Solution-in-a-box: Best practices for deploying JD Edwards EnterpriseOne on Oracle Database Appliance
# Table of Contents

**Executive Overview** 3

**System Architecture and Concepts** 3

**System Components** 5

- Oracle Database Appliance System Hardware 5
- Oracle Database Appliance System Software 5
- Oracle Grid Infrastructure 5
- Oracle Database Release 12g Release 2 5
- JD Edwards EnterpriseOne 9.1 5
- Oracle WebLogic Server 12.1.2 Standard Edition 5
- JD Edwards EnterpriseOne Deployment Server 5

**Deploying JD Edwards EnterpriseOne on Oracle Database Appliance** 6

- Step 1: Plan network configuration 6
- Step 2: Plan database size 6
- Step 3: Unpack and cable Oracle Database Appliance hardware 7
- Step 4: Setup ILOM on each Oracle Database Appliance server node 7
- Step 5: Setup Oracle Database Appliance Virtualized Platform 7
- Step 6: Download ODA_BASE template 8
- Step 7: Deploy database domain (ODA_BASE) 9
- Step 8: Deploy Oracle Gl and RDBMS stack inside ODA_BASE 9
- Step 9: Setup JD Edwards EnterpriseOne database 10
- Step 10: Set up database parameters after database deployment 13
- Step 11: Download Oracle VM Templates for JD Edwards EnterpriseOne 13
- Step 12: Sizing Enterprise Server and HTML Server VMs 14
- Step 13: Prepare the “ready-to-use” Templates 15
- Step 14: Create shared repository 15
- Step 15: Import templates into the shared VM repository 16
- Step 16: Setup network configuration for VM templates 17
Step 17: Clone Virtual Machines from Templates

Step 18: Check VM repository contents and status

Step 19: Setup failover capability for Enterprise Server and HTML Server VMs

Step 20: Creating CPU pools for JD Edwards EnterpriseOne VMs

Step 21: Assign CPU pools to JD Edwards EnterpriseOne VMs

Step 22: Start JD Edwards EnterpriseOne Application VMs

Step 23: Customize Oracle JD Edwards EnterpriseOne Architecture

Step 24: Install Platform Pack

Step 25: Prepare the response file for Platform Pack installation

Step 26: Run the Platform Pack Installer

Step 27: Start JD Edwards EnterpriseOne Server

Step 28: Verify Enterprise Server Installation Using PORTTEST

Step 29: Starting the JD Edwards EnterpriseOne HTML Server
  
  Start the Node Manager
  
  Start WebLogic Server
  
  Start the HTML Server

Step 30: Testing the JD Edwards HTML Web Server Connection

Step 33: Operate the JD Edwards EnterpriseOne environment

Conclusion

Reference

Appendix

JD Edwards EnterpriseOne Deployment Server
Executive Overview

Oracle’s JD Edwards EnterpriseOne is an integrated software suite of enterprise resource planning applications that combine business value, standards-based technology, and deep industry experience to offer comprehensive business solutions with low total cost of ownership. It helps integrate all aspects of a business—including financial management, customer relationship management, enterprise asset management, enterprise resource planning, supply chain management, and supplier relationship management while also providing the business intelligence and performance management tools necessary to measure the value that it delivers.

Oracle Database Appliance is a simple, reliable, and affordable Engineered System from Oracle. It saves customers time and money by simplifying deployment, maintenance, and support of high availability database solutions. Oracle Database Appliance Virtualized Platform, based on Oracle VM, enables customers to quickly deploy both database and application workloads in a single virtualized appliance platform. Through virtualization, the benefits of simplifying deployment, maintenance, and support of high availability database solutions are extended to the application tier to provide customers a comprehensive solution-in-a-box.

Combining the advantages of Oracle’s Engineered Systems with JD Edwards EnterpriseOne, Oracle Database Appliance provides JD Edwards EnterpriseOne customers an ERP solution-in-a-box running on a complete Oracle technology stack that is simple, low-cost, and performs well. Customers benefit from a fully integrated system that delivers high availability database and application services, efficiently utilizes system resources, provides performance advantages associated with Oracle’s Engineered Systems, and takes advantage of capacity-on-demand licensing for multiple workloads by leveraging Oracle VM hard partitioning.

System Architecture and Concepts

This white paper outlines the process of setting up Oracle JD Edwards EnterpriseOne on Oracle Database Appliance Virtualized Platform. Oracle Database Appliance Virtualized Platform utilizes Oracle VM to establish a dedicated management domain (Domain-0), a dedicated database domain (ODA_BASE) and optional additional domains (virtual machines) on each server node. The additional domains can be used for different tiers of the application architecture such as the application (logic) tier and web tier. The system topology for deploying Oracle JD Edwards EnterpriseOne on Oracle Database Appliance is illustrated in Figure 1. The Domain-0 and ODA_BASE domains are setup when
Oracle Database Appliance Virtualized Platform is deployed. In addition to the Domain-0 and ODA_BASE domains, the topology includes dedicated domains for EnterpriseOne logic server and EnterpriseOne web (HTML) server that are configured separately using Oracle Appliance Manager. More details about Oracle Database Appliance Virtualized Platform are covered in the next subsection.

![Oracle Database Appliance Virtualized Platform](image)

**Figure 1 - Solution-in-a-box: Oracle JD Edwards EnterpriseOne on Oracle Database Appliance System Topology**

The configuration above shows ODA_BASE domain running on each server node, while a JD Edwards EnterpriseOne Enterprise Server (and optionally the Deployment Server domain) running on server node 0 and JD Edwards Web Server running on server node 1 of the Oracle Database Appliance. In practice, the JD Edwards EnterpriseOne system will function with the EnterpriseOne Server, the Web Server (and the Deployment Server) running on a single (either) server node. The distribution of the VMs across server nodes may be desirable for optimizing performance and resource allocation.

*Note: The Oracle JD Edwards Deployment Server is deployed on Oracle Database Appliance on a separate, dedicated Microsoft Windows VM. While the Deployment Server is difficult to accommodate on local repository due to storage limitations, the shared repository implementation should be configured to provide the required storage in the repository to accommodate all VMs. The shared repository implementation is available starting with Oracle Appliance Manager release 2.8.*
System Components

The Solution-in-a-box: JD Edwards EnterpriseOne on Oracle Database Appliance system architecture comprises of the following components.

Oracle Database Appliance System Hardware

Oracle Database Appliance hardware consists of two Intel-based servers and a direct-attached shared storage shelf along with high performance, redundant network capabilities.

Oracle Database Appliance System Software

Oracle Database Appliance system software consists of firmware, operating system, and Oracle Appliance Manager.

Oracle Grid Infrastructure

Oracle Grid Infrastructure software consists of Oracle Clusterware (OCW) and Oracle Automatic Storage Management (ASM).

Oracle Database Release 12g Release 2

Oracle Database 12g Release 2 is an object-relational database management system. The database server for JD Edwards EnterpriseOne applications is deployed on Oracle Database Appliance in a dedicated domain called ODA_BASE domain.

JD Edwards EnterpriseOne 9.1

JD Edwards EnterpriseOne is an integrated application suite of comprehensive enterprise resource planning software.

Oracle WebLogic Server 12.1.2 Standard Edition

Oracle WebLogic Server Standard Edition is application server software designed for building and running enterprise applications and services. It implements the latest Java Platform, Enterprise Edition (Java EE) standards and provides comprehensive management and administration capabilities.

JD Edwards EnterpriseOne Deployment Server

The deployment server provides administrative functions such as distributing electronic software updates (ESUs) and custom modifications to the JD Edwards EnterpriseOne servers. The Deployment Server must be installed using a separate stand-alone installer on a Microsoft Windows machine. While some customers may choose to deploy the Deployment Server outside of the Oracle Database Appliance, it is possible to deploy it as a virtual machine on Oracle Database Appliance Virtualized Platform itself.
Deploying JD Edwards EnterpriseOne on Oracle Database Appliance

**Step 1: Plan network configuration**

Before starting the deployment, you need to identify the network where Oracle Database Appliance will be installed. You must also provision IP addresses and hostnames in the DNS server for Domain-0 as well as the Database Server, the Enterprise Server, and the HTML (web) Server, and optionally the Deployment Server, if you are deploying it on Oracle Database Appliance.

