Oracle Maximum
Availability Architecture

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Oracle Commerce MAA
Configuration Best Practices
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1 Executive Overview

Oracle Maximum Availability Architecture (MAA) is Oracle's best practices blueprint based on proven Oracle high availability technologies and recommendations. The goal of MAA is to achieve the optimal high availability architecture at the lowest cost and complexity. Papers are published on the Oracle Technology Network (OTN) at http://www.oracle.com/goto/maa.

In this paper we describe the architecture along with installation, configuration, and operational best practices for deploying Oracle Commerce with MAA best practices. For the purposes of this paper, Oracle Commerce is comprised of Oracle Commerce Platform, Oracle Commerce Experience Manager, and Oracle Commerce Merchandising.

Oracle Commerce MAA was implemented in 3 different MAA environmental configurations: fully active/passive, active/active application with active/passive databases (also known as active/active/passive), and fully active/active. Each was tested to validate MAA best practices and to measure and observe application impact in various outage scenarios and the results are presented in this paper. Due to the way that certain applications have been coded, in the active/active/passive configuration, some applications needed to remain active passive. These will be outlined in that section of the paper.
2 Introduction

Commerce Platform – formerly known as ATG Web Commerce, Commerce Platform is a framework, which clients can build and develop large-scale B2C or B2B web sites. Commerce Platform offers a complete commerce software platform that enables you to deliver a personalized customer buying experience across all customer touch points, including the web, contact center, mobile devices, social media, physical stores, and more.

Commerce Experience Manager – formerly known as Endeca Commerce, Experience Manager gives clients the flexibility to set up the selling experience as they see fit. The application suite adds search capabilities when used with Oracle Commerce.

Commerce Merchandising – part of the Oracle Commerce Business Control Center, Merchandising allows a client to create and deploy content directly to its commerce web site in a manner that suits its business rules. Merchandising uses Oracle Commerce Content Administration to deploy both data-based content to the commerce database instance(s) and file-based content to the file systems, which the commerce applications are configured.

Commerce Service Center – is the commerce customer service application. This is a fully-integrated system, which allows CSRs to view and edit orders and profile information. Commerce Service Center is not in the scope of this paper, however, its implementation is similar to that of the base commerce web site.

This paper is organized into the following sections:

- **Primary Site Creation** – the steps and configuration used, following MAA best practices, to create the Primary MAA Oracle Commerce web site.
- **Standby Site Creation** – the steps and configuration used, following MAA best practices, to create the Standby MAA Oracle Commerce web site.
- **Site Test** and **Site Test to Standby** – the steps required to manually switch over from the Primary site to the Standby site and back. This method is for testing only as the standby database and ZFS are opened as read-only. This can also be handled by application packages, such as Oracle’s Site Guard.
- **Site Switchover** – the steps required to perform a switchover of roles between the Primary and Standby sites, where the Standby database and applications will become the Primary and vise versa.
- **Site Failover** and **Reinstate** – the steps required to perform a failover of the Primary site to the Standby site and back again. This assumes that the primary site becomes completely unavailable.
- **Appendix** – covers miscellaneous scripts, configurations, and examples used to create the MAA sample environment sites.
3 Primary Site Creation

3.1 Install and Configure Exadata

In addition to the standard Exadata installation, see these papers for best practices:

- MAA Best Practices for Oracle Exadata Database Machine (technical white paper)
- Best Practices for Database Consolidation on Oracle Exadata Database Machine

The standard Exadata configuration was deployed on the primary site. You should have the complete database hardware configuration at this stage from whoever ran the OneCommand utility.

3.2 Install and Configure Grid Home and Database Home

The Grid Home was installed following the Exadata installation convention by Exadata OneCommand and is installed on all database nodes in /u01/app/11.2.0.3/grid.

The Grid Home is owned by the oracle user and it is in the oinstall and dba groups.

The Oracle database software for the Commerce database is installed into its own ORACLE_HOME location. It is separate from the location where OneCommand installed the initial database. There are two ways to install the database software into a separate ORACLE_HOME:

1. Download the 11.2.0.3 software and install using Oracle Universal Installer. See MOS note 888828.1 for details.

OR

2. Clone the existing ORACLE_HOME over to the new ORACLE_HOME location for Commerce.

This project uses the second option of cloning from the initial OneCommand home because this also gives us an 11.2.0.3 version with the current bundle patch BP9.

The Oracle Database software home for the Commerce database was installed in /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg

It is owned by the oracle_atg user and it is in the oinstall and dba groups.

To clone from the OneCommand home:

1. As root on each database node, create the software directory tree and make it owned by oracle_atg:oinstall:

   mkdir - p /u01/app/oracle_atg
   mkdir -p /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg
   chown -R oracle_atg:oinstall /u01/app/oracle_atg

2. As root on OneCommand compute node, zip up the dbhome_1 ORACLE_HOME:

   cd /u01/app/oracle/product/11.2.0.3
   zip -r 11203_BP9_dbhome_1.zip dbhome_1
3. As the software owner (oracle_atg) on each database node, copy the 11203_BP9_dbhome_1.zip to the new ORACLE_HOME location, unzip it, then move the dbhome_1 to dbhome_atg:
   
   cd /u01/app/oracle_atg/product/11.2.0.3
   cp /u01/app/oracle/product/11.2.0.3/11203_BP9_dbhome_1.zip .
   unzip -d 11203_BP9_dbhome_1.zip
   mv dbhome_1 dbhome_atg

4. Create a small shell script to run the clone.pl procedure. The script should look something like the following, but replace the host names and ORACLE_HOME path to match the environment it will run on.
   
   echo "Clone started at `date`" | tee -a clone.log
   perl /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg/clone/bin/clone.pl \
   ORACLE_BASE=/u01/app/oracle_atg \ 
   ORACLE_HOME=/u01/app/oracle_atg/product/11.2.0.3/dbhome_atg \ 
   ORACLE_HOME_NAME=dbhome_atg1 '-O"CLUSTER_NODES={scam02db07,scam02db08}"' \ 
   '-O"LOCAL_NODE=scam02db07"' OSDBA_GROUP="dba"
   echo "Clone ended at `date`" | tee -a clone.log
   
   Place the above in a script, clone.sh for example, add execute privileges, and run it. Do this step on each database node.

5. As the software owner on each node, relink the database software. Make sure that ORACLE_HOME is defined. Make sure you include the ipc_rds option.
   
   export ORACLE_HOME=/u01/app/oracle_atg/product/11.2.0.3/dbhome_atg
   cd $ORACLE_HOME/rdbms/lib
   make -f ins_rdbms.mk ioracle ipc_rds

6. As root on each database node, run the $ORACLE_HOME/root.sh script.
   
   ssh -l root <db-node>
   /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg/root.sh

7. Set up the environment for each compute node.
   
   export ORACLE_BASE=/u01/app/oracle_atg
   export ORACLE_HOME=$ORACLE_BASE/product/11.2.0.3/dbhome_atg
   export ORACLE_DB=atgmaa
   #Host names are scam02db07 and scam02db08
   case `hostname -s` in
     *07 ) ORACLE_SID=${ORACLE_DB}1;;
     *08 ) ORACLE_SID=${ORACLE_DB}2 ;;
     esac
   export ORACLE_SID
   export PATH=$PATH:$ORACLE_HOME/bin

3.3 Install Exalogic

Review the Oracle Fusion Middleware Exalogic Enterprise Deployment Guide, in particular Chapter 3, "Network, Storage, and Database Preconfiguration."
3.4 Commerce Database Creation

For this case study the environment (Test Environment Details) on our primary site has InfiniBand connectivity between the Exadata system and Exalogic systems. On the standby we had 10 GigE connectivity between the Exadata system and Exalogic systems. Because of this we chose to use 10 GigE on both sides so that we could have the same protocol in the GridLink data source connection and support FAN/FCF automatic failover per the MAA white paper “Client Failover Best Practices for Data Guard 11g Release 2.”

3.4.1 Use DBCA to Create an Oracle RAC Database

1. In DBCA, choose the General Purpose or Transaction Processing template.
2. Set up the database with the Exadata ASM disk groups.

For more information, see MOS note “Cannot Create Database in 11.2.0.3 Using DBCA - It Stops at Step 6 with ASM Diskgroup 11.2.0.2.0 Compatibility Issue [ID 1468931.1].”

**NOTE:** Do not use Automatic Memory Management. You should use the default, Automatic Shared Memory Management (ASSM), so that Linux HugePages can be used. Increase the redo log size to 2 GB (2097152Kb), as shown below.

![Database Storage Configuration](image)

3.4.2 Create Tablespaces

See Appendix A

3.4.3 Create Commerce Database Schemas

See Appendix A
3.4.4 Create and Start the Role-Based Service

Create and start the role-based service to support client failover best practices as documented in “Client Failover Best Practices for Data Guard 11g Release 2.”

```bash
srvctl add service -d atgmaa -s atgsvc -r atgmaa1,atgmaa2 -l PRIMARY -q FALSE -e NONE -m NONE -w 0 -z 0
srvctl add service -d atgmaa -s atgsvc_tst -r atgmaa1,atgmaa2 -l SNAPSHOT_STANDBY -q FALSE -e NONE -m NONE -w 0 -z 0
srvctl add service -d atgmaa -s atgsvc_stby -r atgmaa1,atgmaa2 -l PHYSICAL_STANDBY -q FALSE -e NONE -m NONE -w 0 -z 0

done

srvctl start service -d atgmaa -s atgsvc
srvctl start service -d atgmaa -s atgsvc_tst
srvctl start service -d atgmaa -s atgsvc_stby

done

srvctl status service -d atgmaa -s atgsvc
srvctl status service -d atgmaa -s atgsvc_tst
srvctl status service -d atgmaa -s atgsvc_stby
```

3.4.5 Set Up the Database Best Practices

Ensure that the MAA database best practices are implemented.

3.5 Set Up a Shared File System on ZFS

The following resources were used to set up the shared file system:

- **Oracle Fusion Middleware Disaster Recovery Guide**
- “Oracle Fusion Middleware Disaster Recovery Solution using Oracle's Sun ZFS Storage Appliance”
- “Oracle WebLogic Server Active GridLink for Oracle Real Application Clusters (RAC)”
- “Disaster Recovery for Oracle Exalogic Elastic Cloud”

3.5.1 Plan the ZFS Project File System Layout and Mount Points

**Table 3-1. Primary Site Project and File System setup**

<table>
<thead>
<tr>
<th>Name/Type</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota</td>
<td>750G</td>
<td>For storing the Oracle FMW binaries, configuration files, logs and so on.</td>
</tr>
<tr>
<td>Mount point</td>
<td>/export/ATG</td>
<td></td>
</tr>
<tr>
<td>Record size</td>
<td>128K</td>
<td>Default record size</td>
</tr>
<tr>
<td>Other settings</td>
<td>Default</td>
<td>Set the user and group under “Default Settings” to restrict access. Can</td>
</tr>
<tr>
<td></td>
<td></td>
<td>also restrict the host access under the Protocols / NFS Exceptions section.</td>
</tr>
<tr>
<td>File system</td>
<td>WLSAdmin</td>
<td>Administrator server</td>
</tr>
<tr>
<td>File system</td>
<td>WLSData</td>
<td>Data for WLS common for all application hosts</td>
</tr>
<tr>
<td>File system</td>
<td>WLSbin1</td>
<td>Binaries for WLS on ATG1</td>
</tr>
<tr>
<td>File system</td>
<td>WLSbin2</td>
<td>Binaries for WLS on ATG2</td>
</tr>
</tbody>
</table>
### Name/Type | Value | Remarks
--- | --- | ---
File system | WLSbin3 | Binaries for WLS on ATG3
File system | WLSbin4 | Binaries for WLS on ATG4
File system | WLSATG1 | ATG Domain on ATG1
File system | WLSATG2 | ATG Domain on ATG2
File system | WLSATG3 | ATG Domain on ATG3
File system | WLSATG4 | ATG Domain on ATG4
File system | Endeca1 | Binaries for Endeca on Endeca1
File system | Endeca2 | Binaries for Endeca on Endeca2

### Table 3-2. Mount points

<table>
<thead>
<tr>
<th>Hostname</th>
<th>ZFS Mount point</th>
<th>Host mount point</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATG1</td>
<td>WLSAdmin</td>
<td>/u01/app/wls/atgDomain/admin</td>
<td>WLS Admin server domain DOMAIN_HOME</td>
</tr>
<tr>
<td>ATG1 / ATG2</td>
<td>WLSData</td>
<td>/u01/app/oracle_atg/data</td>
<td>Data for WLS - common for all application hosts</td>
</tr>
<tr>
<td>ATG3 / ATG4</td>
<td>WLSbin1</td>
<td>/u01/app/oracle_atg/product/fmw</td>
<td>Binaries for Fusion Middleware (MW_HOME)</td>
</tr>
<tr>
<td>ATG2</td>
<td>WLSbin2</td>
<td>/u01/app/oracle_atg/product/fmw</td>
<td>Binaries for Fusion Middleware (MW_HOME)</td>
</tr>
<tr>
<td>ATG3</td>
<td>WLSbin3</td>
<td>/u01/app/oracle_atg/product/fmw</td>
<td>Binaries for Fusion Middleware (MW_HOME)</td>
</tr>
<tr>
<td>ATG4</td>
<td>WLSbin4</td>
<td>/u01/app/oracle_atg/product/fmw</td>
<td>Binaries for Fusion Middleware (MW_HOME)</td>
</tr>
<tr>
<td>ATG1</td>
<td>WLSATG1</td>
<td>/u01/app/wls/atgDomain/atg</td>
<td>ATG domain on ATG1</td>
</tr>
<tr>
<td>ATG2</td>
<td>WLSATG2</td>
<td>/u01/app/wls/atgDomain/atg</td>
<td>ATG domain on ATG2</td>
</tr>
<tr>
<td>ATG3</td>
<td>WLSATG3</td>
<td>/u01/app/wls/atgDomain/atg</td>
<td>ATG domain on ATG3</td>
</tr>
<tr>
<td>ATG4</td>
<td>WLSATG4</td>
<td>/u01/app/wls/atgDomain/atg</td>
<td>ATG domain on ATG4</td>
</tr>
<tr>
<td>Endeca1</td>
<td>Endeca1</td>
<td>/u01/app/oracle_atg/product/oracle_endeca</td>
<td>Endeca1</td>
</tr>
<tr>
<td>Endeca2</td>
<td>Endeca2</td>
<td>/u01/app/oracle_atg/product/oracle_endeca</td>
<td>Endeca2</td>
</tr>
</tbody>
</table>

See Table 4-2 for an example with SOA.
3.5.2 Create the ZFS ATG Project

For more information, see “Setting Up Access to the ZFS Storage Appliance for a vServer.”

1. Look at the Enterprise Manager Ops Center (EMOC) Networks, specifically at the IPoIB-vserver-shared-storage Network IP 10.196.32.0/21 to get the NFS Exception value for the ZFS project:

![Network IP Image]

2. Use /export/ATG for the mount point in the ZFS General screen. Specifying a quota is optional.

3. Optionally, in the Default Settings pane, specify the OS user and group numerical IDs. Because we have NIS set up and are using NFS4 we will use the oracle_atg ID (1013) and group (1001) here. If NIS is in use then the numbers will get the actual username and group-name substituted:

![Default Settings Image]
4. In the **NFS Exceptions** pane on the **Protocols** tab, add the base host/subnet for the IPoIB-vserver-shared-storage network as identified in the Step 1 **above** (10.196.32.0/21 in the example).

5. Specify the project's **Root Directory Access**.
3.5.3 Create the ZFS Shares in the ATG Project

Note that each share will inherit the project characteristics.

