What is so special about ODA

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Introduction

Oracle Database Appliance is a powerful appliance that can be used in different situations. In this article we will explain the architecture of the Oracle Database Appliance (ODA) and explain the provisioning methods of both the virtual and the physical ODA variants. In the presentation use cases will be discussed using both ODA as a database appliance and using ODA as a SOA Appliance.

Introduction to ODA

The Oracle Database Appliance (ODA) is a server that consists of 2 servers. Each has 2x12 cores and 256GB of memory.
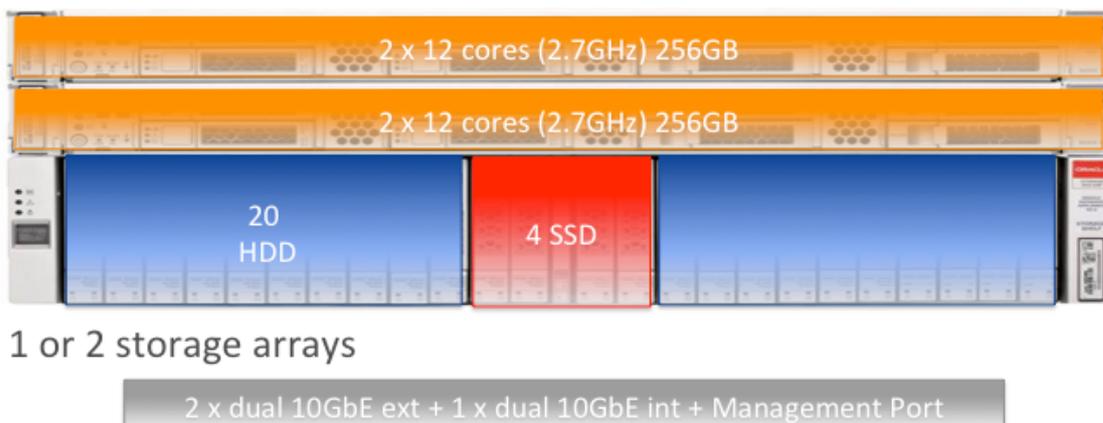
Illustration 1. Overview of ODA

ODA comes with 1 or two storage arrays. The storage array consists of 20 HDD and 4 SSD disks.

Networking

The network is highly available. There are two public networks, and 1 bonded interconnect (only for use within the ODA). There are 6 connections in total. There is 1 management port (100 Mbps): ILOM e.g. hard reset or console (e.g. OOM)
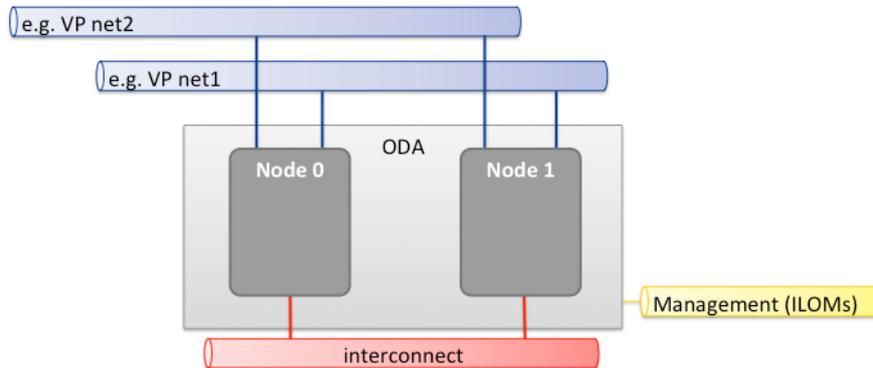