The following matrix can be helpful in capturing the network information and planning your Solution-in-a-box: Oracle JD Edwards EnterpriseOne on Oracle Database Appliance configuration.

<table>
<thead>
<tr>
<th>Type</th>
<th>Hostname</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain-0 (node 0) Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain-0 (node 1) Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database Server (node 0) Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database Server (node 1) Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise Server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTML (web) Server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deployment Server (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database SCAN (1 hostname, 2 IP Addresses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database Virtual IP 1 Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database Virtual IP 2 Public Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Network Netmask</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Network Gateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILOM Interface (node 0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILOM Interface (node 0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILOM Network Netmask</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILOM Network Gateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR Proxy Server Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR Proxy Server Port</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR Proxy Username</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR Proxy Password</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR External ASR Manager IP Address (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASR External ASR Manager Port (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNS Server IP Address(es)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTP Server IP Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Network requirements for Solution-in-a-box: JD Edwards EnterpriseOne on Oracle Database Appliance

**Step 2: Plan database size**

When setting up Oracle Database Appliance Virtualized Platform, one of the key inputs is database size. This affects how the ODA_BASE domain is sized and the database parameters are set. Oracle Appliance Manager provides pre-built templates for different database sizes (Small, Medium, Large, etc.). Refer to Administration and Reference Guide at [http://docs.oracle.com/cd/E22693_01/index.htm](http://docs.oracle.com/cd/E22693_01/index.htm) for database sizing information and how resources are allocated to the ODA_BASE domain based on...
your selection of database size. However, refer to the sizing recommendations later in this white paper for suggestions and guidance.

When estimating the database size and resource requirements, you should also take into account the resource requirements for the JD Edwards Enterprise Server and HTML Server virtual machines, and optionally the Deployment Server size. Refer to Appendix A for performance testing details for the three different implementation sizes.

*Note: Once deployment is complete, you must allocate CPUs to ODA_BASE and each JD Edwards EnterpriseOne Application VM based on the number of CPUs you have licensed. This can be done easily and dynamically using Oracle Appliance Manager command line tool (oakcli).*

**Step 3: Unpack and cable Oracle Database Appliance hardware**

Follow instructions included in the Oracle Database Appliance Setup Poster to setup and install Oracle Database Appliance hardware. This includes cabling of servers and storage, and powering up the two server nodes. The Oracle Database Appliance Setup Poster which can be viewed and downloaded from [http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf](http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf). Additional Oracle Database Appliance documentation, including the Getting Started Guide is available at [http://docs.oracle.com/cd/E22693_01/index.htm](http://docs.oracle.com/cd/E22693_01/index.htm).

**Step 4: Setup ILOM on each Oracle Database Appliance server node**

Connect Keyboard, Video, and Mouse (KVM) to Oracle Database Appliance server node 0 and boot the server by pressing the power button on the front of the server. As the server starts to boot, press the F2 key to enter the BIOS setup menu and then configure ILOM network. Refer to My Oracle Support note [1393191.1](http://support.oracle.com/knowledge/1393191.1) for instructions on how to setup ILOM using the BIOS menu or [1395445.1](http://support.oracle.com/knowledge/1395445.1) to configure ILOM via Serial port.

**Step 5: Setup Oracle Database Appliance Virtualized Platform**

Before Oracle JD Edwards EnterpriseOne is deployed, Oracle Database Appliance Virtualized Platform setup must be completed. Detailed step-by-step instructions for deploying Oracle Database Appliance Virtualized Platform are beyond the scope of this white paper. However, Oracle Database Appliance Setup Poster is available at [http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf](http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf) and illustrates the setup process of Oracle Database Appliance Virtualized Platform in detail.
The high level process outlined below can be useful in understanding the setup after you have setup Oracle Database Appliance hardware.

Download the latest Oracle Database Appliance Virtualized Platform ISO image (patch 16186163) from the link provided in My Oracle Support note 888888.1. The README file accompanying this ISO image patch includes detailed instructions on re-imaging the server nodes with the ISO image. You must follow the instructions in the README file and re-image both server nodes to create Oracle Database Appliance Virtualized Platform. Upon re-imaging the server nodes with the Oracle Database Appliance Virtualized Platform ISO image, Oracle VM Server is installed on each server node and the Domain-0 domain is created on each re-imaged server. Domain-0 is the initial administrative domain and is used to connect to the system to setup other domains, such as the database domain (ODA_BASE) and the application domains. The database domain is where the database is created. Application domains host the Enterprise Servers, the HTML (web) Servers, and optionally the Deployment Server.

Once Domain-0 is created, you can setup the public network on this domain and make it accessible to the external network.

```
# oakcli configure firstnet
```

Setting up the initial public network on Domain-0 allows you to copy software for other domains to it and setup those domains. As you setup the public network on Domain-0 domain, be prepared to provide the IP addresses and hostnames for Domain-0 on each server node.

**Step 6: Download ODA_BASE template**

Once Domain-0 has been setup, the database domain (ODA_BASE) must be setup next. The ODA_BASE software comes as a bundle containing a template that is used to create the database domain (ODA_BASE) from within Domain-0. This ODA_BASE template is provided as a patch (patch 16186172) and can be downloaded from the link provided in My Oracle Support note 888888.1. Make sure you download the ODA_BASE bundle that is consistent with the OAK version that you have deployed.

Once ODA_BASE patch is downloaded, copy it to Domain-0 of server node 0 on Oracle Database Appliance and place it in the /OVS directory. You may do so using a copy tool such as WinSCP. Note that you only need to copy the downloaded patch to Domain-0 on server node 0 and not to both server nodes.
Step 7: Deploy database domain (ODA_BASE)

The ODA_BASE template contains the latest version of Oracle Grid Infrastructure and Oracle Database software. As a result, it is relatively large and comes in two parts that must be merged after downloading. When you download this template, also download and read the README file. The README file includes instructions for deploying ODA_BASE template.

Note: See the Oracle Database Appliance Administration and Reference Guide section “Installing ODA_BASE on Oracle Database Appliance Virtualized Platform” for more details on how to install and configure ODA_BASE.

ODA_BASE deployment is performed from Domain-0 using the oakcli command-line utility.

```bash
# /opt/oracle/oak/bin/oakcli deploy oda_base
```

You have to choose the desired level of CPU and memory resources for the ODA_BASE domain when deploying it. Refer to sizing guidelines in this white paper for configuring ODA_BASE.

Once ODA_BASE configuration is complete, you can verify ODA_BASE settings on each server node using the “oakcli show oda_base” command from Domain-0.

```bash
# /opt/oracle/oak/bin/oakcli show oda_base
```

Step 8: Deploy Oracle GI and RDBMS stack inside ODA_BASE

The End-User Bundle contains the Oracle Grid Infrastructure and RDBMS software and is included in the ODA_BASE template. The End-User Bundle must be deployed within ODA_BASE before the database can be created.

```bash
# /opt/oracle/oak/bin/oakcli deploy
```

Or, if you are using a pre-created configuration file, then issue the command:

```bash
# /opt/oracle/oak/bin/oakcli deploy -conf <config-file>
```

Note: See the Oracle Database Appliance Administration and Reference Guide section “Deploying Your Configuration on Oracle Database Appliance Virtualized Platform” for more details on how to install and configure Oracle database within ODA_BASE and use pre-configured parameter files.

During database deployment, the Oracle Appliance Manager Configurator gives you the option to create the database after the Grid Infrastructure and Database software has been installed and
configured. It is recommended that you choose not to create the database at this time. This is because the JD Edwards EnterpriseOne database needs to be created with non-default parameters as outlined in the next section.