3.5.4 Add Mount Points to the Appropriate Hosts

1. We will use NIS and NFS4 for mount points. See MOS note “How To Configure NIS Master, Slave And Client Configuration In Exalogic Virtual Environment [ID 1516025.1]” for more information. Also, see the following sections in the Oracle Exalogic Elastic Cloud Machine Owner's Guide:
   - Section 9.4, "Configuring an Exalogic Linux Compute Node to Use NFSv4"
   - Section 9.5, "Creating NFSv4 Mount Points on Oracle Linux"

2. Create the mount point directories:

   **ATG1**
   - mkdir -p /u01/app/wls/atgDomain/admin
   - mkdir -p /u01/app/oracle_atg/product/fmw
   - mkdir -p /u01/app/wls/atgDomain/atg
   - mkdir -p /u01/app/oracle_atg/data

   **ATG2**
   - mkdir -p /u01/app/wls/atgDomain/admin (only to be used in the event of a WLS Admin failover)
   - mkdir -p /u01/app/oracle_atg/product/fmw
   - mkdir -p /u01/app/wls/atgDomain/atg
   - mkdir -p /u01/app/oracle_atg/data

   **ATG3 / ATG4**
   - mkdir -p /u01/app/oracle_atg/product/fmw
   - mkdir -p /u01/app/wls/atgDomain/atg
   - mkdir -p /u01/app/oracle_atg/data

   **Endeca1 / Endeca2**
   - mkdir -p /u01/app/oracle_atg/product/oracle_endeca
3. Determine the share IP address, then add the `/etc/fstab` entries.

### ATG1

- `10.196.32.55:/export/ATG/WLSAdmin /u01/app/wls/atgDomain/admin nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSbin1 /u01/app/oracle_atg/product/fmw nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSATG1 /u01/app/wls/atgDomain/atg nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSData /u01/app/oracle_atg/data nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`

### ATG2

- `10.196.32.55:/export/ATG/WLSbin2 /u01/app/oracle_atg/product/fmw nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSATG2 /u01/app/wls/atgDomain/atg nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSData /u01/app/oracle_atg/data nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`

### ATG3

- `10.196.32.55:/export/ATG/WLSbin3 /u01/app/oracle_atg/product/fmw nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSATG3 /u01/app/wls/atgDomain/atg nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSData /u01/app/oracle_atg/data nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`

### ATG4

- `10.196.32.55:/export/ATG/WLSbin4 /u01/app/oracle_atg/product/fmw nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSATG4 /u01/app/wls/atgDomain/atg nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
- `10.196.32.55:/export/ATG/WLSData /u01/app/oracle_atg/data nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`

### Endeca1

- `10.196.32.55:/export/ATG/Endeca1 /u01/app/oracle_atg/product/oracle_endeca nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`

### Endeca2

- `10.196.32.55:/export/ATG/Endeca2 /u01/app/oracle_atg/product/oracle_endeca nfs4 rw,rsize=131072,wsize=131072,bg,hard,timeo=600`
4. Mount the ZFS shares on each host as root using this command

```
mount -a,
```

this will mount all below shares, if configured in the `/etc/fstab` file.

3.6 Create Exalogic Virtual Servers

See the *Oracle Exalogic Elastic Cloud Administrator's Guide* for complete details about this procedure.

At this stage any necessary users and roles are created. You can use an Exalogic vDC for the required server configurations.

Log in to the Enterprise Manager Ops Center (EMOC) as the vDC owner and follow these steps:

1. Create Exalogic vServer types - the memory and vCPU settings need to be discussed with your system administrator as part of system planning. In our case study we created the following vServer types:

   **Table 3-3. vServer Resources**

<table>
<thead>
<tr>
<th>Name</th>
<th>Memory</th>
<th>Storage</th>
<th>vCPUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATG-App</td>
<td>32</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>ATG-Endeca</td>
<td>16</td>
<td>48</td>
<td>8</td>
</tr>
</tbody>
</table>

2. Create Exalogic distribution groups. Distribution groups ensure that no two vServers run on the same Oracle VM Server. Distribution groups are bound to a specific vDC Account. vServers can be assigned to a distribution group at vServer creation time and used then. We created a distribution group for Commerce Platform servers and one for Experience Manager.

3. Create the vServers, as described in Table 3-4, specifying the correct vServer type and distribution group. Also be sure to choose the correct networks so the vServer has ZFS access.
### Table 3-4. Primary Site IP Addresses & Hosts

<table>
<thead>
<tr>
<th>IP</th>
<th>Host Name</th>
<th>Alias Host</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.133.49.181</td>
<td>scae01ec2-vip1</td>
<td>None</td>
<td>WLS Admin Server VIP</td>
</tr>
<tr>
<td>10.133.227.32</td>
<td>scan03vm0059-eoib1</td>
<td>None</td>
<td>WLS Admin ATG1</td>
</tr>
<tr>
<td>10.133.227.33</td>
<td>scan03vm0060-eoib1</td>
<td>None</td>
<td>ATG2</td>
</tr>
<tr>
<td>10.133.227.34</td>
<td>scan03vm0061-eoib1</td>
<td>None</td>
<td>ATG3</td>
</tr>
<tr>
<td>10.133.227.35</td>
<td>scan03vm0062-eoib1</td>
<td>None</td>
<td>ATG4</td>
</tr>
<tr>
<td>10.133.227.36</td>
<td>scan03vm0063-eoib1</td>
<td>None</td>
<td>Endeca1</td>
</tr>
<tr>
<td>10.133.227.37</td>
<td>scan03vm0064-eoib1</td>
<td>None</td>
<td>Endeca2</td>
</tr>
</tbody>
</table>

#### 3.6.1 Create vServers in EMOC

Create the following vServers for the Platform deployment using the same vServer types previously created. We created four Platform application server types and two Experience Manager server types.

1. Create the `oracle_atg` OS user.
2. On each new vServer execute the following commands:
   ```bash
   groupadd -g 1001 oinstall
   useradd --uid 1013 -g oinstall oracle_atg
   ```
3. Set the password with the `passwd` command.

#### 3.7 Configure the OS for WebLogic Server

##### 3.7.1 Enable Large Pages

On all WebLogic Server Platform hosts do the following steps:


1. Mount `/mnt/hugepages` as root user (required on Oracle EL5), and execute the following:
   ```bash
   mkdir -p /mnt/hugepages
   mount -t hugetlbfs nodev /mnt/hugepages
   chmod -R 777 /mnt/hugepages
   ```
2. To make this persist at server reboot edit the `/etc/fstab` file, adding:
   ```bash
   # Mount /mnt/hugepages for JRockit Large Page Support
   hugetlbfs /mnt/hugepages hugetlbfs auto,user,exec,nodev,rw 0 0
   ```
3. Edit the `/etc/rc.local` file:
   ```bash
   chmod -R 777 /mnt/hugepages
   ```

4. Set large page settings at OS:
   ```bash
   echo 28991029247 > /proc/sys/kernel/shmmax
   echo 13824 > /proc/sys/vm.nr_hugepages
   echo 1001 > /proc/sys/vm/hugetlb_shm_group
   ```

5. Add the following lines to your `/etc/sysctl.conf` file (requires reboot) to ensure that large page settings persist at the system reboots.
   ```bash
   # Shared memory - max segment size: 27GB (-1 b)
   kernel.shmmax = 28991029247 # (comment out the old kernel.shmmax line)
   # Enable kernel to reserve 27GB / 2MB large pages
   vm.nr_hugepages = 13824
   # System group id that can use huge pages (hugepages gid: 1001)
   vm.hugetlb_shm_group = 1001
   ```

### 3.7.2 Set System Limits

Set the following in the `/etc/security/limits.conf` file (requires reboot):

```bash
# Set limit of 24GB total huge pages for oracle_atg user
oracle_atg soft memlock 28311552
oracle_atg hard memlock 28311552
oracle_atg soft nofile 32768
oracle_atg hard nofile 32768
```

### 3.8 Install WebLogic Server

#### 3.8.1 Enable the Admin Server HA VIP

See Section 4.3, "Enabling VIP1 in SOAHOST1" for more information about this procedure. We will use `10.133.49.181 scae01ec2-vip1.us.oracle.com` as our virtual IP (VIP):

1. `ifconfig bond0:1 10.133.49.181 netmask 255.255.248.0`
2. `/sbin/arping -q -U -c 3 -I bond0 10.133.49.181`
3. Ping `10.133.49.181` or `scae01ec2-vip1` from another host to ensure it is active and plumbed on the interface

As root do the following to make the VIP persistent across reboots on the primary:

```bash
vi /etc/sysconfig/network-scripts/ifcfg-bond0:1
MTU=1500
BONDING_OPTS="mode=active-backup use_carrier=1 miimon=250 downdelay=5000
updelay=5000"
NM_CONTROLLED=no
GATEWAY=10.133.49.1
NETMASK=255.255.248.0
IPADDR=10.133.49.181
BOOTPROTO=static
GNETBOOT=yes
DEVICE=bond0:1
```

During WebLogic Server install we will use the explicit hostname, `scae01ec2-vip1`, for the listen address.
3.8.2  Primary Site Application Tier Hosts

See Network Considerations and Planning Host Names in the Oracle® Fusion Middleware Disaster Recovery Guide for more information.

How the host alias setup is done depends on whether your DNS configuration is separate (where the production site and the standby site have their own DNS servers) or you have a single global DNS server. For examples of each see Section 3.1.1.3, "Resolving Host Names Using Separate DNS Servers" and Section 3.1.1.4, "Resolving Host Names Using a Global DNS Server" in the Oracle® Fusion Middleware Disaster Recovery Guide.

In this case study a single (global) DNS server is in use, so the disaster recovery site /etc/hosts files must be updated with host aliases as detailed in the Disaster Recovery Host Aliasing section once the DR vServers get created.

3.8.3  Install WebLogic Server with the atg_domain

Oracle Commerce is supported with Oracle WebLogic Server 10.3.6. Check MOS Oracle Commerce Supported Environments - Release 10.2.x [ID 1548852.1] for more information.


1. Copy the wls1036_generic.jar to a temporary location and cd to that location.
2. Run java -jar wls1036_generic.jar.
3. Create new middleware home at /u01/app/oracle_atg/product/fmw and select Next.
4. In the UI, choose Custom installation.
5. Select the main WebLogic Server and unselect Oracle Coherence.
6. Ensure that you use the explicit host name for the listen address.
7. Ensure that you use the scae01ec2-vip1 for the listen address.

3.8.4  Set the WebLogic Server Environment Variables

1. If it is not created, create the file wls_env in the application user’s home directory with the following contents:

   export MW_HOME=/u01/app/oracle_atg/product/fmw
   export WL_HOME=$MW_HOME/wlserver_10.3
   export JAVA_HOME=$MW_HOME/jrockit-jdk1.6.0_45-R28.2.7-4.1.0
   export CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
   export PATH=$JAVA_HOME/bin:$JAVA_HOME/jre/bin:/sbin:$PATH

2. Add the following to the application user’s .bash_profile file to source the wls_env file:

   . ~/.wls_env
3.8.5 Enable Exalogic Optimizations

1. Log in to the Oracle WebLogic Server Administration Console.
2. Select Domain name in the left navigation pane. The Settings for Domainname screen is displayed.
3. Click the General tab.
4. In your domain home page, select Enable Exalogic Optimizations, and click Save.
5. Activate changes.
6. Stop and start your domain.

3.8.6 Set Node Manager properties

In $WL_HOME/common/nodemanager/nodemanager.properties, set the following parameters:

```plaintext
SecureListener= false
StartScriptEnabled= true
StopScriptEnabled= true
```

3.8.7 Setup and Start WLS Domain Admin Server

1. Create service script /etc/init.d/wls_admin on both primary and standby environment servers. See Sample Scripts for script contents.
2. Enable the service to run.
   ```plaintext
   chmod 755 /etc/init.d/wls_admin
   chkconfig --add wls_admin
   ```
3. Add sudo access to SERVICES for the oracle_atg user on both primary and standby servers.
   a. Run visudo as root user and edit the /etc/sudoers file:
   b. Uncomment the line:
      ```plaintext
      Cmnd_Alias SERVICES = /sbin/service, /sbin/chkconfig
      ```
   c. Add the following lines to the end of the file:
      ```plaintext
      # Allows oracle_atg user access to service commands
      oracle_atg      ALL=NOPASSWD: SERVICES
      ```
4. Starting/Stopping/Restarting Experience Manager Platform Services:
   ```plaintext
   sudo service wls_admin start
   sudo service wls_admin stop
   sudo service wls_admin restart
   ```
   Add aliases to ~/.wls_env file:
   ```plaintext
   alias startadmin="sudo service wls_admin start"
   alias stopadmin="sudo service wls_admin stop"
   ```
alias restartadmin="sudo service wls_admin restart"
# Log Reading
alias lessadmin="less
/u01/app/wls/atgDomain/atg/atg_domain/servers/AdminServer/logs/AdminServer.out"

3.8.8 Start Node Manager

1. Create service script /etc/init.d/wls_nodemgr on both primary and standby environment servers. See Sample Scripts for script contents.

2. Enable the service to run.
   chmod 755 /etc/init.d/wls_nodemgr
   chkconfig --add wls_nodemgr

3. Add sudo access to SERVICES for the oracle_atg user on both primary and standby environment servers:
   a. Run visudo as root user and edit the /etc/sudoers file:
   b. Uncomment the line:
      Cmnd_Alias SERVICES = /sbin/service, /sbin/chkconfig
   c. Add the following lines to the end of the file:
      # Allows oracle_atg user access to service commands
      oracle_atg ALL=NOPASSWD: SERVICES

4. Starting/Stopping/Restarting Experience Manager Platform Services:
   sudo service wls_nodemgr start
   sudo service wls_nodemgr stop
   sudo service wls_nodemgr restart

5. Add aliases to ~/wls_env file:
   # Service control
   alias startndmgr="sudo service wls_nodemgr start"
   alias stopndmgr="sudo service wls_nodemgr stop"
   alias restartndmgr="sudo service wls_nodemgr restart"
   # Log Reading
   alias lessndmgr="less
   /u01/app/oracle_atg/product/fmw/wlserver_10.3/common/nodemanager/nm.log"
3.8.9 Verify WebLogic Server Administration Console is Working


2. Ensure that the machine is installed and that node manager is reachable.

3. If no machines appear in the Summary of Machines page then click New to add the machine, using a Plain UNIX machine and the hostname, then check Node Manager.tab
4. Ensure the machine Node Manager is reachable. The UI will display whether the Node Manager is reachable, as shown in the below screen shot.

3.9 Install Commerce Platform with the ATG CRS

1. Get software from https://edelivery.oracle.com/ (Select “ATG Web Commerce” and Linux x86-64).
2. Select “Oracle ATG Web Commerce 10.2 for UNIX” and download.
4. Install ATG software.
   See Install Commerce Platform Example for complete install steps.
5. Install Commerce Reference Store in same directory.
   See Install Commerce Reference Store Example for complete install steps.

3.9.1 Required ATG Web Commerce Environment Variables

1. Create the file /home/oracle_atg/atg_env with the following content:
   
   ```
   export DYNAMO_ROOT=/u01/app/oracle_atg/product/atg/ATG10.2
   export DYNAMO_HOME=$DYNAMO_ROOT/home
   export PATH=$DYNAMO_HOME/bin:$PATH
   ```

2. Add the following to the /home/oracle_atg/wls_env file, at the end of the file:
   
   ```
   . ~/atg_env
   ```
### 3.9.2 Port mapping for WebLogic Server / ATG Applications

Table 3-5 shows the port mapping for the MAA WebLogic Server and Commerce Platform Applications.