Illustration 2. Networking on ODA

ODA architecture and provisioning
There are two architectures: virtual and physical. If you want to use ODA for more than just database workload, you need the virtual version.
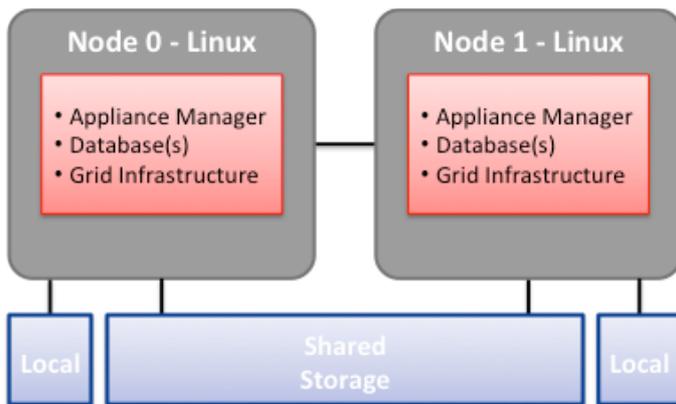

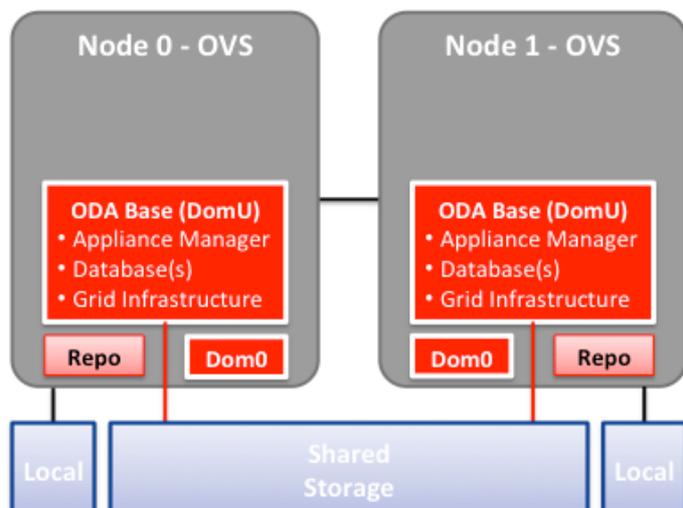*Illustration 3 Architecture Bare metal ODA*

Illustration 4. Virtual architecture of ODA

Provisioning

When you provision a physical database, the following steps need to be taken:
1. Download the software
2. Install the ODA in your datacenter
3. Run oakcli first net to configure network connections
4. Copy the software on ODA (install end user bundle)
5. Run Oracle Appliance Manager
6. Transfer your data

When you provision a virtual database, the following steps need to be taken:
1. Download the software
2. Install the ODA in your datacenter
3. Reimage the Virtual image
4. Run oakcli first net to configure network connections
5. Copy the software on ODA (install end user bundle)
6. Run Oracle Appliance Manager
7. Transfer your data

When you provision a virtual database plus WebLogic, the following steps need to be taken:

1. Download the software
2. Install the ODA in your datacenter
3. Re-image the Virtual image
4. Run oakcli first net to configure network connections
5. Copy the software on ODA (install end user bundle)
6. Run Oracle Appliance Manager
7. Install WLS & OTD templates
8. Run ODA WebLogic Config utility
9. Transfer your data and deploy your applications

Patching

The current version of ODA is 2.10. When a new version or increment comes out, you acquire it by patching. Patching is done of Infra, Grid infrastructure and the database. You don't have to patch all at

once. Currently there is no Oracle automated patching for Java/WebLogic on ODA. Patches come out quarterly (following CPUs). There are separate patches for baremetal and virtual. The policy is that you stay not more than 2 patches behind the latest.

Advantages of ODA

- Simplify and speed up Oracle database deployment;
- Ease patching & help customers stay on recent versions;
- Provide 'in a box' solution for customers and ISVs.

ODA with WebLogic template versus Exalogic

Exalogic and ODA both are engineered systems. ExaLogic typically is used to consolidate a large number of databases in your organization. ODA is typically used departmental or for specific applications.

ODA	Exadata (1/8 rack)	Exadata (full rack)
2 database servers		8 database servers
48 cores		192 cores
512 GB RAM	1024 GB RAM	4096 GB RAM
No storage servers 24 disks (or 48 disks)	3 storage servers 18 disks	14 storage servers 168 disks
10 GbE interconnect	InfiniBand interconnect & RDMA	
Database + optionally apps	Database only (use Exalogic for apps)	
$60K US (+ $40K for extra storage array)	$220K US	$1,1M US

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