**Step 9: Setup JD Edwards EnterpriseOne database**

Note: The information in this section provides general guidance about setting up the Oracle Database in preparation for JD Edwards EnterpriseOne. Refer to the JD Edwards EnterpriseOne Applications Installation Guide for UNIX with Oracle for more detailed information about preparing the Oracle Database for a JD Edwards EnterpriseOne installation. Once the Oracle Database Appliance End-User Bundle has been deployed, the database can then be created. A standard database on Oracle Database Appliance is created with certain default database configuration settings. You can check these default settings using the "oakcli show db_config_params -conf default" command as the root user from within the ODA_BASE domain. For example, the following default settings currently exist on new database creation on Oracle Database Appliance.

| DATABASE_BLOCK_SIZE       | 8192 |
| DATABASE_LANGUAGE         | AMERICAN |
| DATABASE_CHARACTERSET    | AL32UTF8 |
| DATABASE_TERRITORY       | AMERICA |
| COMPONENT_LANGUAGES      | en |

Some of the default parameters need to be changed for the JD Edwards EnterpriseOne environment before the database is created. Specifically, the AL32UTF8 database characterset used by default on Oracle Database Appliance is not supported by JD Edwards EnterpriseOne. Also, as per the JD Edwards EnterpriseOne documentation, you must change the database characterset according to your preferred language. For example, set the database character set to WE8MSWIN1252 for English and most western European languages. Therefore, before you deploy the database, you must change the above settings by creating a custom configuration parameter file using the oakcli command shown next. This allows you to create a new configuration file (myjdefile, in this example) that includes the new set of parameter values.

```
# oakcli create db_config_params -conf myjdefile
```

Specify the required values when prompted. For example,

<table>
<thead>
<tr>
<th>Database Configuration Parameter</th>
<th>Value (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Block Size</td>
<td>8192</td>
</tr>
<tr>
<td>Database Language</td>
<td>English</td>
</tr>
<tr>
<td>Database Characterset</td>
<td>WE8MSWIN1252</td>
</tr>
<tr>
<td>Database Territory</td>
<td>AMERICA</td>
</tr>
<tr>
<td>Component Language</td>
<td>English (en)</td>
</tr>
</tbody>
</table>

Table 2: Modified default database configuration parameters for JD Edwards EnterpriseOne
Note: You may choose the appropriate combination of Database Language and Database Character set values as outlined in the JD Edwards EnterpriseOne Applications Installation Guide for UNIX with Oracle.

When you issue the "oakcli create db_config_params <file-name>" command, the new database configuration parameter file thus created is appended with an extension of ".dbconf" and is placed in the /opt/oracle/oak/install/dbconf directory. Do not edit this file manually. You can, however, check a given file's contents using the "oakcli show db_config_params -conf <filename>" command.

Once the new configuration parameter file is created, you can setup an Oracle database as your JD Edwards EnterpriseOne database using Oracle Appliance Manager as follows:

```
# oakcli create database -db ovsorcl -params <myjdefile> -oh <Oracle Home Name>
```

You can check the existing Oracle Homes on your server using the "oakcli show dbhomes" command and use the previously created db home. If you do not specify the "-oh" option, then the "oakcli create database" command creates a new Oracle Home on the server. To avoid creation of an additional Oracle Home, you can specify the Oracle Home Name identifier ( -oh <db home name>) when issuing the "oakcli create database" command.

NOTE: When setting up the JD Edwards EnterpriseOne Database Server that is to be used with JD Edwards EnterpriseOne Oracle VM templates, currently the connect string must be ovsorcl. This is required to match the database definition in the OVM templates for Enterprise and HTML servers. You can create the database with this name or you can setup only the connect string manually to be ovsorcl. This white paper assumes that you are setting up the database with the name ovsorcl.

By default the database is created using the latest version of database software included with the ODA_BASE domain software bundle. If you need to create the database with an earlier version of database software, then you can use the "oakcli create database -db <database name> -version <version number>" command and specify the older version number.

Note that if older version of the database needs to be created, you may have to download the corresponding db clone file first (links to db clone files for available db versions are provided in My
Oracle Support note 888881 and then unpack it within ODA_BASE (using oakcli unpack command) before you can attempt to create an older database version using the "oakcli create database" command.

When you issue the oakcli create database command you are asked for the ‘root’, ‘oracle’, SYSASM, and ASMSNMP passwords. During initial deployments the default password for each of these accounts is ‘welcome1’. It is recommended that you change the default passwords after the deployment has been fully completed.

During database deployment, you also have to make choices for your database configuration and size. Table 3 shows the choices offered by Oracle Appliance Manager. Make the correct choices based on your decided configuration and database size. A sample sizing matrix is also provided later in this white paper.

<table>
<thead>
<tr>
<th>Option</th>
<th>Available choices</th>
</tr>
</thead>
</table>
| Database Architecture | • 1 => EE: Enterprise Edition (Single Instance)  
|                  | • 2 => RAC One (Active Passive)  
|                  | • 3 => RAC (Active Active)                        |
| Database Size    | • 1 => Very Small  
|                  | • 2 => Small  
|                  | • 3 => Medium  
|                  | • 4 => Large  
|                  | • 5 => Extra Large  
|                  | • 6 => Extra Extra Large                          |

Table 3: Database configuration options using Oracle Appliance Manager

Once the database is created and started you can verify that it is running by using the srvctl status database –d <db-name> command while connected as the oracle user, where db-name is the database name, for example ovsorcl.

$ srvctl status database –d ovsorcl
Instance ovsorcl1 is running on node odanode1db1
Instance ovsorcl2 is running on node odanode1db2

Note: JD Edwards EnterpriseOne requires your NLS_NCHAR_CHARACTERSET be set to AL16UTF16. This is the default setting for the Database templates on Oracle Database Appliance.
Step 10: Set up database parameters after database deployment

It is recommended that you change the `PROCESSES` and `OPEN_CURSORS` parameters from the default value (the default values vary depending on the database size template you choose) to at least a value of 1200 and 1200 respectively after creating the database. You can make this change as follows.

```sql
SQL> alter system set processes=1200 scope=spfile sid='*';
SQL> alter system set open_cursors=1200 scope=both sid='*';
```

Note: You must restart the database after changing the `PROCESSES` parameter for it to take effect.

If you have a pre-existing Oracle Enterprise Manager Cloud Control infrastructure you may use it to manage the new database or you may setup the Oracle Enterprise Manager Database Control.

Step 11: Download Oracle VM Templates for JD Edwards EnterpriseOne

The latest Oracle VM templates for JD Edwards EnterpriseOne can be downloaded from Oracle software cloud at https://edelivery.oracle.com/linux. Select “Oracle VM Templates” as the Product Pack and “x86 64 bit” as the Platform. Then click on the latest version of Oracle VM Templates for JD Edwards EnterpriseOne and Tools for Exalogic Media Pack for x86 64 bit. Oracle recommends that you use the latest versions of the VM templates.

Note: Oracle has released a newer version of JD Edwards EnterpriseOne template since this paper was last released. You are advised to always use the latest versions of the JD Edwards EnterpriseOne application templates when doing new deployments.

For example, at the time of the original writing of this white paper the latest JDE VM Template bundle was Oracle VM Templates for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 (7.0.0) for Exalogic Media Pack for x86 64 bit.

<table>
<thead>
<tr>
<th>Image Name</th>
<th>Part Number</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle VM Templates for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Configuration Utility and Manifest</td>
<td>V43875-01</td>
<td>14K</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 Enterprise Server 1 of 2</td>
<td>V43852-01</td>
<td>1.8G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 Enterprise Server 2 of 2</td>
<td>V43853-01</td>
<td>1.5G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - HTML Server (WebLogic Server 12.1.2.0)</td>
<td>V43854-01</td>
<td>1.7G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and tools 9.1.4.4 - Oracle Linux 5.8 System</td>
<td>V43861-01</td>
<td>398M</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Non Virtualized Database Server (Oracle Database 12.1.0.1) [*JDE Platform Pack]</td>
<td>V45708-01</td>
<td>965M</td>
</tr>
</tbody>
</table>

Table 4: Oracle VM templates for JD Edwards EnterpriseOne
Step 12: Sizing Enterprise Server and HTML Server VMs

The following table outlines the CPU and Memory availability on the three Oracle Database Appliance models that exist in the market today.