**Table 3-5. Commerce Platform Port Mappings**

<table>
<thead>
<tr>
<th>WebLogic Server</th>
<th>http port</th>
<th>https port*</th>
<th>RMI port</th>
<th>DRP port**</th>
<th>File Deployment port</th>
<th>File Synch port</th>
<th>SLM port</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdminServer</td>
<td>7001</td>
<td>7002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0059-eoi1-slm01</td>
<td>7003</td>
<td>7004</td>
<td>7063</td>
<td>7053</td>
<td>9010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0060-eoi1-slm01</td>
<td>7003</td>
<td>7004</td>
<td>7063</td>
<td>7053</td>
<td>9010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0059-eoi1-bcc01***</td>
<td>7009</td>
<td>7010</td>
<td>7069</td>
<td>7059</td>
<td>9019</td>
<td>8815</td>
<td>9020</td>
</tr>
<tr>
<td>scan03vm0060-eoi1-bcc01</td>
<td>7009</td>
<td>7010</td>
<td>7069</td>
<td>7059</td>
<td>9019</td>
<td>8815</td>
<td>9020</td>
</tr>
<tr>
<td>scan03vm0061-eoi1-crs01</td>
<td>7005</td>
<td>7006</td>
<td>7065</td>
<td>7055</td>
<td>9015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0061-eoi1-crs02</td>
<td>7007</td>
<td>7008</td>
<td>7067</td>
<td>7057</td>
<td>9017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0062-eoi1-crs01</td>
<td>7005</td>
<td>7006</td>
<td>7065</td>
<td>7055</td>
<td>9015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>scan03vm0062-eoi1-crs02</td>
<td>7007</td>
<td>7008</td>
<td>7067</td>
<td>7057</td>
<td>9017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* https ports are configured, but not used.
** DRP = Dynamo Request Protocol. A port mapping used for ATG Scenario configuration
*** Passive BCC JVM

### 3.9.3 WebLogic Server Resources for Managed Servers

**Table 3-6. Commerce Platform Data Source & Application EAR Mapping**

<table>
<thead>
<tr>
<th>Managed Server</th>
<th>Machine</th>
<th>Cluster</th>
<th>EAR Deployment</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan03vm0059-eoi1-slm01</td>
<td>scan03vm0059-eoi1</td>
<td>slm.ear</td>
<td>GridLink_ATGProductionDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0060-eoi1-slm01</td>
<td>scan03vm0060-eoi1</td>
<td>slm.ear</td>
<td>GridLink_ATGProductionDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0059-eoi1-bcc01***</td>
<td>scan03vm0059-eoi1</td>
<td>bcc.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0060-eoi1-bcc01</td>
<td>scan03vm0060-eoi1</td>
<td>bcc.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0061-eoi1-crs01</td>
<td>scan03vm0061-eoi1</td>
<td>crs.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0061-eoi1-crs02</td>
<td>scan03vm0061-eoi1</td>
<td>crs.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0062-eoi1-crs01</td>
<td>scan03vm0062-eoi1</td>
<td>crs.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
<tr>
<td>scan03vm0062-crs02</td>
<td>scan03vm0062-eoi1</td>
<td>crs.ear</td>
<td>GridLink_ATGProductionDS, GridLink_ATGSwitchingDS_A, GridLink_ATGSwitchingDS_B, GridLink_ATGReplicationDS</td>
<td></td>
</tr>
</tbody>
</table>
3.9.4 Configure ATG with cim.sh

Install the products, ensure the WebLogic Server and database environments are set, and set up the ATG applications and instances. After starting 
/u01/app/atg/ATG10.2/home/bin/cim.sh do the following steps:

1. Product Selection - Select ATG applications to setup.
   Select: *[P]* Product Selection
   • Choose the following products (Select Option 7 only):
   *[7]* Oracle ATG Commerce Reference Store : Includes the ATG platform, ATG-Endeca Integration,
   ATG Content Administration, Site Administration, Oracle ATG Web Commerce, and Oracle ATG Web
   Commerce Merchandising. Optional: data warehouse components and Preview
   Choose the following add-ons: Preview Server
   • Choose AddOns : Dedicated Lock Servers only
   • Choose Production Dedicated Lock Server only
   • Choose Switching Datasource
   • Endeca Index by SKU
   • Do not configure Endeca Preview for Production
   • CRS AddOns:
     [1] Storefront Demo Application
     [3] Fulfillment
   • Storefront AddOns:
     None
   • Storefront Sample Data Configuration:
     [1] Full

Application Server Selection

Configure details for the Weblogic instance which will run ATG.
Select Oracle Weblogic Online (Either Product or Developer Mode)
Enter Weblogic home path (e.g.: /u01/app/atg/Oracle/Middleware/wlserver_10.3/). Both the path and
version number will be validated.: /u01/app/oracle_atg/product/fmw/wlserver_10.3
Enter domain path (e.g.: /u01/app/atg/Oracle/Middleware/user_projects/domains/base_domain):
/u01/app/wls/atgDomain/atg/atg_domain
Enter admin server URL. Use the Weblogic T3 protocol address. (e.g.: t3://scan03vm0059-
eoib1:7001/): t3://scae01ec2-vip1:7001
Enter weblogic admin username and password (used for WLST connections).
Optionally validate the admin server is online.

Database Configuration - Create Schema, Import requisite data, harvest data source information.

These steps should be repeated for each required data source. Application datasource
dependencies are calculated by CIM and displayed on the 'Select a Datasource to Configure'
screen.
• Select Database Type: Oracle Thin
• Enter User Name: atg_schemaName
• Enter Password: atg
• Enter Database Host Name: scam02db07.us.oracle.com
• Enter Port Number: 1521 (Note: CIM does not understand the GridLink connections or the
  SDP protocol, and will not work. Please provide the corresponding TCP listener port and
  we will change the WLS datasources later in the process.)
• Enter Database Name: This is the Oracle SID. E.g. atgmaa
• Enter Database URL: The URL has been created for you, hit Enter to accept.
  e.g. jdbc:oracle:thin:@scam02db07:1521:atgmaa
• Enter Driver Path: The absolute path to 'ojdbc6.jar' on your local system.
• Enter JNDI name: Select the default.
• Test Connection.
• Drop Schema (do this even if you have no tables in the schema, for batch file reuse
  purposes).
• Create Schema.
• Import Initial Data.
• Repeat for other required data sources.
Server Instance Configuration

Create local server configurations in $DYNAMO_HOME/servers/

================================
SLM Layer Creation

Choose the task you want to perform:

[1] Database Configuration - Done
*[2] Server Instance Configuration
[3] Application Assembly & Deployment - Done
[R] Set the Administrator Password - Done
[P] Product Selection - Done (ATG Site Administration & ATG Content Administration & Oracle ATG Commerce Reference Store & ATG-Endeca Integration)
[A] Select Application Server - Done (Weblogic Online)
[C] Custom CIM Plugin Launcher

> 2

-------SERVER INSTANCE TYPE SELECTION-------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

0 Instances Configured

*[P] Production LockManager Server - 0 Instances Configured
[S] Publishing Server - 0 Instances Configured
[R] Production Server - 0 Instances Configured
[D] Done

> P
(Searching for products... done.)

-------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P] Production LockManager Server General Configuration - DONE
*[I] Instance Management - REQUIRED
[C] Modify Calculated Module List - OPTIONAL
[O] Configure Another Server Instance Type

> P

-------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P] Production LockManager Server General Configuration - DONE
*[I] Instance Management - REQUIRED
[C] Modify Calculated Module List - OPTIONAL
[O] Configure Another Server Instance Type

> i

-------INSTANCE MANAGEMENT------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

*[A] Add Server Instance
[R] Remove Server Instance
[D] Done

> a

-------NAME FOR NEW SERVER INSTANCE---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Enter Server Instance Name : [atg_lock_production]] > sim01

-------WEBLOGIC ONLINE PORT BINDING---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Running multiple instances on the same machine requires each instance to use a unique port binding.

*[U] Use Default Port Binding
[C] Choose Custom Port Binding

> u
Maximum Availability Architecture

Oracle Commerce MAA Configuration Best Practices

Enter HTTP Port [[7003]] > 7003
Enter HTTPS Port [[7004]] > 7004
Enter RMI Port [[7063]] > 7063
Enter DRP Port [[7053]] > 7053

-------INSTANCE MANAGEMENT----------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

[S]  slm01 - Dedicated Lock Server for Production
[A]  Add Server Instance
[R]  Remove Server Instance
* [D]  Done

> d

=================================
BCC Layer Creation
=================================

-------SERVER INSTANCE TYPE CONFIGURATION--------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P]  Production LockManager Server General Configuration - DONE
[I]  Instance Management - 1 Instance Configured
[C]  Modify Calculated Module List - OPTIONAL
*[O]  Configure Another Server Instance Type
>

-------SERVER INSTANCE TYPE SELECTION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit
1 Instance Configured

[P]  Production LockManager Server - 1 Instance Configured - DONE
[S]  Publishing Server - 0 Instances Configured
[R]  Production Server - 0 Instances Configured
[D]  Done
>

-------SERVER INSTANCE TYPE CONFIGURATION--------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

*[P]  Publishing Server General Configuration - REQUIRED
[I]  Instance Management - REQUIRED
[C]  Modify Calculated Module List - OPTIONAL
[S]  Scenario Manager - OPTIONAL
[D]  Deploy CRS Endeca Application - OPTIONAL
*[O]  Configure Another Server Instance Type
>

Enter Production Lock Server Hostname [[scan03vm0063-eoib1.us.oracle.com]] > scan03vm0059-eoib1.us.oracle.com

Enter Production Lock Server Port [[9010]] > 9010
Enter CAS Hostname [[scan03vm0063-eoib1.us.oracle.com]] > scan03vm0063-eoib1.us.oracle.com
Enter CAS Port [[8500]] > 8500
Enter EAC Hostname [[scan03vm0063-eoib1.us.oracle.com]] > scan03vm0063-eoib1.us.oracle.com
Enter EAC Port [[8888]] > 8888
Enter Endeca Base Application Name [[ATG]] > CRS
Enter the Fully-qualified Workbench Hostname, Including Domain > scan03vm0063-eoib1.us.oracle.com
Enter Workbench Port Number [[8006]] > 8006
Enter Default MDEX Host Name [[localhost]] > maappso1.us.oracle.com
Enter Default MDEX Port Number [[15000]] > 9001

-------SERVER INSTANCE TYPE CONFIGURATION--------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

*[P]  Publishing Server General Configuration - DONE
*[I]  Instance Management - REQUIRED
*[C]  Modify Calculated Module List - OPTIONAL
*[S]  Scenario Manager - OPTIONAL
*[D]  Deploy CRS Endeca Application - OPTIONAL
*[O]  Configure Another Server Instance Type
> i

--------INSTANCE MANAGEMENT----------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

* [A] Add Server Instance
 [R] Remove Server Instance
  [D] Done

Selected Type of Server Instance To Create

* [1] Publishing with a Server Lock Manager : Minimum 1 Required
 [2] Publishing
Select one > 1

--------WEBLOGIC ONLINE PORT BINDING---------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Running multiple instances on the same machine requires each instance to use a unique port
binding.

* [U] Use Default Port Binding
 [C] Choose Custom Port Binding

> u

Enter HTTP Port [[7009]] > 7009
Enter HTTPS Port [[7010]] > 7010
Enter Site HTTP Port [[7009]] > 7009
Enter RMI Port [[7069]] > 7069
Enter DRP Port [[7059]] > 7059
Enter File Deployment Port [[7019]] > 7019
Enter File Synchronization Deploy Server Port [[8815]] > 8815
Enter Lock Server Port [[9020]] > 9020

--------INSTANCE MANAGEMENT----------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

 [B] bcc01 - Publishing with a Server Lock Manager
 [A] Add Server Instance
 [R] Remove Server Instance
  [D] Done

> d

--------SERVER INSTANCE TYPE CONFIGURATION-----------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

 [P] Publishing Server General Configuration - DONE
 [I] Instance Management - 1 Instance Configured
 [C] Modify Calculated Module List - OPTIONAL
 [S] Scenario Manager - OPTIONAL
 [D] Deploy CRS Endeca Application - OPTIONAL
 * [O] Configure Another Server Instance Type

> s

--------INTERNAL SCENARIO MANAGER SERVER CONFIGURATION----------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Internal Management Scenario Server

Enter Hostname: [[scan03vm0059-eoib1.us.oracle.com]] > scan03vm0060-eoib1.us.oracle.com
Enter Port: [[7059]] > 7059

>> Set scan03vm0060-eoib1.us.oracle.com:7059 as the scenario editor server.

--------INTERNAL MANAGEMENT GLOBAL SCENARIO SERVER CONFIGURATION-----------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Global Scenario Server?

Currently Configured:
There are no Global Scenario Servers in the list.

*[A] Add a new internal global scenario server.
[R] Remove ALL servers from the list.
[D] Done.

> a

--------INTERNAL MANAGEMENT GLOBAL SCENARIO SERVER CONFIGURATION-----------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Internal Management Global Scenario Server.

Enter Hostname: > scan03vm0060-eoib1.us.oracle.com
Enter Port: > 7059

>> Added scan03vm0060-eoib1.us.oracle.com:7059 as a global scenario server.

--------INTERNAL MANAGEMENT GLOBAL SCENARIO SERVER CONFIGURATION-----------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Global Scenario Server?

Currently Configured:
scan03vm0060-eoib1.us.oracle.com:7059

*[A] Add a new internal global scenario server.
[R] Remove ALL servers from the list.
[D] Done.

> d

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Page Server Layer Creation
================================

--------SERVER INSTANCE TYPE SELECTION-------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

2 Instances Configured

*[P] Production LockManager Server - 1 Instance Configured - DONE
*[R] Production Server - 0 Instances Configured

[D] Done

> r

(Searching for products... done.)

--------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

*[P] Production Server General Configuration - DONE
*[I] Instance Management - REQUIRED
*[C] Modify Calculated Module List - OPTIONAL
*[S] Scenario Manager - OPTIONAL
*[D] Deploy CRS Endeca Application - OPTIONAL
*[O] Configure Another Server Instance Type

>P

Enter CAS Hostname [[scan03vm0063-eoib1.us.oracle.com]] > scan03vm0063-eoib1.us.oracle.com
Enter CAS Port [[8500]] > 8500
Enter EAC Hostname [[scan03vm0063-eoib1.us.oracle.com]] > scan03vm0063-eoib1.us.oracle.com
Enter EAC Port [[8888]] > 8888
Enter Endeca Base Application Name [[CRS]] > CRS
Enter the Fully-qualified Workbench Hostname, Including Domain > scan03vm0063-eoib1.us.oracle.com
Enter Workbench Port Number [[8006]] > 8006
Enter Default MDEX Host Name [[localhost]] > maaapps01.us.oracle.com
Enter Default MDEX Port Number [[15000]] > 9001

--------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

*[P] Production Server General Configuration - DONE
*[I] Instance Management - REQUIRED
*[C] Modify Calculated Module List - OPTIONAL
*[S] Scenario Manager - OPTIONAL
*[D] Deploy CRS Endeca Application - OPTIONAL
Configure Another Server Instance Type

-----INSTANCE MANAGEMENT-------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

[A]  Add Server Instance
[R]  Remove Server Instance
[D]  Done

-----NAME FOR NEW SERVER INSTANCE---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Enter Server Instance Name : [[atg_production]] > crs01

-----WEBLOGIC ONLINE PORT BINDING---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Running multiple instances on the same machine requires each instance to use a unique port binding.

[U]  Use Default Port Binding
[C]  Choose Custom Port Binding

Enter HTTP Port [[7005]] > 7005
Enter HTTPS Port [[7006]] > 7006
Enter Site HTTP Port [[7005]] > 7005
Enter RMI Port [[7065]] > 7065
Enter DRP Port [[7055]] > 7055
Enter File Deployment Port [[7015]] > 7015
Enter Lock Server Hostname [[scan03vm0059-eoib1.us.oracle.com]] > scan03vm0059-eoib1.us.oracle.com
Enter Lock Server Port [[9010]] > 9010

-----INSTANCE MANAGEMENT-------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

[C]  crs01 - Production
[A]  Add Server Instance
[R]  Remove Server Instance
[D]  Done

-----SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P]  Production Server General Configuration - DONE
[I]  Instance Management - 1 Instance Configured
[C]  Modify Calculated Module List - OPTIONAL
[S]  Scenario Manager - OPTIONAL
[D]  Deploy CRS Endeca Application - OPTIONAL
[O]  Configure Another Server Instance Type

-----PRODUCTION SCENARIO EDITOR SERVER CONFIGURATION---------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Production Scenario Editor Server

Enter Hostname: [[scan03vm0059-eoib1.us.oracle.com]] > scan03vm0061-eoib1.us.oracle.com
Enter Port: [[7015]] > 7055

>> Set scan03vm0061-eoib1.us.oracle.com:7055 as the scenario editor server.

