Read more about Quickborn Consulting at: [www.quickbornconsulting.com](http://www.quickbornconsulting.com)

**About Oracle Retail**

Oracle provides retailers with a complete, open and integrated suite of business applications, server and storage solutions that are engineered to work together to optimize every aspect of their business. 20 of the top 20 retailers worldwide - including fashion, hardlines, grocery and specialty retailers - use Oracle solutions to drive performance, deliver critical insights and fuel growth across traditional, mobile and commerce channels. For more information, visit our Web site at <http://www.oracle.com/goto/retail>

**About Oracle Business Intelligence Enterprise Edition**

Oracle BIEE is an industry leading BI tool suite and foundational technology stack for BI application development. As a part of this stack, there is a reporting solution called BI Publisher. This solution uses a relational database approach as backend.

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