<table>
<thead>
<tr>
<th>Oracle Database Appliance Model</th>
<th>CPU</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Database Appliance</td>
<td>24 Cores</td>
<td>192 GB</td>
</tr>
<tr>
<td>Oracle Database Appliance X3-2</td>
<td>32 Cores</td>
<td>512 GB</td>
</tr>
<tr>
<td>Oracle Database Appliance X4-2</td>
<td>48 Cores</td>
<td>512 GB</td>
</tr>
</tbody>
</table>

Table 5: CPU and memory resources available on different Oracle Database Appliance hardware models

For JD Edwards EnterpriseOne on Oracle Database Appliance solution-in-a-box architecture, these memory and CPU resources are divided amongst the database domain (ODA_BASE), the Enterprise Server (ENT) domain, and the HTML Server (WB) domain. If you decide to also deploy the JDE Deployment Server on the platform then due considerations are required to allocate the resources needed for the Deployment Server.

You choose the ODA_BASE configuration when deploying ODA_BASE domain earlier. There is no default configuration and you must make a selection on ODA_BASE size, typically in line with your planned database deployment size and any provision for growth or spikes in workload.

The default configuration of the Enterprise server and HTML server VMs is 2 vCPUs (1 Hyper-threaded CPU Core = 2 vCPUs) and 4 GB of memory. You can modify the size of these VMs as outlined below based on your requirements.

<table>
<thead>
<tr>
<th>Workload</th>
<th>DB template</th>
<th>Enterprise (E1) Server</th>
<th>HTML (Web) Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 250 users</td>
<td>Small</td>
<td>• 4 VCPU</td>
<td>• 2 VCPUs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 8 GB RAM</td>
<td>• 8 GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 30 call object kernels</td>
<td>• 2 JVMS with 2 GB each</td>
</tr>
<tr>
<td>500 users</td>
<td>Small</td>
<td>• 6 VCPUs</td>
<td>• 2 VCPUs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 12 GB RAM</td>
<td>• 8 GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 50 call object kernels</td>
<td>• 2 JVMS with 2 GB each</td>
</tr>
<tr>
<td>1000 users</td>
<td>Small/Medium</td>
<td>• 6 VCPUs</td>
<td>• 4 VCPUs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 24 GB RAM</td>
<td>• 16 GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 100 call object kernels</td>
<td>• 4 JVMS with 2 GB each</td>
</tr>
</tbody>
</table>

Table 6: Recommended sizing for creating Solution-in-a-box: JD Edwards EnterpriseOne on Oracle Database Appliance configuration

The above recommendations are based on observations made during performance testing conducted during the course of the writing of this white paper. We propose that you consider allocating the CPU
and memory resources to the Database Server, Enterprise Server, and HTML Server based on the sizing matrix presented above.

**Note:** If needed, you can also resize the ODA_BASE domain using the “oakcli configure oda_base” command. ODA_BASE is configured identically on both Oracle Database Appliance nodes. For more information, refer to “oakcli configure oda_base” section in Oracle Database Appliance Getting Started Guide at http://docs.oracle.com/cd/E22693_01/doc.21/e22692/oakcli_appx.htm#autold20

**Note:** Performance testing was performed using JD Edwards Day-in-the-life (DIL) kit workload. The Oracle JD Edwards EnterpriseOne DIL kit is a suite of scripts that exercises most common transactions of Oracle’s JD Edwards EnterpriseOne applications. The detailed performance test results are documented in Appendix A of this white paper.

The above sizing guidelines can be applied to all current models of Oracle Database Appliance. The size of the VMs can be dynamically adjusted if necessary after the initial configuration.

**Step 13: Prepare the “ready-to-use” Templates**

This section describes how to prepare the "ready-to-use" template for JD Edwards EnterpriseOne for deployment on Oracle Database Appliance. The 7.0.0.0.0 release of Oracle VM Templates for JD Edwards EnterpriseOne includes a set of tools (V43875-01 - Oracle VM Templates for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Configuration Utility and Manifest) to help with the configuration of the VM images in zip files that you downloaded as listed in the preceding section. Following the step-by-step MOS note: ODAVP: How to get the "ready-to-use" Templates 9.1.4.4 to deploy JDE (Doc ID 1902042.1), at the end of the process you will get the ready-to-use templates as:

- /cloudfs/OVS/configTest/JDE_ENT/E1_ENT_VM.tgz
- /cloudfs/OVS/configTest/JDE_WEB/E1_WEB_VM.tgz

**Step 14: Create shared repository**

Oracle Database Appliance Virtualized Platform enables you to create one or more shared repositories for the storage of virtual machine (VM) files. A VM shared repository provides high availability support. A VM can be configured to fail over from one node to another node in case of node failure, and a VM can auto-restart on the preferred node or failover to another node if the preferred node is not available. Once the newly configured templates are available, their deployment on the respective nodes can
begin. Oracle Appliance Manager requires the templates to be first imported into the template shared repository that must be created. This is done from the ODA_BASE domain.

```bash
# oakcli create repo jderepo -size 500G -dg DATA
```

You can check the existence/status of the shared repositories using the following command executed from ODA_BASE domain.

```bash
# oakcli show repo
```

<table>
<thead>
<tr>
<th>NAME</th>
<th>TYPE</th>
<th>NODENUM</th>
<th>STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>odarepo1</td>
<td>local</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>odarepo2</td>
<td>local</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>jderepo</td>
<td>shared</td>
<td>0</td>
<td>ONLINE</td>
</tr>
<tr>
<td>jderepo</td>
<td>shared</td>
<td>1</td>
<td>ONLINE</td>
</tr>
</tbody>
</table>

Note: You can see the physical location of the created shared repository on dom0 as

/OVS/Repositories/jderepo and on oda_base as /u01/app/sharedrepo/jderepo

EnterpriseOne Enterprise server and HTML server deployment

Once the newly configured templates are available on each server node, their deployment on the respective nodes can begin. Oracle Appliance Manager requires the templates to be first imported into the template repository. This is done from the ODA_BASE domain and for each template the import must be done for each server node as the root user.

**Step 15: Import templates into the shared VM repository**

When you deploy Oracle Database Appliance Virtualized Platform, a local repository is created on each Oracle Database Appliance server node. The physical location of the repository is the /OVS/Repository directory. You can check the existence of the local and shared repositories using the following command executed from ODA_BASE domain.

```bash
# oakcli show repo
```

<table>
<thead>
<tr>
<th>NAME</th>
<th>TYPE</th>
<th>NODENUM</th>
<th>STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>odarepo1</td>
<td>local</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>odarepo2</td>
<td>local</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>jderepo</td>
<td>shared</td>
<td>0</td>
<td>ONLINE</td>
</tr>
<tr>
<td>jderepo</td>
<td>shared</td>
<td>1</td>
<td>ONLINE</td>
</tr>
</tbody>
</table>

The local repository is always available from the respective node and therefore the state displays as “N/A”. Note that the JD Edwards EnterpriseOne template files are currently residing in the ODA_BASE under /cloudfs/OVS/configTest/JDE_ENT and /cloudfs/OVS/configTest/JDE_WEB directory.
You may also run the imports in parallel to save time.

```
oakcli import vmtemplate <vmtemplatename> -files <image files> -repo <repo_name> [ -node <0|1> ]
```

Example 1:
In the following example you have moved the "ready-to-use" template on ODA VP "dom0" under '/OVS/staging' folder:

```
# oakcli import vmtemplate E1_ENT -files /OVS/staging/E1_ENT_VM.tgz -repo jderepo -node 0
# oakcli import vmtemplate E1_WEB -files /OVS/staging/E1_WEB_VM.tgz -repo jderepo -node 0
```

Example 2:
In the following example you have the "ready-to-use" template available from an HTTP server:

```
# oakcli import vmtemplate E1_ENT -files
http://192.168.1.200:8000/JDE_ENT/E1_ENT_VM.tgz -repo jderepo -node 0
# oakcli import vmtemplate E1_WEB -files
http://192.168.1.200:8000/JDE_WEB/E1_WEB_VM.tgz -repo jderepo -node 1
```

**TIP:** If you have no proper http/server setup in the environment, the following single python command will start an HTTP server which will serve all files from the current directory and all subdirectories (this can be executed from ODA_BASE as well):

```
cd /cloudfs/OVS/configTest
python -m SimpleHTTPServer 8000
```

The "oakcli show vmtemplate" command may not respond while the import is taking place or may proceed in the background. However, once the imports are complete you can check the successful existence of the imported templates.

```
# oakcli show vmtemplate
```

<table>
<thead>
<tr>
<th>NAME</th>
<th>MEMORY</th>
<th>VCPU</th>
<th>REPOSITORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1_ENT_TEMPLATE</td>
<td>4096</td>
<td>2</td>
<td>jderepo</td>
</tr>
<tr>
<td>E1_WEB_TEMPLATE</td>
<td>4096</td>
<td>2</td>
<td>jderepo</td>
</tr>
</tbody>
</table>

When you check the default properties of the imported templates using the "oakcli show vmtemplate <template-name>" command, you will notice the network for the above templates is not yet configured.