-----PRODUCTION GLOBAL SCENARIO SERVER CONFIGURATION--------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Production Global Scenario Server?
There are no Global Scenario Servers in the list.

[R] Remove ALL global servers from this list.
[D] Done

> a

-------INTERNAL MANAGEMENT GLOBAL SCENARIO SERVER CONFIGURATION-----------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Production Global Scenario Server.

Enter Hostname: > scan03vm0061-eoib1.us.oracle.com
Enter Port: > 7055

>> Added scan03vm0061-eoib1.us.oracle.com:7055 as a global scenario server.

-------PRODUCTION GLOBAL SCENARIO SERVER CONFIGURATION--------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Production Global Scenario Server?

Currently Configured:
scan03vm0061-eoib1.us.oracle.com:7055

[R] Remove ALL global servers from this list.
[D] Done

> a

-------INTERNAL MANAGEMENT GLOBAL SCENARIO SERVER CONFIGURATION-----------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Production Global Scenario Server.

Enter Hostname: > scan03vm0062-eoib1.us.oracle.com
Enter Port: > 7055

>> Added scan03vm0062-eoib1.us.oracle.com:7055 as a global scenario server.

-------PRODUCTION GLOBAL SCENARIO SERVER CONFIGURATION--------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Production Global Scenario Server?

Currently Configured:
scan03vm0061-eoib1.us.oracle.com:7055
scan03vm0062-eoib1.us.oracle.com:7055

[R] Remove ALL global servers from this list.
[D] Done

> d

-------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P] Production Server General Configuration - DONE
[I] Instance Management - 1 Instance Configured
[C] Modify Calculated Module List - OPTIONAL
[S] Scenario Manager - DONE
[D] Deploy CRS Endeca Application - OPTIONAL
*[O] Configure Another Server Instance Type

> i

-------INSTANCE MANAGEMENT------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

[C] crs01 - Production
[A] Add Server Instance
[R] Remove Server Instance
*[D] Done
> a

------NAME FOR NEW SERVER INSTANCE---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Existing Server Instances:

crs01

    Enter Server Instance Name : [[atg_production]] > crs02

------WEBLOGIC ONLINE PORT BINDING---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Running multiple instances on the same machine requires each instance to use a unique port binding.

*U]  Use Default Port Binding
[C]  Choose Custom Port Binding

> u

Enter HTTP Port [[7007]] > 7007
Enter HTTPS Port [[7009]] > 7008
Enter Site HTTP Port [[7007]] > 7007
Enter RMI Port [[7067]] > 7067
Enter DRP Port [[7057]] > 7057
Enter File Deployment Port [[7017]] > 7017
Enter Lock Server Hostname [[scan03vm0059-eoib1.us.oracle.com]] > scan03vm0059-eoib1.us.oracle.com
Enter Lock Server Port [[9010]] > 9010

------INSTANCE MANAGEMENT------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Select a server instance to Edit, Add a new server instance, or remove a server instance

[C]  crs01 - Production
[P]  crs02 - Production
[A]  Add Server Instance
[R]  Remove Server Instance
* [D]  Done

> d

------SERVER INSTANCE TYPE CONFIGURATION---------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P]  Production Server General Configuration - DONE
[I]  Instance Management - 2 Instances Configured
[C]  Modify Calculated Module List - OPTIONAL
[S]  Scenario Manager - DONE
[D]  Deploy CRS Endeca Application - OPTIONAL
*[O]  Configure Another Server Instance Type

> s

------PRODUCTION SCENARIO EDITOR SERVER CONFIGURATION--------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Please enter the Hostname and DRP port for the Production Scenario Editor Server

    Enter Hostname: [[scan03vm0061-eoib1.us.oracle.com]] > scan03vm0061-eoib1.us.oracle.com
    Enter Port: [[7055]] > 7055

>>> Set scan03vm0061-eoib1.us.oracle.com:7055 as the scenario editor server.

------PRODUCTION GLOBAL SCENARIO SERVER CONFIGURATION--------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Would you like to add a Production Global Scenario Server?

Currently Configured:
scan03vm0061-eoib1.us.oracle.com:7055
scan03vm0062-eoib1.us.oracle.com:7055

* [A]  Add a production global scenario server.
[R]  Remove ALL global servers from this list.
[D]  Done
> d

------SERVER INSTANCE TYPE CONFIGURATION----------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[P]  Production Server General Configuration - DONE
[I]  Instance Management - 2 Instances Configured
[C]  Modify Calculated Module List - OPTIONAL
[S]  Scenario Manager - DONE
[D]  Deploy CRS Endeca Application - OPTIONAL
*[O]  Configure Another Server Instance Type
> o

------SERVER INSTANCE TYPE SELECTION--------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

4 Instances Configured

[P]  Production LockManager Server - 1 Instance Configured - DONE
[S]  Publishing Server - 1 Instance Configured - DONE
[R]  Production Server - 2 Instances Configured - DONE
*[D]  Done
> d

Application Assembly & Deployment

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BCC EAR Assembly & Deployment
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=======CIM MAIN MENU============================================================
enter [h]elp, [q]uit to exit
Choose the task you want to perform:

[1]  Database Configuration - Done
[2]  Server Instance Configuration - Done
[3]  Application Assembly & Deployment - Done
[4]  Set the Administrator Password - Done
[P]  Product Selection - Done (ATG Site Administration & ATG Content Administration & Oracle ATG Commerce Reference Store & ATG-Endeca Integration)
[A]  Select Application Server - Done (Weblogic Online)
*[C]  Custom CIM Plugin Launcher
> 3

------DEPLOYMENT SERVER INSTANCE SELECTION-------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

*[B]  bcc01 - Publishing with a Server Lock Manager
[C]  crs01 - Production
[S]  crs02 - Production
[S]  slm01 - Dedicated Lock Server for Production
[D]  Done
> b

(Searching for products... done.)

------ENTER EAR FILE NAME(S)---------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit
Enter Ear File Name for Publishing with a Server Lock Manager
[[atg_publishing_lockserver.ear]] > bcc.ear

------WEBLOGIC ONLINE DEPLOYMENT MENU----------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

*[D]  Deploy Publishing with a Server Lock Manager bcc.ear to Weblogic Online
[R]  Register Datasources on Weblogic Online
[A]  Add database driver to app server classpath
[P]  Post Deployment Actions on Weblogic Online
[E]  Edit runAssembler arguments
*[O]  Configure Another Server Instance
> e
-------APPLICATION ASSEMBLY OPTIONS---------------------------------------------

enter [h]elp, [m]ain menu, [q]uit to exit

Choose Application Assembly Options: (* = Currently selected )
[1]  -pack
[2]  -standalone
[3]  -overwrite
[4]  -collapse-class-path
[5]  -jardirs
[6]  -verbose
[7]  -classesonly
[8]  -displayname
[9]  -liveconfig
[10]  -add-ear-file
[12]  -dynamo-env-properties
[13]  -exclude-acc-resources
[14]  -nofix
[15]  -prependJars
[16]  -run-in-place
[17]  -layer
[18]  -distributable

[D] Done

Select zero or more > 2 3

Choose Application Assembly Options: (* = Currently selected )

[D] Done

Select zero or more >

-------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------

enter [h]elp, [m]ain menu, [q]uit to exit

[D] Deploy Publishing with a Server Lock Manager bcc.ear to Weblogic Online
[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

> d

-------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------

[D] Deploy Publishing with a Server Lock Manager bcc.ear to Weblogic Online

[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

> r

[D] Deploy Publishing with a Server Lock Manager bcc.ear to Weblogic Online

[R] Register Datasources on Weblogic Online

[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[G] Configure Another Server Instance

---------WEBLOGIC CLASSPATH MODIFICATION------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

Append the following paths to the Weblogic classpath:
/u01/app/wls/atgDomain/admin/atg_domain/lib/ojdbc6.jar:

*[U] Update the /u01/app/wls/atgDomain/admin/atg_domain/bin/setDomainEnv.sh file
[C] Cancel

>> Done.

---------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

[D] Deploy Publishing with a Server Lock Manager bcc.ear to Weblogic Online - Done
[R] Register Datasources on Weblogic Online - Done
[A] Add database driver to app server classpath - Done
*[F] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[G] Configure Another Server Instance

---------POST DEPLOYMENT OPTIONS--------------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

*[W] Weblogic JVM Optimization
[C] Copy protocol.jar
[D] Done

---------WEBLOGIC JVM OPTIMIZATION------------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

Weblogic JVM Optimization

*[U] Update startup script
[C] Cancel

---------POST DEPLOYMENT OPTIONS--------------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

*[W] Weblogic JVM Optimization - Done
*[C] Copy protocol.jar
[D] Done

---------WEBLOGIC POST DEPLOYMENT OPTIONS-----------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

Choose Action:

*[C] Copy protocol.jar to Publishing with a Server Lock Manager bcc.ear to Weblogic Online
[D] Done

---------POST DEPLOYMENT OPTIONS--------------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

*[W] Weblogic JVM Optimization - Done
[C] Copy protocol.jar - Done
[D] Done

---------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------
Enter [h]elp, [m]ain menu, [q]uit to exit

CRS EAR Assembly & Deployment
Done
[R] Register Datasources on Weblogic Online - Done
[A] Add database driver to app server classpath - Done
[E] Post Deployment Actions on Weblogic Online - Done
*[O] Configure Another Server Instance

-------DEPLOYMENT SERVER INSTANCE SELECTION-------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[B] bcc01 - Publishing with a Server Lock Manager - Done
[C] crs01 - Production
[F] crs02 - Production
[S] slm01 - Dedicated Lock Server for Production
[D] Done

-------ENTER EAR FILE NAME(S)---------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit
Enter Ear File Name for Production [(atg_production.ear)] > crs.ear

-------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

*[D] Deploy Production crs.ear to Weblogic Online
[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[F] Post Deployment Actions on Weblogic Online
[E] Edit runAssemble arguments
*[O] Configure Another Server Instance

-------APPLICATION ASSEMBLY OPTIONS---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Choose Application Assembly Options: (* = Currently selected )
[1] --pack
[2] --standalone
[3] --overwrite
[4] --collapse-class-path
[5] -jardirs
[6] -verbose
[7] -classesonly
[8] -displayname
[9] -liveconfig
[10] --add-ear-file
[12] --dynamo-env-properties
[13] --exclude-acc-resources
[14] -nofix
[15] -prependJars
[16] -run-in-place
[17] -layer
[18] --distributable
[D] Done

Select zero or more > 2 3 9

Choose Application Assembly Options: (* = Currently selected )
[1] --pack
*[2] --standalone
*[3] --overwrite
[4] --collapse-class-path
[5] -jardirs
[6] -verbose
[7] -classesonly
[8] -displayname
*[9] -liveconfig
*[10] --add-ear-file
[12] --dynamo-env-properties
[13] --exclude-acc-resources
[14]  -nofix
[15]  -prependJars
[16]  -run-in-place
[17]  -layer
[18]  -distributable
[D]  Done
Select zero or more > d

* [D] Deploy Production crs.ear to Weblogic Online
  - Done

[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssemble arguments
[O] Configure Another Server Instance

> d

[D] Deploy Production crs.ear to Weblogic Online - Done

*[R] Register Datasources on Weblogic Online
[CA] Add database driver to app server classpath
[PF] Post Deployment Actions on Weblogic Online
[EA] Edit runAssemble arguments
[OA] Configure Another Server Instance

> r

[D] Deploy Production crs.ear to Weblogic Online - Done

*[R] Register Datasources on Weblogic Online - Done

*[A] Add database driver to app server classpath

[P] Post Deployment Actions on Weblogic Online

*[E] Edit runAssemble arguments

*[O] Configure Another Server Instance

> a

-------WEBLOGIC CLASSPATH MODIFICATION------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Append the following paths to the Weblogic classpath :
/u01/app/wls/atgDomain/admin/atg_domain/lib/ojdbc6.jar:

*[U] Update the /u01/app/wls/atgDomain/admin/atg_domain/bin/setDomainEnv.sh file

[C] Cancel

> u

[D] Deploy Production crs.ear to Weblogic Online - Done

[R] Register Datasources on Weblogic Online - Done

*[A] Add database driver to app server classpath - Done

[F] Post Deployment Actions on Weblogic Online

[E] Edit runAssemble arguments

*[O] Configure Another Server Instance

> p

-------POST DEPLOYMENT OPTIONS--------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[W] Weblogic JVM Optimization - Done

*[C] Copy protocol.jar

[D] Done

> c

Choose Action: :

*[C] Copy protocol.jar to Production crs.ear to Weblogic Online

[D] Done

> c

[W] Weblogic JVM Optimization - Done

*[C] Copy protocol.jar - Done

*[D] Done

> d

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SLM EAR Assembly & Deployment
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[D] Deploy Production crs.ear to Weblogic Online - Done

[R] Register Datasources on Weblogic Online - Done

[A] Add database driver to app server classpath - Done
[P] Post Deployment Actions on Weblogic Online - Done
[E] Edit runAssembler arguments
*[O] Configure Another Server Instance
> o

-------DEPLOYMENT SERVER INSTANCE SELECTION-------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[B] bcc01 - Publishing with a Server Lock Manager - Done
[C] crs01 - Production - Done
*[P] crs02 - Production
[S] slm01 - Dedicated Lock Server for Production
[D] Done
> s

-------ENTER EAR FILE NAME(S)---------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Enter Ear File Name for Dedicated Lock Server for Production [lock_production.ear] >

slm.ear

*[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online
[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
*[O] Configure Another Server Instance
> e

-------APPLICATION ASSEMBLY OPTIONS---------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Choose Application Assembly Options: (* = Currently selected )

[1] -pack
[2] -standalone
[3] -overwrite
[4] -collapse-class-path
[5] -jardirs
[6] -verbose
[7] -classesonly
[8] -displayname
[9] -liveconfig
[10] -add-ear-file
[12] -dynamo-env-properties
[13] -exclude-acc-resources
[14] -nofix
[15] -prependJars
[16] -run-in-place
[17] -layer
[18] -distributable
[D] Done
Select zero or more > 2 3 9

Choose Application Assembly Options: (* = Currently selected )

[1] -pack
*[2] -standalone
*[3] -overwrite
[4] -collapse-class-path
[5] -jardirs
[6] -verbose
[7] -classesonly
[8] -displayname
*[9] -liveconfig
[10] -add-ear-file
[12] -dynamo-env-properties
[13] -exclude-acc-resources
[14] -nofix
[15] -prependJars
[16] -run-in-place
[17] -layer
[18] -distributable
[D] Done
Select zero or more > d

-------WEBLOGIC ONLINE DEPLOYMENT MENU--------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online
[R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

>D

-------DEPLOY DEDICATED LOCK SERVER FOR PRODUCTION TO WEBLOGIC ONLINE-----------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online - Done
*R] Register Datasources on Weblogic Online
[A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

>r

[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online - Done
[R] Register Datasources on Weblogic Online - Done
*A] Add database driver to app server classpath
[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

>a

-------WEBLOGIC CLASSPATH MODIFICATION----------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Append the following paths to the Weblogic classpath:
/u01/app/wls/atgDomain/admin/atg_domain/lib/ojdbc6.jar:

[U] Update the /u01/app/wls/atgDomain/admin/atg_domain/bin/setDomainEnv.sh file
[C] Cancel

>> Done.

[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online - Done
[R] Register Datasources on Weblogic Online - Done
[A] Add database driver to app server classpath - Done
*[P] Post Deployment Actions on Weblogic Online
[E] Edit runAssembler arguments
[O] Configure Another Server Instance

>P

-------POST DEPLOYMENT OPTIONS-------------------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[W] Weblogic JVM Optimization - Done
*[C] Copy protocol.jar
[D] Done

>c

-------WEBLOGIC POST DEPLOYMENT OPTIONS----------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

Choose Action: :

*[C] Copy protocol.jar to Dedicated Lock Server for Production slm.ear to Weblogic Online
[D] Done

>c

-------POST DEPLOYMENT OPTIONS-------------------------------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[W] Weblogic JVM Optimization - Done

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[C] Copy protocol.jar - Done
*{D} Done
> d

--------WEBLOGIC ONLINE DEPLOYMENT MENU------------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[D] Deploy Dedicated Lock Server for Production slm.ear to Weblogic Online - Done
[R] Register Datasources on Weblogic Online - Done
[A] Add database driver to app server classpath - Done
[P] Post Deployment Actions on Weblogic Online - Done
[E] Edit runAssembler arguments
*{O} Configure Another Server Instance
> o

--------DEPLOYMENT SERVER INSTANCE SELECTION-------------------------------------
enter [h]elp, [m]ain menu, [q]uit to exit

[B] bcc01 - Publishing with a Server Lock Manager - Done
[C] crs01 - Production - Done
*{P} crs02 - Production
[S] slm01 - Dedicated Lock Server for Production - Done
[D] Done
> d

Save your CIM session for future reuse

On the main menu (access by typing 'm' in CIM prompts), select Batch File Save task.

Enter a path and name for your saved file.

You can now re-execute these steps without interacting with CIM, by invoking:

$DYNAMO_HOME/bin/cim.sh -batch <path-to-your-batchfile/batch.groovy>
3.9.5 Post-Install Configuration

3.9.5.1 Configure GridLink Data Sources

Connect to the WLS Administration Console to configure the GridLink data sources for each Commerce Platform and Merchandising server, using Table 3-6 as a guide for the data source mapping.

1. Stop the ATG servers.

2. Go to Services / Data Sources to observe current data sources and their targets.
3. Create the new GridLink data sources, maintaining the same target associations.

4. Enter a similar name prefixed by GridLink using the same JNDI name and Thin X.
5. For the initial Data Source select the **Enter individual listener information** option.

6. Edit the Connection URL as outlined in the [Client Failover Best Practices for Data Guard 11g Release 2](#). For example, to include the failover parameters and then Test All Listeners:

    jdbc:oracle:thin:@\(DESCRIPTION=(FAILOVER=on)(CONNECT_TIMEOUT=1)(TRANSPORT_CONNECT_TIMEOUT=1)(RETRY_COUNT=3)(ADDRESS_LIST=(LOAD_BALANCE=on)(ADDRESS=(PROTOCOL=TCP)(HOST=scam02-scan7)(PORT=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=scam08-scan3)(PORT=1521)))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=atgsvc)))\]
The primary service at scam02-scan7:1521 should test successfully.

7. Enter ONS information and test it, ensuring that “FAN Enabled” is checked. Typically host-name:6200, for example:

scam08db03:6200, scam08db04:6200, scam02db07:6200, scam02db08:6200
8. Select the associated target servers as identified in “current data sources and their targets” above.

9. Repeat the previous steps for each Data Source with the option to use the Enter the complete JDBC URL instead of the Enter individual listener information option. ONS information is the same for all of them.

10. Select Enter the complete JDBC URL.
Making sure to enter the correct schema/password and the JDC URL:

```
jdbc:oracle:thin:@(DESCRIPTION=(FAILOVER=on)(CONNECT_TIMEOUT=1)
(TRANSPORT_CONNECT_TIMEOUT=1)(RETRY_COUNT=3)(ADDRESS_LIST=(LOAD
_BALANCE=on)(ADDRESS=(PROTOCOL=TCP)(HOST=scam02-
scan7)(PORT=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=scam08-
scan3)(PORT=1521)))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAM
E=atgsvc)))
```

11. Remove old data sources.

12. Review final data source list.
13. Add the following to each Data Source’s Connection Pool > Properties box:

```
oracle.net.ns.SQLnetDef.TCP_CONNTIMEOUT_STR=3000
```


3.9.5.2 Create WLS cluster

See *Oracle Fusion Middleware Using Clusters for Oracle WebLogic Server*, 11g Release 1 (10.3.6), Part Number E13709-06 “Understanding WebLogic Server Clustering.”

3.9.5.3 Add the production lock server to the cluster

1. Select the cluster.
2. Add the CRS managed servers to the cluster
3. Go to **Deployments** and set the production lock server ear to be in the cluster.

4. Select just the `.ear` component.

5. Select the cluster and **All servers in the cluster**.
6. Note the new target assignment.

3.9.5.4 Configure the crs0X Servers for Session Backup

To configure the Commerce Platform Session Backup, edit the production lock server's Configuration.properties file (SDYNAMO_HOME/servers/atg_production_lockserver/localconfig/atg/dynamo/Configuration.properties) and add these lines:

```
backingUpSessions=true
sessionBackupServerPropertyList+=\n/atg/userprofiling/ProfileFailService.uidForFailover,\n/atg/dynamo/security/UserFailService.savedPersonae,\n/atg/commerce/shoppingcart/restorableOrders,\n/atg/userprofiling/ProfileFailService.activePromotions,\n/atg/commerce/catalog/comparison/ProductList.items,\n/atg/commerce/gifts/GiftlistFormHandler.eventName
```

3.9.5.5 Install the WLS Software on additional nodes

If this is a Clone, then the WebLogic Binary home can be kept. It contains no machine specific references. Otherwise, software should be reinstalled.
3.9.5.6 Extend the WLS domain

Extend the WLS domain to nodes 2-4, separating the admin server domain from the managed servers. See: Extending a WebLogic Domain in Graphical Mode, for doing this with the GUI.

1. On Machine 1, pack up the domain using the pack script in 
   $WL_HOME/common/bin/
   
   [oracle_atg@scan03vm0059-eoib1]$ $WL_HOME/common/bin/pack.sh -domain/u01/app/wls/atgDomain/admin/atg_domain -template=./tmp/WLS_atg_domain.jar -template_name=mytemplate -managed=true
   >> succeed: read domain from /u01/app/wls/atgDomain/admin/atg_domain
   >> succeed: set config option Managed to "true"
   >> succeed: write template to "./tmp/WLS_atg_domain.jar"
   >> succeed: close template

2. Copy the created file (WLS_atg_domain.jar) to Machines 2-4.
   [oracle_atg@scan03vm0059-eoib1]$ scp /tmp/WLS_atg_domain.jar scan03vm0060-eoib1:/tmp

3. On Machine 2, unpack the domain using the unpack.sh script in
   oracle_atg@scan03vm0059-eoib1]$ $WL_HOME/common/bin/unpack.sh -template=./tmp/WLS_atg_domain.jar -domain=/u01/app/wls/atgDomain/atg/atg_domain
   >> succeed: read template from "./tmp/WLS_atg_domain.jar"
   >> succeed: set config option DomainName to "atg_domain"
   >> warning:write Domain to "/u01/app/wls/atgDomain/atg/atg_domain"
   >> The "JDBC" configuration in your domain is invalid. Try to resolve the issue by reviewing your script. The wizard will continue, but you may want to start the server in the needed:read and review the messages to identify the invalid configuration.
   >> succeeded:write Domain to "/u01/app/wls/atgDomain/atg/atg_domain"
   >> succeed: close template

4. Start the node manager on node 2.
   See Start Node Manager for details on creating the service and starting.

5. Stop the node manager on node 2.
   See Start Node Manager for details on stopping the Node Manager.

6. Edit the $WL_HOME/common/nodemanager/nodemanager.properties file:
   SecureListener=true to false
   StartScriptEnabled=false to true
   StopScriptEnabled=false to true

7. Start the node manager on node 2.
   See Start Node Manager for details on creating the service and starting.
3.9.5.7 Add Machines 2-4 in WLS Administration Console

To add the machines, select **Machines** under the domain **Environment** and then select **Add**.
In this case we changed $WL_HOME/common/nodemanager/nodemanager.properties SecureListener=false, because it was false on the source but true on the extended domain. On a retest this did not occur.

Repeat this procedure for Machines 3 and 4.

3.9.5.8 Clone the atg_production server

Clone the atg_production server and assign the clone to machine 2.

1. In the **Servers** screen select the crs01 and then select **Clone**.

2. Enter the new server name and enter node 2 as the **Server Listen Address**.

3. After cloning the server select the new server and set the machine to node 2. Note that the new server is part of the cluster as well.
4. You will also need to clone other servers and types as well:

   Clone atg_lockserver as:

   scan03vm0059-eoib1-slm01 and scan03vm0060-eoib1-slm01

   Clone atg_production as:

   scan03vm0061-eoib1-crs01, scan03vm0061-eoib1-crs02, scan03vm0062-eoib1-crs01, and scan03vm0062-eoib1-crs02

   Clone atg_publishing_lockserver as:

   scan03vm0059-eoib1-bcc01 and scan03vm0060-eoib1-bcc01
3.9.5.9 Point the Data Source to the Cluster

1. Go to the **Services Data Sources** page under the **Domain** Structure and select the **GridLink ATGProductionDS** data source. See the **GridLink table** for the data sources, which need to point at the CRS-Cluster.

2. Go to the **Targets** tab and ensure that the cluster and the **All servers in the cluster** boxes are checked and save if any changes are necessary.

![Settings for GridLink ATGProductionDS](image)

This page allows you to select the servers or clusters on which you would like to deploy this JDBC data source.

- **Servers**
  - **AdminServer**
  - **atg_publishing_lockserver**
  - **atg_staging**

- **Clusters**
  - **ATG_Prod-Cluster 0**
    - **All servers in the cluster**

3.9.5.10 Deploy the Standalone EARs

Following **Table 3-6**, deploy the proper application EAR to the correct WebLogic Server or cluster.

1. Create the directory `/u01/app/oracle_atg/data/earDeployments`.

2. Copy all of the created EAR directories from `$DYNAMO_HOME/cimEars` into the newly created `earDeployments` directory.

3. Copy the Publishing directory from
   
   `/u01/app/oracle_atg/product/atg/ATG10.2/Publishing`
   to
   
   `/u01/app/oracle_atg/data/Publishing`. 
4. Create a symbolic link for the BCC to have access to the copied Publishing files and at reboot:

```bash
ln -s /u01/app/oracle_atg/data/Publishing
    /u01/app/wls/atgDomain/atg/atg_domain/ATG-Data/Publishing
```

5. Edit the `/etc/rc.local` file with the following to persist the symlink at reboot:

```bash
ln -s /u01/app/oracle_atg/data/Publishing
    /u01/app/wls/atgDomain/atg/atg_domain/ATG-Data/Publishing
```

6. Copy ATG server config layer files from `$/DYNAMO_HOME/servers` to

   `/u01/app/wls/atgDomain/atg_domain` as follows:

   - slm01 to scan03vm0059-eoib1 and scan03vm0060-eoib1
   - bcc01 to scan03vm0059-eoib1 and scan03vm0060-eoib1
   - crs01 and crs02 to scan03vm0061-eoib1 and scan03vm0062-eoib1

7. Precompile the CRS and BCC EARs by running the following:

   ```bash
   java weblogic.appc -verbose
       /u01/app/oracle_atg/data/earDeployments/crs.ear
   
   java weblogic.appc -verbose
       /u01/app/oracle_atg/data/earDeployments/bcc.ear
   ```

8. In the WebLogic console, start by selecting the Deployments under the Domain structure and then clicking Install.

9. In the Install Application Assistant screen enter the path to the newly created standalone EAR file and then select the new EAR under the Current Location list. Click Next.
10. In the next screen select **Install the deployment as an application**

11. In the **Targets** screen select the cluster and all servers in the cluster.
12. In the **Optional Settings** screen select **I will make the deployment accessible from the following location** and enter 

    /u01/app/oracle_atg/data/earDeployments/<EAR_NAME>.ear in the **Location** field.

13. Click **Next** and **Finish**.
3.9.5.11 Change the session timeouts of all crs.ear web apps

Change the session timeouts of all crs.ear web applications by adding a weblogic-application.xml to the crs.ear as follows:

1. Create `/u01/app/oracle_atg/data/earDeployments/crs.ear/META-INF/weblogic-application.xml` with the following content:

   ```xml
   <?xml version="1.0" encoding="UTF-8"?>
   <weblogic-application xmlns="http://www.bea.com/ns/weblogic/90">
   <session-descriptor>
     <timeout-secs>900</timeout-secs>
   </session-descriptor>
   </weblogic-application>
   ```

2. Add `protocol.jar` to each ATG managed server’s Class Path (note that the Arguments were already updated above under Class Path).

3. Add the following Java arguments to each managed server’s arguments, where [HOSTNAME] is the vServer host name and [LAYER] is the managed server’s ATG-Data layer. Managed servers are named with their respective [HOSTNAME]-[LAYER] for ease of notification:

   -Xms:2g (1g for slm01)
   -Xmx:8g (4g for slm01)
   -Xms:8g (4g for slm01)
   -Xgc:pausetime
   -XX:+UseCallProfiling
   -XX:ReservedStatements=16k,preferred=1m,wasteLimit=8k
   -XX:+UseLargePagesForHeap
   -XX:+ForceLargePagesForHeap
   -Djava.rmi.server.hostname=[HOSTNAME.DOMAIN_NAME]
   -XX:+HeapDumpOnOutOfMemoryError
   -XX:HeapDumpPath=/u01/app/wls/atgDomain/atg/atg_domain/servers/[HOSTNAME]-[LAYER]/logs
   -Xverbose:gc,memory,gcreport
   -XverboseLog:/u01/app/wls/atgDomain/atg/atg_domain/servers/[HOSTNAME]-[LAYER]/logs/[HOSTNAME]-[LAYER]_1gc.log
   -XX:NoGC
   -Datg.dynamo.data-dir=/u01/app/wls/atgDomain/atg/atg_domain/ATG-Data
   -Datg.dynamo.server.name=[LAYER]
   -Ddisable.atg.dynamo.log=true (see MOS 1362731.1)
   -Dweblogic.Stdout=/u01/app/wls/atgDomain/atg/atg_domain/servers/[HOSTNAME]-[LAYER]/logs/[HOSTNAME]-[LAYER].out
   -Doracle.ons.maxconnections=4

4. Prepend the Java arguments to prefer IPv4 by editing the $WL_DOMAIN_HOME/bin/startWeblogic.sh script, adding in 3 lines of this script:
   
   -Djava.net.preferIPv4Stack=true before -Dweblogic.Name

3.9.5.12 Miscellaneous WebLogic/Commerce Platform Configurations

1. The following are required configurations for Commerce Platform on WebLogic Server (for details see http://docs.oracle.com/cd/E35319_01/Platform.10-2/ATGInstallGuide/html/s0304oracleweblogic01.html):
   
   • Add <enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials> to WLS domain config.xml as instructed.
   
   • Create /u01/app/wls/atgDomain/atg/atg_domain/ATG-Data/localconfig/GLOBAL.properties as instructed.

2. Configuration to remove redundant ATG logging, as all logging is also output to the WebLogic Server stdout log:
   
   • Create /u01/app/wls/atgDomain/atg/atg_domain/ATG-Data/localconfig/atg/dynamo/service/logging/logQueue.properties with the following content:
     
     logListeners^=Constants.null

3. Miscellaneous WebLogic Server settings:
   
   • Follow http://www.atglaunchchecklist.com/index.php under the WebLogic section to configure optimized settings for Data sources:
     
     • Increase the JTA Timeout value to 14400 sec
     
     • Check the Set XA Transaction Timeout for each of created DataSources for all but the GridLink-ATGPublishingDS DataSource
     
     • Set the XA Transaction Timeout value for each of created DataSources to 600 sec for all but the GridLink-ATGPublishingDS DataSource
   
   • Follow http://www.atglaunchchecklist.com/index.php under the WebLogic section to configure optimized settings for CRS and BCC managed servers
     
     • Increase the Accept Backlog setting by 25% in the Configuration > Tuning tab until the CONNECTION_REFUSED errors disappear or are significantly reduced in the WebLogic plug-in logging on the Apache servers.
     