**Step 16: Setup network configuration for VM templates**

As the 'root' user connected to ODA_BASE domain execute "oakcli configure vmtemplate" command to setup the network configuration for the templates. If you configured a single public network during Oracle Database Appliance deployment, then you can specify that network interface as a shared network interface for all domains. For example,

```
# oakcli configure vmtemplate E1_ENT_TEMPLATE -network "["type=netfront,bridge=net1"]"
# oakcli configure vmtemplate E1_WEB_TEMPLATE -network "["type=netfront,bridge=net1"]"
```
You may perform the above configuration from the ODA_BASE of either node. Once the configuration is complete, you can verify template settings using the “oakcli show vmtemplate [template_name]” command.

**Note:** Starting with Oracle Appliance Manager 2.8, a VLAN (Virtual LAN) implementation is available on Oracle Database Appliance. Using this feature, multiple VLANs can be created on Oracle Database Appliance that can then be used by different Virtual Machines. The implementation used in this white paper does not use VLANs. For more information about implementing VLANs on Oracle Database Appliance, refer to Oracle Database Appliance Getting Started Guide.

**Step 17: Clone Virtual Machines from Templates**

As the ‘root’ user connected to ODA_BASE domain execute “oakcli clone vm” command to clone the JD EnterpriseOne VM templates to virtual machines.

```bash
# oakcli clone vm E1_ENT -vmtemplate E1_ENT_TEMPLATE -snap
# oakcli clone vm E1_WEB -vmtemplate E1_WEB_TEMPLATE -snap
```

The -snap clause is a new feature available starting with ODA v. 12.1.2.0.0 leveraging on ACFS snapshot (see the “oakcli clone vm” command on the Administration and Reference Guide).

**Step 18: Check VM repository contents and status**

After the templates are imported and cloned to virtual machines, check the status of your VM repository.

```bash
# oakcli show vmtemplate
# oakcli show vm
```

The two VM templates will be shown along with their memory, VCPU, and repository information.

Check the status of VMs using the “oakcli show vm” command:

```bash
# oakcli show vm
NAME   NODENUM  MEMORY  VCPU  STATE   REPOSITORY
E1_ENT  0        4096    2      OFFLINE jderepo
E1_WEB  1        4096    2      OFFLINE jderepo
```

You can check the storage usage within the shared repository using “oakcli show repo jderepo -node 0” utility.
For example,

```bash
# oakcli show repo jderepo -node 0
```

```bash
Resource: jderepo_0
  AutoStart : restore
  DG : DATA
  Device : /dev/asm/jderepo-74
  ExpectedState : Online
  FreeSpace : 435356.003906M
  MountPoint : /u01/app/sharedrepo/jderepo
  Name : jderepo_0
  Node : all
  PFreeSpace : 85.03
  RepoType : shared
  Size : 512000.0M
  State : Online
  Version : UNKNOWN
```

**Step 19: Setup failover capability for Enterprise Server and HTML Server VMs**

Use the `oakcli configure vm` command to set failover attributes for the Enterprise Server and HTML Server virtual machines. The node where the virtual machine would normally start automatically when the shared repository is started is set as “prefnode”. The node where the virtual machine is started when the default node (prefnode) is not available is set as the “failover” node. For example,

```bash
# oakcli configure vm E1_ENT -prefnode 0 -failover true
# oakcli configure vm E1_WEB -prefnode 1 -failover true
```

**Step 20: Creating CPU pools for JD Edwards EnterpriseOne VMs**

Besides ODA_BASE being a well-defined domain, Oracle Database Appliance Virtualized Platform provides the ability to isolate workloads among the various application domains. This also reduces licensing exposure for the system components. The functionality is enabled by the concept of CPU pools. A CPU Pool comprises of two or more Virtual CPUs (vCPUs). Virtual machines are pinned to a specific CPU pool. When you assign (pin) a virtual machine to a CPU pool, you ensure that the VM will use CPUs in that pool and only in that pool.

When Oracle Database Appliance Virtualized Platform is deployed, a default-unpinned-pool, with all available vCPUs is created on each node. When the ODA_BASE domain is created, a new CPU pool, named `odaBaseCpuPool`, is created on both server nodes.

The ODA_BASE domain is pinned to the `odaBaseCpuPool` which has the number of cores that selected during the initial ODA_BASE deployment. For example, if you selected 8 vCPUs with 32GB
RAM for ODA_BASE, then your `odaBaseCpuPool` is allocated vCPUs 0, 1, 2, 3, 4, 5, 6, and 7 and 32GB of memory. The remaining vCPUs are retained by the default-unpinned-pool. When a virtual machine is imported into the VM Storage Repository, by default it is assigned to the default-unpinned-pool. This ensures that the cores allocated to ODA_BASE are not used by other virtual machines.

You can create specific additional CPU pools using the Oracle Appliance Manager "oakcli create cpupool" command. Once you have created one more CPU pools, you can use the --cpupool option of the "oakcli configure vm" command to pin a virtual machine to a specific CPU pool. Note that you can pin multiple virtual machines to the same CPU pool. The CPU pools on each node can be different and the number of cores allocated to a CPU pool can be changed using the Oracle Appliance Manager "oakcli configure cpupool" command at any time.

You can check the default CPUPool status by using the "oakcli show cpupool" command.

```
# oakcli show cpupool -node 0
# oakcli show cpupool -node 1
```

You can create a CPUPool using the "oakcli create cpupool" command.

```
# oakcli create cpupool <POOL-NAME> -numcpu <num_CPU> -node 0
# oakcli create cpupool <POOL-NAME> -numcpu <num_CPU> -node 1
```

For example, to create CPU pools for the ENT and WB domains on each server node, run the following commands on the respective server nodes as the root user.

```
# oakcli create cpupool E1_ENT -numcpu 8 -node 0
# oakcli create cpupool E1_ENT -numcpu 8 -node 1
# oakcli create cpupool E1_WB -numcpu 8 -node 0
# oakcli create cpupool E1_WB -numcpu 8 -node 1
```

The CPU pools should be created on each server node in a symmetric manner to facilitate transparent failover. You can verify the configuration of the new CPU pools using the "oakcli show cpupool" command, as mentioned previously.

**Step 21: Assign CPU pools to JD Edwards EnterpriseOne VMs**

The previously created JD Edwards EnterpriseOne VMs can now be assigned to the newly created CPU pools. This is done while connected as the root user to the ODA_BASE domain.

```
# oakcli configure vm E1_ENT -cpupool E1_ENT
# oakcli configure vm E1_WEB -cpupool E1_WB
```

You can then verify the configuration of the VMs and their CPU pool using the "oakcli show vm" command.
Step 22: Start JD Edwards EnterpriseOne Application VMs

You can now startup the JDE EnterpriseOne Server VM systems. The VMs are automatically started on their respective nodes as needed. Note that the procedure ("oakcli start vm" command) for starting a VM is the same for different VMs.

<table>
<thead>
<tr>
<th>Server node</th>
<th>Domain to start</th>
<th>Command to execute from ODA_BASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server node 0</td>
<td>E1_ENT</td>
<td># oakcli start vm E1_ENT</td>
</tr>
<tr>
<td>Server node 1</td>
<td>E1_WEB</td>
<td># oakcli start vm E1_WEB</td>
</tr>
</tbody>
</table>

Table 7: Starting JD Edwards EnterpriseOne virtual machines on Oracle Database Appliance

When the above commands (to startup the ENT and WEB VMs) return without an error it indicates the domains are now starting. Note that it may take several minutes for a virtual machine to fully start up. The VMs are subsequently automatically started at system boot time as long as the "on_reboot=restart" attribute value is specified in their vm.cfg configuration file.