     • Increase the Login Timeout on Configuration > Tuning tab for each of created Servers from 5000 to 10000
- Increase the Complete Message Timeout on Protocols > General tab for each of created Servers to 300
- Increase the Duration on Protocols > HTTP tab for each of created Servers to 200
- Uncheck the Enable Keepalives option on Protocols > HTTP tab for each of created Servers
- If using the WebLogic HTTP Plug-in, make sure that the "WebLogic Plug-In Enabled" setting is checked in the advanced section of the Configuration > General section of the WebLogic cluster or in each singleton WebLogic server (or in the main cluster for clustered managed servers)

- Set Data source connection pools as follows:
  - Initial Capacity: 10 (for all)
  - Maximum Capacity: 50 (GridLinkATGProductionDS and GridLinkATGPublishingDS data sources)
  - Maximum Capacity: 40 (GridLinkATGSwitchingDS_A and GridLinkATGSwitchingDS_B data sources)
  - Minimum Capacity: 10 (for all)

4. Restart the managed servers
3.10 Install Commerce Experience Manager Software

For the MAA Commerce environment we will be using four Experience Manager Applications. All of the required packages are available from Oracle’s eDelivery Software Delivery system. These are, in their installation order:

MDEX, version 6.4.1

Platform Services (Workbench), version 6.1.3

Tools & Frameworks w/ Experience Manager, version 3.1.2

Content Acquisition System (CAS), version 3.1.2

Acquire all 4 of the installers for the Linux x86_64 platform in eDelivery at the following link: https://edelivery.oracle.com/EPD/Download/get_form?egroup_aru_number=16289751. You will need to download package numbers (as of this writing):

V37714-01 (MDEX 3.1.2)

V33316-01 (Platform Services 6.1.3)

V37716-01 (Tools & Frameworks w/ Experience Manager 3.1.2)

V37711-01 (CAS 3.1.2)

Determine which of the two Experience Manager servers will be the primary server. This server will have all of the Experience Manager software installed on it, including the EAC control. The other server will have just Platform Services (an EAC agent) and the MDEX application installed on it. Move these installers to a temporary location on the 2 Experience Manager servers and unzip all 4 packages. Upon uncompression, you will have the following installation files:

mdeX_[version]_[platform].sh

presAPI_[version]_[platform].tgz (not required for this installation)

platformservices_[version]_[platform].sh

ToolsAndFrameworks directory structure and files

cas-[version]_[platform].sh

3.10.1 Install MDEX Application

1. On both of the Experience Manager servers, cd to the temporary location where the mdeX_[version]_[platform].sh file is located and execute the following:

   ./mdeX_[version]_[platform].sh --target /u01/app/oracle_atg/product/oracle_endeca

2. Create /home/oracle_atg/endeca_env with the following contents:

   export ENDECA_HOME=/u01/app/oracle_atg/product/oracle_endeca/endeca
   . $ENDECA_HOME/MDEX/6.4.1/mdex_setup_sh.ini

3. Add the endeca_env to the oracle_atg user's .bash_profile file: . ~/endeca_env
3.10.2 Install Platform Services Application

1. On both Experience Manager servers, change directories to the temporary location where the platformservices_[version]_[platform].sh file is located and execute the following:

```
./platformservices_[version]_[platform].sh --target /u01/app/oracle_atg/product/oracle_endeca
```

Input required during installation (using all default port values):

Configuring Endeca Platform Services 6.1.3 for x86_64pc-linux ....
Configure the ports your Endeca Instance will utilize.
Please enter the port number of the Endeca HTTP service. The typical default is 8088.: 8888
Please enter the shutdown port number of the Endeca HTTP service. The typical default is 8090.: 8090
Please enter the port number of the Endeca Control System JCD, or nothing if you do not plan to use a Control System environment. The typical default is 8088.: 8088
Would you like this installation configured to run the Endeca Application Controller (EAC)? (Y/N)?: y
Please enter the root of your Endeca MDEX Engine installation. The root directory path typically includes the version number. Leave blank if there is no Endeca MDEX Engine installed. (default: /u01/app/oracle_atg/product/oracle_endeca/endeca/MDEX/6.4.1) /u01/app/oracle_atg/product/oracle_endeca/endeca/MDEX/6.4.1
Would you like to install the reference implementations? (Y/N)?: y

2. On the Primary server, Edit the

```
/u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks/3.1.2/deployment_template/app-templates/base-app/config/script/LiveDgraphCluster.xml and
/u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks/3.1.2/reference/discover-data-cas/script/LiveDgraphCluster.xml files as follows:
```

```
a. In the Live MDEX Hosts section, replace:

```
<host id="LiveMDEXHostA" hostName="@@HOST@@" port="@@EAC_PORT@@" />
```

<!--
<host id="LiveMDEXHostB" hostName="TODO" port="@@EAC_PORT@@" />
-->

with

```
<host id="LiveMDEXHostA" hostName="scan03vm0063-eoib1.us.oracle.com" port="8888" />
```

```
<host id="LiveMDEXHostB" hostName="scan03vm0064-eoib1.us.oracle.com" port="8888" />
```
b. In the Live Dgraph Cluster section, replace:

```xml
<dgraph ref="DgraphA1" />
<!--
<dgraph ref="DgraphA2" />
<dgraph ref="DgraphB1" />
<dgraph ref="DgraphB2" />
--> with:

```xml
<dgraph ref="DgraphA1" />
<dgraph ref="DgraphB1" />
<!--
<dgraph ref="DgraphA2" />
<dgraph ref="DgraphB2" />
-->
```

c. In the Live Dgraph Process Definitions section, replace:

```xml
<dgraph id="DgraphA1" host-id="LiveMDEXHostA" port="@@DGRAPH_1_PORT@@"

with

```xml
<dgraph id="DgraphA1" host-id="LiveMDEXHostA" port="15001"
and uncomment the other DgraphB1 configuration in this section, replacing:

```xml
<dgraph id="DgraphB1" host-id="LiveMDEXHostB" port="TODO"

with

```xml
<dgraph id="DgraphB1" host-id="LiveMDEXHostA" port="15001"
```

3. On the secondary server, rename the file

```
/u01/app/oracle_atg/product/oracle_endeca/endeca/PlatformServices/workspace/conf/Standalone/localhost/eac.xml
```

as

```
/u01/app/oracle_atg/product/oracle_endeca/endeca/PlatformServices/workspace/conf/Standalone/localhost/eac.xml.not_needed
```

4. Add the following to the `/home/oracle_atg/endeca_env` file:

```
. $ENDECA_HOME/PlatformServices/workspace/setup/installer_sh.ini
```
5. Create service script `/etc/init.d/endeca_platform`. See Sample Scripts for script contents on both primary and standby environment servers.

6. Enable the service to run.
   ```
   chmod 755 /etc/init.d/endeca_platform
   chkconfig --add endeca_platform
   ```

7. Add the following to the `~/endeca_env` file:
   ```
   export PATH=/sbin:$PATH
   ```

8. Add `sudo` access to SERVICES for the oracle_atg user on both primary and standby environment servers:

9. Run `visudo` as root user and edit the `/etc/sudoers` file:
   
   a. Uncomment the line:
      ```
      Cmd_Alias SERVICES = /sbin/service, /sbin/chkconfig
      ```
   
   b. Add the following to the end of the file:
      ```
      # Allows oracle_atg user access to service commands
      oracle_atg      ALL=NOPASSWD: SERVICES
      ```

10. To start, stop, and restart the Experience Manager Platform Services use:
    ```
    sudo service endeca_platform start
    sudo service endeca_platform stop
    sudo service endeca_platform restart
    ```

11. To view the Platform Services log see:
    ```
    /u01/app/oracle_atg/product/oracle_endeca/endeca/PlatformServices/workspace/logs/catalina.YYYY-MM-DD.log
    ```

3.10.3 Install Tools & Frameworks Application

1. On the primary Experience Manager server only, cd to the temporary location where the ToolsAndFrameworks directory was unpacked execute the following:
   ```
   mv ToolsAndFrameworks /u01/app/oracle_atg/product/oracle_endeca/endeca
   ```

2. Add the following to the `/home/oracle_atg/endeca_env` file:
   ```
   export
   ENDECA_TOOLS_ROOT=/u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks
   ```

3. Create service script `/etc/init.d/endeca_tools` on both primary and standby environment servers, See Sample Scripts for script contents.

4. Enable the service to run.
   ```
   chmod 755 /etc/init.d/endeca_tools
   ```
chkconfig --add endeca_tools

5. To start, stop and restart the Experience Manager Tools and Frameworks [Workbench]:
   sudo service endeca_tools start
   sudo service endeca_tools stop
   sudo service endeca_tools restart

6. To view the Workbench log:
   u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks/3.1.2/server/workpace/logs/catalina.YYYY-MM-DD.log

3.10.4 Install Content Acquisition System Application

1. On the primary Experience Manager server only, cd to the temporary location where the cas-[version]-[platform].sh file is located and execute the following:
   ./cas-[version]-[platform].sh --target /u01/app/oracle_atg/product/oracle_endeca

   Input required during installation (using all default port values):
   Please enter the port for the CAS service. The typical default is 8500. :8500
   Please enter the shutdown port for the CAS service. The typical default is 8506. :8506
   Creating the CAS service workspace.
   Configuring the CAS host and port in the workspace located at /u01/app/oracle_atg/product/oracle_endeca/CAS/3.1.2/bin/../../workspace
   ENDECA_TOOLS_ROOT is set to: /u01/app/oracle_atg/product/oracle_endeca/ToolsAndFrameworks/3.1.2.
   ENDECA_TOOLS_CONF is set to: /u01/app/oracle_atg/product/oracle_endeca/ToolsAndFrameworks/3.1.2/server/workspace.
   Please enter the fully qualified name, including domain information, of the CAS server.
   :scan03vm0063-eoib1.us.oracle.com (or FQDN of Primary host)

2. Create service script /etc/init.d/endeca_cas on both primary and standby environment servers. See Sample Scripts for script contents.

3. Enable the service to run:
   chmod 755 /etc/init.d/endeca_cas
   chkconfig --add endeca_cas

4. To start, stop, and restart the Experience Manager CAS:
   sudo service endeca_cas start
   sudo service endeca_cas stop
   sudo service endeca_cas restart

5. To view the CAS log:
   /u01/app/oracle_atg/product/oracle_endeca/CAS/workspace/logs/cas-service.log

   See the Scripts section for Aliases to add to /home/oracle_atg/endeca_env file for ease of use.
3.10.5 Deploying the Commerce Platform CRS Application

1. Follow the steps in this document to deploy the CRS application to the Experience Manager server:
   http://docs.oracle.com/cd/E35319_01/CRS.10-2/ATGCRSInstall/html/o401appendixcreatingtheendecaapplic01.html

2. Copy the CRS application from the Commerce Platform installation at
   /u01/app/oracle_atg/product/atg/ATG10.2/CommerceReferenceStore/Store/Store
   front/deploy to /u01/app/oracle_atg/product/oracle_endeca/endeca/CRS on the
   Primary Endeca server.

3. Execute the following:

   ```
   cd $ENDECA_HOME/ToolsAndFrameworks/3.1.2/deployment_template/bin
   ./deploy.sh --app
   /u01/app/oracle_atg/product/oracle_endeca/endeca/CRS/deploy/deploy.xml
   ```

   Input required during installation (using all default port values, except the MDEX engines):

   ---------------------------------------------
   Found version 6.1 of the Endeca IAP installed in directory
   /u01/app/oracle_atg/product/oracle_endeca/endeca/PlatformServices/6.1.3. If either
   the version or location are incorrect, type 'Q' to quit and adjust your ENDECA_ROOT
   environment variable. Press enter to continue with these settings.
   Continue? y
   ---------------------------------------------
   Deployment Template installation script.
   This script creates the directory structure for your deployment and installs
   configuration files and scripts into the directory structure.
   /u01/app/oracle_atg/product/oracle_endeca/endeca/CRS/deploy/deploy.xml.
   /u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks/3.1.2/deployment_ 
   template/lib/../app-templates/base_descriptor.xml.
   ---------------------------------------------
   Enter a short name for your application.
   Note: The name must conform to this regular expression: ^[a-zA-Z0-9-]+$ [default: CRS]
   Choosing a different application name may require additional configuration on your
   web application.
   Application name: CRS
   ---------------------------------------------
   Specify the path into which the application will be deployed. The specified directory
   must exist and cannot contain spaces.
   For example, to deploy into /localdisk/apps/CRS, specify the path as /localdisk/apps.
   Deployment directory: /u01/app/oracle_atg/product/oracle_endeca/endeca/Apps
   ---------------------------------------------
   Specify the port on which the Endeca Application Controller is running. This is
   configured in the server.xml file in the workspace of the Endeca software install and
   should be the same for all applications deployed in this environment. Ports must be
   in the range 1024-65535 [default: 8888].
   EAC port: 8888
   06/25/2013 12:52:49 [deploy.pl] INFO: Deploying application into
   /u01/app/oracle_atg/product/oracle_endeca/endeca/Apps/CRS
   06/25/2013 12:52:49 [deploy.pl] INFO: Application was successfully deployed.
   /u01/app/oracle_atg/product/oracle_endeca/endeca/ToolsAndFrameworks/3.1.2/deployment_ 
   template/lib/../app-templates/base_descriptor.xml.
   ---------------------------------------------
   Please enter the CAS install directory using Unix-style forward slashes, including
   the version number (e.g. C:/Endeca/CAS/3.1.2).
   /u01/app/oracle_atg/product/oracle_endeca/endeca/CAS/3.1.2
   ```
Please enter the version for CAS jar files (or hit 'enter' to use the default).
[Default: 3.1.2]: [ENTER]

Please enter the hostname where CAS is running (or hit 'enter' to use the default).
[Default: localhost]: scan03vm0063-eoib1.us.oracle.com

Please enter the port where CAS is running (or hit 'enter' to use the default).
[Default: 8500]: [ENTER]

Please enter the language code to use (or hit 'enter' to use the default). [Default: en]: [ENTER]

Please enter the fully-qualified Workbench hostname, including domain.: scan03vm0063-eoib1.us.oracle.com

Please enter the preview hostname. [Default: localhost]: scan03vm0063-eoib1.us.oracle.com

Please enter the preview port number. Typical values are 7003 for WebLogic, 8080 for JBoss and Tomcat, and 9080 for WebSphere.: 7005

Please enter the context root of the preview application. [Default: crs]: crs

What port is the Workbench running? [Default: 8006]: [ENTER]

What port should be used for the Live Dgraph? [Default: 15000]: 15001

What port should be used for the Authoring Dgraph? [Default: 15002]: 15000

What port should be used for LogServer? [Default: 15010]: [ENTER]

When application deployment completes, execute the following:

cd /u01/app/oracle_atg/product/oracle_endeca/endeca/Apps/CRS/control
./initialize_services.sh

Configure the MDEX dgraph engines with 8 threads (one thread for each vCPU core),
by editing the

/u01/app/oracle_atg/product/oracle_endeca/endeca/Apps/CRS/config/script/DgraphDefaults.xml file, replacing:

<arg>--threads</arg>
<arg>2</arg>

with

<arg>--threads</arg>
<arg>8</arg>

Restart the dgraphs:

/u01/app/oracle_atg/product/oracle_endeca/endeca/Apps/CRS/control/runcommand.sh
LiveDgraphCluster stop
LiveDgraphCluster start
7. Run a Baseline Index from the Business Control Center's (BCC) admin UI
   by navigating to http://[BCC_HOSTNAME]:[BCC_PORT]/dyn/admin. Select
   Component Browser and navigate to the
   /atg/commerce/endeca/index/SimpleIndexingAdmin component and invoke the
   baselineIndex method at the bottom of the page. You can also run a BCC full
   deployment which should also run a baseline index.