You can login to the console of ODA_BASE (oakDom1) domain on an Oracle Database Appliance server node using ssh. You can use the private interconnect IP address, 192.168.16.27 on node 0 and 192.168.16.28 on node 1 to connect from Dom-0 to ODA_BASE.

```
[root@odan1dom0 ~]# ssh 192.168.16.27
root@192.168.16.27's password:
Last login: Wed Mar 12 18:33:16 2014 from xxx.example.com
[root@odanloakDom1 ~]#
```

Once you are logged on to the ODA_BASE domain, you can start the VNC Server by executing the vncserver command. For example,

```
# vncserver
New 'odanode1db1:1 (root)' desktop is odanode1db1:1
Starting applications specified in /root/.vnc/xstartup
Log file is /root/.vnc/odanode1db1:1.log
```

Make sure you also set the password for VNC connections.

```
# vncpasswd
```

When the VNC Server is running on ODA_BASE, you can connect to it using a VNC Client, e.g., vncviewer. From the VNC session established with ODA_BASE, running the graphical environment and redirecting the DISPLAY:

```
# startx
# xhost +
# export DISPLAY=localhost:0.0
```

you can run "oakcli show vmconsole <vm-name>" command to connect to other VMs from within the same VNC client session.
Step 23: Customize Oracle JD Edwards EnterpriseOne Architecture

The deployment process covered so far only covers the Database Server, Enterprise Server, and HTML Server. However, you can deploy additional JD Edwards EnterpriseOne VM templates and change the overall setup and configuration to include these additional VMs. For example, your actual configuration may include OneView Reporting Server (also called BIP server) and Mobile Server (also called BSSV Server). The “/u01/jdedwards/vmScripts/EOne_cfg.ksh” configuration script is designed to allow the changes to the configuration of virtual machines after the initial install. This procedure to add additional servers (VMs) such as a BIP server or a BSSV server is the same for the various types of VMs.

Adding BIP and Mobile Servers later you must re-run the EOne_cfg.ksh scripts. First you run the scripts to add the new virtual machines to the configuration files, and then you run the scripts a second time to synchronize those settings by running the “EOne_cfg.ksh –syn” script on both Enterprise Server and HTML Server VMs for JD Edwards EnterpriseOne

Step 24: Install Platform Pack

Once the Database, Enterprise, and HTML domains are setup, the database metadata installation using Platform Pack is performed to install database server components in the JD Edwards EnterpriseOne database running on ODA_BASE. This is done using the Oracle Universal Installer in Silent Mode and supplying a response file for inputs.

When setting up the JD Edwards EnterpriseOne Database Server components on database servers running on ODA_BASE the connect string must be ovsorcl. This is required so as to match the database definition in the OVM templates for Enterprise and HTML servers.

The Platform Pack installer needs to be run on ODA_BASE where the JD Edwards EnterpriseOne database is installed. To determine the name of Oracle database instances running on ODA_BASE on Node 0 and Node 1, run the following command as oracle user from either node:

```
# srvctl status database -d ovsorcl
```

For example, the output may look similar to this:

```
Instance ovsorcl1 is running on node mymachine1
Instance ovsorcl2 is running on node mymachine2
```
For JD Edwards EnterpriseOne deployment on Oracle Database Appliance, the database is created in the pre-configured ODA_BASE domain and not on a separate virtual machine. Thus the installation procedure is similar to that when using a non-virtualized database environment.

The zip file for the Platform Pack Installer for a non-virtualized database server is included in the Media Pack for JD Edwards EnterpriseOne VM Templates (V45708-01 Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Non Virtualized Database Server (Oracle Database 12.1.0.1), which is available from the Oracle Software Delivery Cloud: https://edelivery.oracle.com/

In this example, if your session is running on mymachine1, you need to set your environment variable ORACLE_SID to ovsorcl1 to connect to the database. If you do not set your ORACLE_SID appropriately the data pump commands (impdp) in the database load scripts will fail. However, when you are editing the Silent Install response file, you should supply the connect string ovsorcl so that EnterpriseOne Services can take advantage of the RAC cluster services.

Create a directory on the ODA_BASE domain where the oracle user can unzip the JDE platform pack. For example:

```bash
# su - oracle
$ mkdir -p /home/oracle/JDE_PP
$ unzip /tmp/V45708-01.zip -d /home/oracle/JDE_PP
```

Set appropriate permissions on the created directory:

```bash
$ chmod -R 775 /home/oracle/JDE_PP
```

**Step 25: Prepare the response file for Platform Pack installation**

Run the OUI installer in silent mode, which is driven by parameters that you set in a response (.rsp) file. This section describes the appropriate settings that you must set within this response file.

Use an editor such as vi to open the OVMDB.rsp file that is located inside the `/home/oracle/JDE_PP` directory that is created when the installer zip file is unzipped.

Edit the `/home/oracle/JDE_PP/OVMDB.rsp` response file to set valid parameters for the installation. Each section of the response file has comments to describe valid expected values. Most of the default values are already correctly specified. The values that must be customized for the Oracle Database Appliance environment are described in Table 9.

Save this file once you have edited the file and included the appropriate values.
<table>
<thead>
<tr>
<th>Section Name</th>
<th>Value</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCEPT_LICENSE_AGREEMENT</td>
<td></td>
<td>You must accept a license agreement for the Platform Pack installation to proceed. Valid values are true or false; The shipped version of OVMDB.rsp has this value set to false. You must change this to true in order for the installation to be able to proceed</td>
</tr>
<tr>
<td>ORACLE_HOME</td>
<td>/cloudfs/JDEOVM/e910</td>
<td>Specify the path, preferably a shared location, where you want the installer to place the scripts and dump the files. For example, a valid home name might be /cloudfs/JDEOVM/e910</td>
</tr>
<tr>
<td>ORACLE_HOME_NAME</td>
<td>JDEOVM6_E910</td>
<td>Provide a tag for the Oracle Home Name, for example, JDEOVM6_E910</td>
</tr>
<tr>
<td>sysadmPwd</td>
<td>welcome1</td>
<td>Specify the password for the oracle system administrator account. The default system administrator account password on Oracle Database Appliance is &quot;welcome1&quot;.</td>
</tr>
</tbody>
</table>
| sLOVMvalues                  |                                    | For your planned architecture and configuration, prepare a specific string list of location, machine names, and password values that are required for use with JD Edwards EnterpriseOne VM Templates. The syntax for the string is: sLOVMvalues="Location of Deployment","Deployment Server Name","HTML Server Name","Enterprise Server Name","ASM Usage - YES or No","Load Oracle BI Publisher Server Repository – Yes or No","BI Publisher Server Name","Password for SYS user"

where,
- Location of Deployment - A string name for deployment location (for example, Corporate). This is the location in your installation plan.
- Deployment Server Host Name – Name of deployment server (for example, jodavmdep).
- HTML Server Host Name – Name of HTML (Web) Server (for example, jodavmw1)
- Enterprise Server Host Name – Name of Enterprise Server (for example, jodavment1)
- ASM Usage Flag – Indicator whether Oracle Automatic Storage Management (ASM) is used for database storage or not. Valid values are YES or NO. For deployment on Oracle Database Appliance until v. 2.10, choose YES. Starting with ODA v. 12.1.2.0.0 choose NO
- Load Oracle BI Publisher Server Repository Flag – Indicator whether BI Publisher Server Repository is to be loaded. Valid values are YES or NO.
- BI Publisher Server Host Name – Name of BI Publisher Server (for example, joda-vm-bip1). The BI Publisher Server Name is only required if Load BI Publisher Flag is set to YES.
- Password for Database SYS User – Password string for Database SYS user (for example,welcome1). Note that the password for the Database Sys user in only required to be specified if Load BI Publisher Server Repository is set to YES.

Note: The machine names should not be qualified.

For example, your prepared sLOVMvalues string might look as follows: sLOVMvalues="Corporate","JODAVMDEP","jodavmw1","jodavment1" ,"YES","NO","NULL","welcome1"
<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>orclTblDir</td>
<td>DATA</td>
<td>Starting with ODA v. 12.1.2.0.0 you should provide the path for the datafile to be stored on ACFS: /u02/app/oracle/oradata/datastore/.ACFS/snaps/ovsorcl/OVSORCL/datafile</td>
</tr>
<tr>
<td>orclIdxDir</td>
<td>DATA</td>
<td>Starting with ODA v. 12.1.2.0.0 you should provide the path for the datafile to be stored on ACFS: /u02/app/oracle/oradata/datastore/.ACFS/snaps/ovsorcl/OVSORCL/datafile</td>
</tr>
<tr>
<td>dbMach</td>
<td></td>
<td>Database Server SCAN (Single Client Access Name) Name – SCAN Name configured for Oracle Database Appliance ODA_BASE domain. For example, joda-scan</td>
</tr>
</tbody>
</table>

### Table 9: JD Edwards EnterpriseOne Platform Pack Deployment – Customizing Response File

*Note: Even though the Oracle JD Edwards EnterpriseOne database is installed on Oracle Database Appliance Virtualized Platform (ODA_BASE), it is not implemented using a database VM template. Therefore, it is considered a Non-Virtualized Database Server as per the terminology used in JD Edwards EnterpriseOne documentation.*

#### Step 26: Run the Platform Pack Installer

You must connect to ODA_BASE server and set your environment before you can run the installer. Verify that the following environment variables are set correctly.

**ORACLE_SID** (may be set to ovsorcl1 or ovsorcl2 on node0 and node1 respectively)

```
$ export ORACLE_SID=ovsorcl1
```

**ORACLE_HOME** (check your Oracle Home location in /etc/oratab file or using “oakcli show dbhomes” command)

```
$ export ORACLE_HOME=<Oracle Home Path>
```

**ORACLE_BASE** (Name of base directory where different versions of Oracle software are installed as per Oracle Flexible Architecture. For example, the Oracle Base on Oracle Database Appliance is /u01/app/oracle)

```
$ export ORACLE_BASE=/u01/app/oracle
```

Ensure the value `$ORACLE_HOME/bin` is in the PATH environment variable in your shell

```
$ echo $PATH
$ export PATH=$PATH:$ORACLE_HOME/bin
```

Change directory to the `/home/oracle/JDE_PP/install` folder and run the installer. For the response file, you must specify the full path to the location of the Platform Pack response file prepared previously.

For example:

```
$ cd /home/oracle/JDE_PP/install
```
$ export ORACLE_SID=ovsorcl1
$ ./runInstaller -silent -responseFile /home/oracle/JDE_PP/OVMDB.rsp

Upon completion the installer reports success or failure for the Oracle database scripts. To verify the status of the install, you should check the logs in your install location, e.g., /cloudfs/JDEOVME/e910/ORCL/logs. It is important that you check and verify the Import* logs. Also check the logs in the Oracle inventory location, which by default is /u01/app/oraInventory/logs.

**De-installing Platform Pack**

In the event that it becomes necessary, you can de-install the Platform Pack using the steps outlined below.

1. From the ORCL directory within your install location, for example /cloudfs/JDEOVME/e910/ORCL, run the drop_db.sh script as the Oracle user.

   $ drop_db.sh

2. From the install folder within your install location (/home/oracle/JDE_PP/install) run command to run the OUI installer in silent mode and de-install the Platform Pack.

   # ./runInstaller -deinstall -silent REMOVE_HOMES = { "/cloudfs/JDEOVME/e910" } ORACLE_HOME_NAME={"JDEOVME_E910_1"}

**Step 27: Start JD Edwards EnterpriseOne Server**

Starting and Shutting Down Network Services on the Enterprise Server

The JD Edwards Enterprise Server Network Services are started using the RunOneWorld.sh startup script.

1. Log on to the Enterprise Server as the jde910 user and navigate to the binaries directory as follows.

   # su - jde910
   $ cd $SYSTEM/bin32

2. Execute the RunOneWorld.sh script. The RunOneWorld.sh script is run to start Oracle JD Edwards EnterpriseOne server processes. This script will not run if the server processes are already running.

   $ ./RunOneWorld.sh
   Thu Mar 28 09:20:19 EDT 2013 Starting JD Edwards OneWorld on denodavment1.us.oracle.com
3. Check the status of the services by running the netwm program.

```
$ netwm
Initializing JDEIPC
About to setupWorkManagementStruct
setupWorkManagementStruct ok
getJDEENetworkManagement ok
*******************************
1 net processes
*******************************
pid=15531 start=Sat Dec 21 17:27:07 2013 dport=6016 sport=6016
in=0 out=0 total=0
*******************************
7 kernel processes
*******************************
pid=15532 parent=15531 start=Sat Dec 21 17:27:08 2013 kdef=13
requests=0 outstanding=0 UserCount=0
pid=15533 parent=15531 start=Sat Dec 21 17:27:08 2013 kdef=30
requests=0 outstanding=0 UserCount=0
pid=15540 parent=15531 start=Sat Dec 21 17:27:09 2013 kdef=32
requests=0 outstanding=0 UserCount=0
pid=15542 parent=15531 start=Sat Dec 21 17:27:10 2013 kdef=34
requests=0 outstanding=0 UserCount=0
pid=15559 parent=15531 start=Sat Dec 21 17:27:11 2013 kdef=4 requests=0
outstanding=0 UserCount=0
pid=15576 parent=15531 start=Sat Dec 21 17:27:12 2013 kdef=4 requests=0
outstanding=0 UserCount=0
pid=15583 parent=15531 start=Sat Dec 21 17:27:13 2013 kdef=4 requests=0
outstanding=0 UserCount=0
```

**Note:** You should always shutdown services before shutting down a VM Guest. When a VM Guest is shutdown and restarted, the Server Manager Agent may need to be manually restarted by logging in as jde910 and running the Restart Agent script. To shutdown services, repeat the above steps substituting EndOneWorld.sh for RunOneWorld.sh

---

**Step 28: Verify Enterprise Server Installation Using PORTTEST**


**Note:** When running PORTTEST after installing the Enterprise Server, the test returns a failure message. This is because it is not able to access the F0902 table at this time, (the format of the F0902 table changes during the Table Conversion Workbench). Ignore any errors such as `-- Select all on table F0902 failed - rcode=0 --` relating to accessing the F0902 table.

Once the Workbench tasks are all complete, and the Enterprise Server is configured, rerun PORTTEST to verify the Enterprise Server installation as follows.
1. Log on to the Enterprise Server as jde910 user.

2. To verify that Release 9.1 is installed correctly on the Enterprise Server, enter these commands:
   
   $ cd $SYSTEM/bin32
   $ porttest userid password environment

   where userid is a valid Release 9.1 user ID, password is the user password, and environment is the environment you want to verify. For example:

   $ porttest JDE JDE DV910

   These parameters are case-sensitive. Enter this command for each environment and review output.

   Tip: If PORTTEST fails to run, for diagnostic assistance refer to the chapter entitled: "Using the PORTTEST Checklist" in the JD Edwards EnterpriseOne Applications Release 9.1 Installation Guide for Oracle on Unix.

Step 29: Starting the JD Edwards EnterpriseOne HTML Server

Once the Enterprise Server is started, you can start the HTML Server. You can start the html_server through the WebLogic Administration Console or from Server Manager. Alternatively, the HTML Server can be started using the following scripts executed in a sequential order.

startNodeManager.sh
startWebLogic.sh
startManagedWebLogic.sh

For example, while logged on to the HTML Server as the oracle user, start the HTML Server components by submitting these commands.

Start the Node Manager

$ cd /u01/Oracle/Middleware/user_projects/domains/base_domain/bin
$ nohup ./startNodeManager.sh &
$ tail -f nohup.out

Watch this log until you see this message: INFO: Plain socket Listener started on port <port number>. After this you may press CTRL-C to break out of the tail command.

Start WebLogic Server

$ cd /u01/Oracle/Middleware/user_projects/domains/base_domain/bin
$ startWebLogic.sh
Start the HTML Server

You can start the HTML Server by executing the following command.

$ ./startManagedWebLogic.sh html_server

The log will display on the screen and prompt you to enter the username and password. Specify the default username and password values of ‘weblogic’ and ‘ovsadminE1’. Once WebLogic has been configured with a new password you can update the boot.properties file. For instructions on changing and setting up boot.properties files, refer to the JD Edwards EnterpriseOne HTML Server on WebLogic Reference Guide Release 9.1 for UNIX, Section 4.4 at the following link:
http://docs.oracle.com/cd/E24902_01/doc.91/e23434/toc.htm

The boot.properties file contains two fields:

<table>
<thead>
<tr>
<th>boot.properties attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>The default value for username is <strong>weblogic</strong>. You should change this value in this file to a valid value for your Admin Server.</td>
</tr>
<tr>
<td>Password</td>
<td>The default value for username is <strong>welcome1</strong>. You should change this value in this file to a valid value for your Admin Server.</td>
</tr>
</tbody>
</table>

The information entered in this file is encrypted after the first access. This file must be located in the “/u01/Oracle/Middleware/user_projects/domains/base_domain/servers/html_server/security” directory.

Monitor the log until you see this message: **INFO: Successfully stated the management agent listener on port 14502.**

You should always shut down services before shutting down a VM Guest. When a VM Guest is shutdown and restarted, the Server Manager Agent may need to be manually restarted by logging in as the oracle user and running the startup steps.

To shutdown services, log in as oracle and cd to the bin directory as above, and run the following scripts:

$ ./stopManagedWebLogic.sh html_server
$ ./stopWebLogic.sh
For more information on using WebLogic with EnterpriseOne see JD Edwards EnterpriseOne HTML Server on WebLogic Reference Guide Release 9.1 for UNIX, at the following link: http://docs.oracle.com/cd/E24902_01/doc.91/e23434/toc.htm

**Step 30: Testing the JD Edwards HTML Web Server Connection**

Once the Database Server, the HTML Server and the Enterprise Server are up, you can test application connection by starting a web browser and pointing it to the following URL.

http://<your-web-server-name>:8080/jde/owhtml

Where, <Web Server Name> is the name of the JD Edwards HTML web server. For example, joda-vm-wb1.

Note: Network connectivity is required between the PC or workstation where the web browser is started and the HTML Web Server.

Once you are successfully connected, the login screen for JD Edwards EnterpriseOne appears as follows. You can use the default USERID JDE, and default password JDE to connect. By default, the only environment available is JDV910.

![Oracle JD EdwardsOne Login Screen](image)

You can use Oracle JD Edwards EnterpriseOne documentation to operate and manage your environment.
Step 33: Operate the JD Edwards EnterpriseOne environment

The rest of the tasks such as populating EnterpriseOne metadata in the data server, starting and stopping of Enterprise Server, HTML Server, and so forth are standard process. Please refer to JD Edwards EnterpriseOne Oracle VM Templates Express Installation Guide Release 9.1.3 for Linux x86-64 Platforms available at http://docs.oracle.com/cd/E24902_01/doc.91/e37833.pdf

For operating and managing Oracle Database Appliance, please refer to Oracle Database Appliance Getting Started Guide available at http://docs.oracle.com/cd/E22693_01/doc.21/e22692.pdf
Conclusion

This whitepaper outlines the steps necessary to deploy Oracle JD Edwards EnterpriseOne on Oracle Database Appliance Virtualized Platform using Oracle VM Templates and create the entire solution in a single Oracle Database Appliance environment. With this solution, customers benefit from a fully integrated ERP solution-in-a-box that delivers high availability database and application services, efficiently utilizes system resources, provides performance advantages of Oracle’s Engineered Systems, and takes advantage of capacity-on-demand licensing for multiple workloads by leveraging Oracle VM hard partitioning.
Reference

Oracle Documentation

<table>
<thead>
<tr>
<th>Title</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oracle Database Appliance</strong></td>
<td></td>
</tr>
<tr>
<td>Oracle Database Appliance Setup Poster</td>
<td><a href="http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf">http://docs.oracle.com/cd/E22693_01/doc.12/e41668.pdf</a></td>
</tr>
<tr>
<td><strong>JD Edwards EnterpriseOne</strong></td>
<td></td>
</tr>
<tr>
<td>Application Installation with Oracle Database Guide</td>
<td><a href="http://docs.oracle.com/cd/E24902_01/doc.91/e23313/toc.htm">http://docs.oracle.com/cd/E24902_01/doc.91/e23313/toc.htm</a></td>
</tr>
<tr>
<td>Oracle VM Templates Express Installation Guide</td>
<td><a href="http://docs.oracle.com/cd/E24902_01/doc.91/e54942/toc.htm">http://docs.oracle.com/cd/E24902_01/doc.91/e54942/toc.htm</a></td>
</tr>
</tbody>
</table>

My Oracle Support Notes

<table>
<thead>
<tr>
<th>My Oracle Support Note</th>
<th>My Oracle Support Note Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Database Appliance - 12.1.2 and 2.X Supported ODA Versions &amp; Known Issues</td>
<td>888888.1</td>
</tr>
<tr>
<td>ODAVP: How to get the &quot;ready-to-use&quot; Templates 9.1.4.4 to deploy JDE</td>
<td>1902042.1</td>
</tr>
<tr>
<td>ODAVP: How to bring JDE Deployment Server on ODA Virtualized Platform</td>
<td>1684316.1</td>
</tr>
<tr>
<td>ODA - Oracle Database Appliance - How to Setup ILOM</td>
<td>1393191.1</td>
</tr>
<tr>
<td>ODA (Oracle Database Appliance) : ILOM configuration via Serial port</td>
<td>1395445.1</td>
</tr>
</tbody>
</table>
## Software

<table>
<thead>
<tr>
<th>Component Name <a href="https://support.oracle.com">https://support.oracle.com</a></th>
<th>Patch Number</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Database Appliance 12.1.2.0.0 VM ISO Image. (DOM0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle Database Appliance 12.1.2.0.0 VM Template (ODA_BASE)</td>
<td>16186163</td>
<td>279M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Configuration Utility and Manifest</td>
<td>V43875-01</td>
<td>14K</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Enterprise Server 1 of 2</td>
<td>V43852-01</td>
<td>1.8G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Enterprise Server 2 of 2</td>
<td>V43853-01</td>
<td>1.5G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - HTML Server (WebLogic Server 12.1.2.0)</td>
<td>V43854-01</td>
<td>1.7G</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and tools 9.1.4.4 - Oracle Linux 5.8 System</td>
<td>V43861-01</td>
<td>398M</td>
</tr>
<tr>
<td>Oracle VM Template for JD Edwards EnterpriseOne 9.1.2 and Tools 9.1.4.4 - Non Virtualized Database Server (Oracle Database 12.1.0.1) [&quot;JDE Platform Pack&quot;]</td>
<td>V45708-01</td>
<td>965M</td>
</tr>
</tbody>
</table>
Appendix

**JD Edwards EnterpriseOne Deployment Server**

The Deployment Server for JD Edwards EnterpriseOne must reside on an X86-based computer running Microsoft Windows. Optionally, you can choose to install the Deployment Server into a Microsoft Windows virtual machine. The installation package is downloadable from the Oracle E-delivery website.

For non-production use of JD Edwards EnterpriseOne environment deployed using Oracle VM Templates, a Deployment Server is not required. You must have a Deployment Server in production environments or any environment in which you want to apply ESUs or perform Package Builds.

For more information about setting up the deployment server, refer to JD Edwards EnterpriseOne Oracle VM Templates Express Installation Guide for Linux x86-64 Platforms available at [http://docs.oracle.com/cd/E24902_01/doc.91/e37833.pdf](http://docs.oracle.com/cd/E24902_01/doc.91/e37833.pdf)

You could bring the Deployment Server on ODA VP (Oracle Database Appliance Virtualized Platform) keeping it running into a Guest Virtual Machine following the MOS note *ODAVP: How to bring JDE Deployment Server on ODA Virtualized Platform* (Doc ID 1684316.1)
Oracle Corporation, World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065, USA

Worldwide Inquiries
Phone: +1.650.506.7000
Fax: +1.650.506.7200

Copyright © 2014, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group. 0115

Solution-in-a-box: Best practices for deploying JD Edwards EnterpriseOne on Oracle Database Appliance
January 2015
Author: Ruggero Citton, Ravi Sharma, Daniel Kuang
Contributing Authors: RAC Pack, JD Edwards Product Team

Oracle is committed to developing practices and products that help protect the environment.