8. From the server which has the Experience Manager CRS application installed, navigate
   similar to:
   
   cd /u01/app/oracle_atg/product/oracle_endeca/endeca/Apps/CRS/control
   ./promote_content.sh

9. Once completed, from the same location, execute the following:
    
    ./runcommand.sh DistributeIndexAndApply

This should deploy the content to the MDEX engines and restart them. At this point, the
Experience Manager-driven content should be viewable on the Commerce site.

3.11 Set up a Load Balancer
F5 BigIP was used for this implementation.

- Obtain an IP address for the virtual server

  > nslookup 10.133.56.192
  Server: 144.20.190.70
  Address: 144.20.190.70#53

  Non-authoritative answer:
  192.56.133.10.in-addr.arpa name = pd-bigip-scdc-loan01-vip01.us.oracle.com.

  > nslookup maaapps01
  Server: 144.20.190.70
  Address: 144.20.190.70#53

  maaapps01.us.oracle.com canonical name = pd-bigip-scdc-loan01-vip01.us.oracle.com.
  Name: pd-bigip-scdc-loan01-vip01.us.oracle.com
  Address: 10.133.56.192
Add the application tier nodes to the Nodes section of the Local Traffic manager.

Create an ATG HTTP monitor using a Send String of 'GET /crs/index.jsp HTTP/1.1\r\nHost: \r\nConnection: Close\r\n\r
' and a receive string of '200' OK'. This related to 5 article sol2167.
Create an ATG Pool

- Using the port mappings from the “Port mapping for WebLogic / ATG Applications” section to create the pools.

- Create a persistence profile
- Create the virtual server

**General Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>ATG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition/Path</td>
<td>Common</td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Standard</td>
</tr>
<tr>
<td>Destination</td>
<td>Type: Host</td>
</tr>
<tr>
<td></td>
<td>Address: 10.133.56.192</td>
</tr>
<tr>
<td>Service Port</td>
<td>7777 Other:</td>
</tr>
<tr>
<td>Link</td>
<td>None</td>
</tr>
<tr>
<td>Availability</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

**Configuration:**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>TCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>OneConnect Profile</td>
<td>None</td>
</tr>
<tr>
<td>NTLM Cern Pool</td>
<td>None</td>
</tr>
<tr>
<td>HTTP Profile</td>
<td>http</td>
</tr>
<tr>
<td>HTTP Compression Profile</td>
<td>None</td>
</tr>
<tr>
<td>Web Acceleration Profile</td>
<td>None</td>
</tr>
<tr>
<td>FTP Profile</td>
<td>None</td>
</tr>
</tbody>
</table>

**SSL Profile (Client):**

<table>
<thead>
<tr>
<th>Selected</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Common clientssl</td>
</tr>
<tr>
<td></td>
<td>clientssl-insecure-compatible</td>
</tr>
<tr>
<td></td>
<td>won-default-clientssl</td>
</tr>
</tbody>
</table>

**SSL Profile (Server):**

<table>
<thead>
<tr>
<th>Selected</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Common serverssl</td>
</tr>
<tr>
<td></td>
<td>serverssl-insecure-compatible</td>
</tr>
<tr>
<td></td>
<td>won-default-serverssl</td>
</tr>
</tbody>
</table>

**VLAN and Tunnel Traffic:**

| All VLANs and Tunnels   |

**SNAT Pool:**

| Auto Map |
• Repeat the process, creating a Virtual Server running at port 7779 to balance the 2 BCC managed servers and at port 9001 to balance the 2 Experience Manager MDEX dgraph engines.
4 Create the Standby Site

4.1 Install and Configure Exadata

In addition to the standard Exadata installation, see these papers for best practices:

- MAA Best Practices for Oracle Exadata Database Machine (technical white paper)
- Best Practices for Database Consolidation on Oracle Exadata Database Machine

The standard Exadata configuration was deployed on the primary site. The Exadata Database Machine at the standby site is an X3-2 quarter rack with high performance disks.

You should have the complete database hardware configuration at this stage from whoever ran the OneCommand utility.

The OS user, oracle_atg, and the Oracle software are installed per the environment detail at Test Environment Details.

Just as was done on the primary, the Commerce database is installed into its own ORACLE_HOME location, separate from where the OneCommand installed the initial database. Then the same software cloning procedure as in Section 3.2.

4.2 Create the physical Standby Database

See the Data Guard Concepts and Administration guide for complete details.

4.2.1 Prepare the Primary Database for Standby Creation

- Enable forced logging

  SQL> ALTER DATABASE FORCE LOGGING;
  Database altered.

- Add standby redo logs

  ALTER DATABASE ADD STANDBY LOGFILE THREAD 1 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 1 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 1 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 1 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 2 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 2 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 2 ('+FRA_ATG') size 2g;
  ALTER DATABASE ADD STANDBY LOGFILE THREAD 2 ('+FRA_ATG') size 2g;

  SQL> SELECT GROUP#, BYTES FROM V$LOG;

  GROUP#      BYTES
  ---------- ----------
  1 2147483648
  2 2147483648
  3 2147483648
  4 2147483648

  SQL> SELECT GROUP#, BYTES FROM V$STANDBY_LOG;

  GROUP#      BYTES
  ---------- ----------
• Add static SID entry to listener.ora on primary and standby

```
(SID_DESC =
 (GLOBAL_DBNAME = atgmaa_dgmgrl)
 (ORACLE_HOME = /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg)
 (SID_NAME = atgmaa1)
 (ENVS="TNS_ADMIN=/u01/app/oracle_atg/product/11.2.0.3/dbhome_atg/network/admin")
}
```

• Restart the listener on the primary and the standby

```
srvcctl stop listener
srvcctl start listener
```

• Add connect descriptors to tnsnames.ora on primary and standby

```
ATGMAA_scam02 =
 (DESCRIPTION =
 (ADDRESS = (PROTOCOL = TCP)(HOST = scam02-scan7)(PORT = 1521))
 (CONNECT_DATA =
 (SERVER = DEDICATED)
 (SERVICE_NAME = atgmaa))
)

ATGMAA_scam08 =
 (DESCRIPTION =
 (ADDRESS = (PROTOCOL = TCP)(HOST = scam08-scan3)(PORT = 1521))
 (CONNECT_DATA =
 (SERVER = DEDICATED)
 (SERVICE_NAME = atgmaa))
)

atgmaa_scam02_static =
 (DESCRIPTION =
 (ADDRESS =
 (PROTOCOL = TCP)
 (HOST =scam02db07)
 (PORT = 1521))
 (CONNECT_DATA =
 (SERVER = DEDICATED)
 (SID = atgmaa1))
)

atgmaa_scam08_static =
 (DESCRIPTION =
 (ADDRESS =
 (PROTOCOL = TCP)
 (HOST =scam08db03)
 (PORT = 1521))
 (CONNECT_DATA =
 (SERVER = DEDICATED)
 (SID = atgmaa1))
)
```
• Check and set Data Guard related parameters

• Run a SQL script similar to this to see the current settings

```sql
cat listDG.sql
select name||'='||value
from v$parameter
where name in ('db_name',
               'db_unique_name',
               'log_archive_config',
               'log_archive_dest_1',
               'log_archive_dest_2',
               'log_archive_dest_state_1',
               'log_archive_dest_state_2',
               'fal_server',
               'fal_client',
               'dg_broker_start',
               'REMOTE_LOGIN_PASSWORDFILE',
               'LOG_ARCHIVE_FORMAT',
               'LOG_ARCHIVE_MAX_PROCESSES')
order by 1;
```

```sql
SQL> @listDG
NAME||'='||VALUE
--------------------------------------------------------------------------------
db_name=atgmaa
db_unique_name=atgmaa
dg_broker_start=FALSE
fal_client=ATGMAA_scam02
fal_server=ATGMAA_scam08
log_archive_config=dg_config=(atgmaa_scam,atgmaa_scam08)
log_archive_dest_1=location=USE_DB_RECOVERY_FILE_DEST,valid_for=(ALL_LOGFILES,ALL_ROLES)
log_archive_dest_2=
log_archive_dest_state_1=enable
log_archive_dest_state_2=ENABLE
10 rows selected.
```

• Use the “alter system set <parameter_name>=<parameter_value>” command to set the parameters.

E.g. alter system set log_archive_dest_2='service=ATGMAA_scam08 LGWR ASYNC
valid_for=(ONLINE_LOGFILES,PRIMARY_ROLE)  db_unique_name=atgmaa_scam'

• Enable archive logging, flashback database and force logging

```bash
srvctl stop database -d atgmaa
sqlplus / as sysdba <<EOF
startup mount
alter database archivelog;
alter database flashback on;
alter database open;
alter database force logging;
EOF
srvctl start database -d atgmaa
```
4.2.2 Prepare the standby

- Copy the primary password file
  ```
  cd $ORACLE_HOME/dbs
  scp scam02db07:`pwd`/orapw* .
  ```

- Setup the init.ora file and environment
  ```
  cat initTMP.ora
  db_name=atgmaa
  db_unique_name=atgmaa_scam08
  sga_target=4G
  ```

```
[oracle_atg@scam08db03 dbs]$ eora
ORACLE_DB=atgmaa_scam08
ORACLE_SID=atgmaa1
ORACLE_BASE=/u01/app/oracle_atg
ORACLE_HOME=/u01/app/oracle_atg/product/11.2.0.3/dbhome_atg
```

- Startup nomount the standby
  ```
  [oracle_atg@scam08db03 dbs]$ sql
  SQL*Plus: Release 11.2.0.3.0 Production on Thu May 23 17:19:43 2013
  Copyright (c) 1982, 2011, Oracle. All rights reserved.
  Connected to an idle instance.

  SQL> startup nomount pfile='?/dbs/initTMP.ora'
  ```

- Check the current primary settings and reset if needed
  ```
  select name,value from v$parameter where name like '%convert%';
  ```

```
NAME
--------------------------------------------------------------------------------
VALUE
--------------------------------------------------------------------------------
db_file_name_convert
+DATA_SCAM08, +DATA_SCAM02, +RECO_SCAM08, +RECO_SCAM02
log_file_name_convert
+DATA_SCAM08, +DATA_SCAM02, +RECO_SCAM08, +RECO_SCAM02
```

- Should be set as follows on the primary:
  ```
  alter system set db_file_name_convert='<primary data disk group>', '<standby data disk group>', '<primary reco disk group>', '<standby reco disk group>' scope=spfile;
  alter system set log_file_name_convert '<primary data disk group>', '<standby data disk group>', '<primary reco disk group>', '<standby reco disk group>' scope=spfile;
  ```

  e.g.
  ```
  alter system set 
  db_file_name_convert='+DATA_SCAM02', '+DATA_SCAM08', '+RECO_SCAM02', '+RECO_SCAM08' 
  scope=spfile;
  alter system set 
  log_file_name_convert='+DATA_SCAM02', '+DATA_SCAM08', '+RECO_SCAM02', '+RECO_SCAM08' 
  scope=spfile;
  ```
4.2.3 Create the standby using RMAN Duplicate

- Run “RMAN Duplicate” on the primary to create the remote standby database.

```bash
export NLS_LANG=American_America.UTF8
export NLS_DATE_FORMAT="MM/DD/YYYY HH24:MI:SS"

rman target / auxiliary sys/welcome1@atgmaa_scam08_STATIC | tee -a rmanDupStbyLog_'date +Y%m%d_%H%M%S'.log
```

Recovery Manager: Release 11.2.0.3.0 - Production on Tue Jan 15 14:51:26 2013

Copyright (c) 1982, 2011, Oracle and/or its affiliates. All rights reserved.

connected to target database: ATGMAA (DBID=1051405088)
connected to auxiliary database: ATGMAA (not mounted)

RMAN>
run {
    allocate channel prmy1 type disk;
    allocate channel prmy2 type disk;
    allocate channel prmy3 type disk;
    allocate channel prmy4 type disk;
    allocate auxiliary channel stby type disk;

    duplicate target database for standby from active database spfile
        set cluster_database='false'
        set db_unique_name='atgmaa_scam08'
        set db_create_file_dest='+DATA_SCAM08'
        set db_recovery_file_dest='+RECO_SCAM08'
        set log_archive_max_processes='5'
        set fal_client='ATGMAA_scam08'
        set fal_server='ATGMAA_scam02'
        set standby_file_management='AUTO'
        set log_archive_config='dg_config=(atgmaa,atgmaa_scam)' set log_archive_dest_2='service=ATGMAA_scam02 LGWR ASYNC
valid_for=(ONLINE_LOGFILES,PRIMARY_ROLE) db_unique_name=atgmaa'
        set remote_listener='scam08-scan3:1521'
        set listener_networks=''
        nofilenamecheck
    }
}
```

4.2.4 Complete Standby Post “RMAN Duplicate” Steps

At this stage the new standby database is mounted.

- Create the database spfile in ASM

Note that the second location in the ASM directory specification is the same as the standby database DB_UNIQUE_NAME parameter setting, ATGMAA_SCAM08.

```sql
SQL> create pfile='/tmp/pfile' from spfile;
File created.

SQL> create spfile='+data_scam08/ATGMAA_SCAM08/parameterfile/spfileatgmaa1.ora' from pfile='/tmp/pfile';
File created.
```
- Create the database startup file
  ```
cat $ORACLE_HOME/dbs/initatgmaa1.ora
SPFILE='+DATA_SCAM08/atgmaa/spfileatgmaa.ora'
  ```

- Add the database to the RAC Cluster Registry (OCR)
  ```
srvctl add database -d atgmaa_scam08 -o /u01/app/oracle_atg/product/11.2.0.3/dbhome_atg -a "DATA_SCAM08,RECO_SCAM08"
srvctl add instance -d atgmaa_scam08 -i atgmaa1 -n scam08db03
srvctl add instance -d atgmaa_scam08 -i atgmaa2 -n scam08db04
  ```

- Setup instance 2 and the other RAC node
  ```
  [oracle_atg@scam08db04 dbs]$ scp scam08db03:`pwd`/initatgmaa1.ora initatgmaa2.ora
  oracle_atg@scam08db03's password: <hidden>
  [oracle_atg@scam08db04 dbs]$ scp scam08db03:`pwd`/orapwatgmaa1 orapwatgmaa2
  oracle_atg@scam08db03's password: <hidden>
  ```

- Remove the RMAN generated spfile on the standby
  ```
  [oracle_atg@scam08db03 dbs]$ rm $ORACLE_HOME/dbs/spfileatgmaa1.ora
  ```

- Mount the standby
  This will pick up the new spfile from ASM now.
  ```
  SQL> shutdown abort
  srvctl start database -d atgmaa_scam08 -o mount
  srvctl status database -d atgmaa_scam08
  Instance atgmaa1 is running on node scam08db03
  Instance atgmaa2 is running on node scam08db04
  ```

- Enable Oracle RAC for the next startup
  ```
  SQL> alter system set cluster_database=true scope=spfile;
  ```

- Set conversion parameters
  ```
  alter system set db_file_name_convert='<primary data disk group>', '<standby data disk group>', '<primary recovery disk group>', '<standby recovery disk group>' scope=spfile;
  alter system set log_file_name_convert='+DATA_SCAM02', '+DATA_SCAM08', '+RECO_SCAM02', '+RECO_SCAM08' scope=spfile;
  e.g.
  alter system set db_file_name_convert='+DATA_SCAM02', '+DATA_SCAM08', '+RECO_SCAM02', '+RECO_SCAM08' scope=spfile;
  alter system set log_file_name_convert='+DATA_SCAM02', '+DATA_SCAM08', '+RECO_SCAM02', '+RECO_SCAM08' scope=spfile;
  ```

  System altered.
• Drop extra multiplexed SRLs from +DATA* that are created

    set pages 0 head off feedback off lines 150 echo off termout off verify off
    select 'alter database drop standby logfile member ' || chr(39) || member || chr(39) || ';' from v$logfile
    where type='STANDBY'
    and member like '+DATA%'

    spool dropSRL.sql
    /
    spool off

    # cat dropSRL.sql
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_5.1148.804854425';
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_6.1149.804854427';
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_7.1150.804854431';
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_8.1151.804854435';
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_9.1152.804854439';
    alter database drop standby logfile member '+DATA_SCAM08/atgmaa_scam08/onlinelog/group_11.1151.804854445';

    @dropSRL

• May need to do the following if an SRL is active:

    SQL> alter system set standby_file_management='MANUAL' ;
    System altered.
    alter database clear logfile group n;

• Then re-execute the "alter database drop standby logfile member ..." command(s) that failed

    SQL>alter system set standby_file_management='AUTO' ;
    System altered.

• If the “alter database drop standby logfile member” commands still fail then defer redo transport on the primary:

    alter system set log_Archive_Dest_state_2=defer

    ...then re-execute the "alter database drop standby logfile member ..." command(s) that failed. If the extra SRLs in the DATA diskgroup do not get dropped it’s not critical and you can proceed on.

• Re-enable redo transport from the primary

    alter system set log_Archive_Dest_state_2=defer

4.3 Create the role-based services

• As user oracle_atg on scam02db07 (the standby)

    srvctl add service -d atgmaa -s atgsvc -r atgmaa1,atgmaa2 -l PRIMARY -q FALSE -e NONE -m NONE -w 0 -z 0
    srvctl add service -d atgmaa -s atgsvc_tst -r atgmaa1,atgmaa2 -l SNAPSHOT_STANDBY -q FALSE -e NONE -m NONE -w 0 -z 0
    srvctl add service -d atgmaa_stby -s atgsvc_stby -r atgmaa1,atgmaa2 -l PHYSICAL_STANDBY -q FALSE -e NONE -m NONE -w 0 -z 0
- The standby services were started and stopped on the primary so that the service definitions are created in the database and then synchronized to the standby. As user oracle_atg on scam02db07:

```
srvctl start service -d atgmaa -s atgsvc
srvctl stop service -d atgmaa -s atgsvc
srvctl start service -d atgmaa -s atgsvc_tst
srvctl stop service -d atgmaa -s atgsvc_tst
srvctl start service -d atgmaa -s atgsvc_stby
srvctl stop service -d atgmaa -s atgsvc_stby
```

4.4 Test redo log transport

- Verify the primary and standby database Data Guard related parameter settings.

Use a script similar to the one used earlier:

```
cat listDG.sql
select name||'='||value
from v$parameter
where name in ('db_name',
               'db_unique_name',
               'log_archive_config',
               'log_archive_dest_1',
               'log_archive_dest_state_1',
               'log_archive_dest_2',
               'log_archive_dest_state_2',
               'fal_server',
               'fal_client',
               'dg_broker_start',
               'REMOTE_LOGIN_PASSWORDFILE',
               'LOG_ARCHIVE_FORMAT',
               'LOG_ARCHIVE_MAX_PROCESSES')
order by 1;
```

```
SQL> @listDG
NAME||'='||VALUE
--------------------------------------------------------------------------------
db_name=atgmaa
db_unique_name=atgmaa
dg_broker_start=FALSE
fal_client=ATGMAA_scam02
fal_server=ATGMAA_scam08
log_archive_config=dg_config=(atgmaa_scam,atgmaa_scam08)
log_archive_dest_1=location=USE_DB_RECOVERY_FILE_DEST,valid_for=(ALL_LOGFILES,ALL_ROLES)
log_archive_dest_2=log_archive_dest=atgmaa_scam08
log_archive_dest_state_1=enable
log_archive_dest_state_2=ENABLE
10 rows selected.
```

- Start managed recovery on the standby database

- Ensure the standby is mounted

```
SQL> shutdown abort
srvctl start database -d atgmaa_scam08 -o mount
srvctl status database -d atgmaa_scam08
```

Instance atgmaa1 is running on node scam08db03
Instance atgmaa2 is running on node scam08db04
• Start managed recovery on the standby

While monitoring the primary and standby database alert logs start managed recovery with the command:
recover managed standby database through all switchover using current logfile disconnect

• While continuing to monitor the database alert logs on the primary and the standby switch redo logs on the primary
alter system archive log current;

You should see messages on the primary similar to this:

Mon Sep 23 12:11:20 2013
ALTER SYSTEM ARCHIVE LOG
Mon Sep 23 12:11:21 2013
Thread 1 advanced to log sequence 11 (LGWR switch)
  Current log# 1 seq# 11 mem# 0: +DATA_SCAM02/atgmaa_scam/onlinelog/group_1.283.800092133
  Current log# 1 seq# 11 mem# 1: +RECO_SCAM02/atgmaa_scam/onlinelog/group_1.260.800092135
Mon Sep 23 12:11:22 2013
LNS: Standby redo logfile selected for thread 1 sequence 11 for destination
LOG_ARCHIVE_DEST_2

And on the standby alert log omething like thi

Mon Sep 23 12:11:22 2013
Media Recovery Log
+RECO_SCAM08/atgmaa_scam08/archivelog/2013_09_23/thread_1_seq_10.1084.826891883
Media Recovery Waiting for thread 1 sequence 11 (in transit)
Recovery of Online Redo Log: Thread 1 Group 5 Seq 11 Reading mem 0
  Mem# 0: +DATA_SCAM08/atgmaa_scam08/onlinelog/group_5.1036.826884085
  Mem# 1: +RECO_SCAM08/atgmaa_scam08/onlinelog/group_5.2181.826884087

You should see messages on the standby similar to this:

Mon Sep 23 12:11:22 2013
Media Recovery Log
+RECO_SCAM08/atgmaa_scam08/archivelog/2013_09_23/thread_1_seq_10.1084.826891883
Media Recovery Waiting for thread 1 sequence 11 (in transit)
Recovery of Online Redo Log: Thread 1 Group 5 Seq 11 Reading mem 0
  Mem# 0: +DATA_SCAM08/atgmaa_scam08/onlinelog/group_5.1036.826884085
  Mem# 1: +RECO_SCAM08/atgmaa_scam08/onlinelog/group_5.2181.826884087

4.5 Setup the Database best practices

Ensure that the MAA database best practices are implemented.

4.6 Enable Flashback Database on Standby

As user oracle_atg on scam08db03:
sqlplus / as sysdba <<EOF
recover managed standby database cancel
alter database flashback on;
EOF

4.7 Configure and Start Data Guard Broker

• On Primary and Standby as user oracle_atg:
  • Primary:
  alter system set dg_broker_config_file1=’+DATA_SCAM02/atgmaa_scam/dr1.dat’ scope=both;
  alter system set dg_broker_config_file2=’+DATA_SCAM02/atgmaa_scam/dr2.dat’ scope=both;
  alter system set dg_broker_start=true scope=both;
• Standby:
  alter system set dg_broker_config_file1='+DATA_SCAM08/atgmaa_scmap08/dr1.dat' scope=both;
  alter system set dg_broker_config_file2='+DATA_SCAM08/atgmaa_scmap08/dr2.dat' scope=both;
  alter system set dg_broker_start=true scope=both;

• On Primary as user oracle_atg:
  dgmgrl sys/WELCOME1
  create configuration 'atg_dg' as
  primary database is 'atgmaa'
  connect identifier is ATGMAA_scmap02;
  add database 'atgmaa_scmap' as
  connect identifier is ATGMAA_scmap08
  maintained as physical;
  enable configuration;

4.8 Validate Standby Operation

dgmgrl -silent << EOF
show configuration verbose;
show database atgmaa_scmap
show database atgmaa_scmap08
EOF

Properties:
FastStartFailoverThreshold      = '30'
OperationTimeout                = '30'
FastStartFailoverLagLimit       = '30'
CommunicationTimeout            = '180'
FastStartFailoverAutoReinstate  = 'TRUE'
BystandersFollowRoleChange      = 'ALL'

Fast-Start Failover: DISABLED

Configuration Status:
SUCCESS

[oracle_atg@scmap02db02 ~]$ dgmgrl -silent / <<EOF
> show configuration verbose;
> show database atgmaa_scmap
> show database atgmaa_scmap08
> EOF

Configuration - atg_dg
Configuration - atg_dg

Protection Mode: MaxPerformance
Databases:
  atgmaa      - Primary database
  atgmaa_scmap - Physical standby database

Protection Mode: MaxPerformance
Databases:
  atgmaa      - Primary database
  atgmaa_scmap - Physical standby database

Properties:
FastStartFailoverThreshold      = '30'
OperationTimeout                = '30'
FastStartFailoverLagLimit       = '30'
CommunicationTimeout            = '180'
FastStartFailoverAutoReinstate  = 'TRUE'
FastStartFailoverPmyShutdown = 'TRUE'
BystandersFollowRoleChange = 'ALL'

Fast-Start Failover: DISABLED
Configuration Status: SUCCESS

Database - atgmaa_scam
Role: PRIMARY
Intended State: TRANSPORT-ON
Instance(s):
  atgmaa1
  atgmaa2

Database Status: SUCCESS

Database - atgmaa_scam08
Role: PHYSICAL STANDBY
Intended State: APPLY-ON
Transport Lag: 0 seconds
Apply Lag: 0 seconds
Real Time Query: OFF
Instance(s):
  atgmaa1 (apply instance)
  atgmaa2

Database Status: SUCCESS

4.9 Install Exalogic

- Review the Oracle Fusion Middleware Exalogic Enterprise Deployment Guide
- See mainly chapter 3 Network, Storage, and Database Preconfiguration

4.10 Setup ZFS Replication for Applications Tier DR

4.10.1 Configure replication for the Project

- Ensure the replication service is setup
- Go to Configuration / Services and verify that the Replication service is online
• Add the replication target if necessary
• Click on the replication service in the above screen
• Ensure you choose the virtual host that floats to the active ZFS clustered head
• Turn on replication for the Project

![Edit Replication Action](image)

4.10.2 Verify the shares are being replicated
• Log on to the target ZFS and look at replicas

4.11 Create Exalogic Virtual Servers
Just as in “Create Exalogic Virtual Servers” will create disaster recovery vServers for the primary Servers.

See the [Oracle Exalogic Elastic Cloud Administrator’s Guide](#) for complete details. At this stage any necessary users and roles are created.

Login to the Enterprise Manager Ops Center (EMOC) as the vDC owner and follow these steps:
• Create Exalogic vServer types
• Create Exalogic distribution groups.
4.12 Disaster Recovery Host Aliasing

In a Disaster Recovery topology, the production site host names must be resolvable to the IP addresses of the corresponding peer systems at the standby site. Therefore, it is important to plan the host names for the production site and standby site. After a role transition (failover or switchover) from a primary site to a standby site, the alias host names for the application tier hosts on the standby site become active. You do not need to reconfigure hostnames for the hosts on the standby site because you setup aliases on the standby site.

Also see Network Considerations and Planning Host Names in the Oracle® Fusion Middleware Disaster Recovery Guide.

How the host alias setup is done depends on whether your DNS configuration is separate (where the production site and the standby site have their own DNS servers) or you have a single global DNS server. For examples of each see Section 3.1.1.3, "Resolving Host Names Using Separate DNS Servers" and Section 3.1.1.4, "Resolving Host Names Using a Global DNS Server" in the Oracle® Fusion Middleware Disaster Recovery Guide.

In this case study a single(global) DNS server is in use so the disaster recovery site /etc/hosts files had to be updated with host aliases as detailed in Table 4-2 Standby Site IP Addresses & Hosts. Note that for Commerce Platform, the ordering of the host name in the /etc/hosts file is important and the primary fully qualified hostname must be first. This ordering is a requirement of the Commerce Platform Scenario Manager, Internal Scenario Manager and Workflow Process Manager.

Table 4-1 Primary Site IP Addresses & Hosts

<table>
<thead>
<tr>
<th>IP</th>
<th>Host Name</th>
<th>Alias Host</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.133.49.181</td>
<td>scae01ec2-vip1</td>
<td>None</td>
<td>WLS Admin Server VIP</td>
</tr>
<tr>
<td>10.133.49.25</td>
<td>scan03vm0059-eoib1</td>
<td>None</td>
<td>WLS Admin ATG1</td>
</tr>
<tr>
<td>10.133.49.26</td>
<td>scan03vm0060-eoib1</td>
<td>None</td>
<td>ATG2</td>
</tr>
<tr>
<td>10.133.49.36</td>
<td>scan03vm0061-eoib1</td>
<td>None</td>
<td>ATG3</td>
</tr>
<tr>
<td>10.133.49.37</td>
<td>scan03vm0062-eoib1</td>
<td>None</td>
<td>ATG4</td>
</tr>
<tr>
<td>10.133.49.27</td>
<td>scan03vm0063-eoib1</td>
<td>None</td>
<td>Endeca1</td>
</tr>
<tr>
<td>10.133.49.28</td>
<td>scan03vm0064-eoib1</td>
<td>None</td>
<td>Endeca2</td>
</tr>
</tbody>
</table>
Table 4-2 Standby Site IP Addresses & Hosts

<table>
<thead>
<tr>
<th>IP</th>
<th>Host Name</th>
<th>Alias Host</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.133.49.181</td>
<td>scae01ec2-vip1</td>
<td>scae01ec2-vip1</td>
<td>WLS Admin Server VIP</td>
</tr>
<tr>
<td>10.133.219.197</td>
<td>scan04cn21</td>
<td>scan03vm0059-eoib1</td>
<td>WLS Admin Server VIP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>scan03vm0063-eoib1</td>
<td>ATG1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>scae01ec2-vip1</td>
<td>Endeca1</td>
</tr>
<tr>
<td>10.133.219.198</td>
<td>scan04cn22</td>
<td>scan03vm0060-eoib1</td>
<td>ATG2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>scan03vm0064-eoib1</td>
<td>Endeca2</td>
</tr>
<tr>
<td>10.133.219.199</td>
<td>scan04cn23</td>
<td>scan03vm0061-eoib1</td>
<td>ATG3</td>
</tr>
<tr>
<td>10.133.219.200</td>
<td>scan04cn24</td>
<td>scan03vm0062-eoib1</td>
<td>ATG4</td>
</tr>
</tbody>
</table>

4.12.1 Sample DR /etc/hosts

```
#Host Listing for Oracle Commerce Failover
10.133.219.197 scan03vm0059-eoib1.us.oracle.com scan03vm0063-eoib1.us.oracle.com scan04cn21.us.oracle.com scan04cn21 scan03vm0059-eoib1 scan03vm0063-eoib1 scan03vm0063-eoib1.us.oracle.com scan03vm0063-eoib1
10.133.219.198 scan03vm0060-eoib1.us.oracle.com scan03vm0064-eoib1.us.oracle.com scan04cn22.us.oracle.com scan04cn22 scan03vm0060-eoib1 scan03vm0064-eoib1 scan03vm0064-eoib1.us.oracle.com scan03vm0064-eoib1
10.133.219.199 scan03vm0061-eoib1.us.oracle.com scan04cn23.us.oracle.com scan04cn23 scan03vm0061-eoib1
10.133.219.200 scan03vm0062-eoib1.us.oracle.com scan04cn24.us.oracle.com scan04cn24 scan03vm0062-eoib1

# For ATG Commerce WLS Admin Server VIP
10.133.219.197 scae01ec2-vip1.us.oracle.com scae01ec2-vip1
```

4.13 Update DR hosts with ZFS replica mount points

On the application tier need to ensure that the primary replicated file systems are used on the corresponding nodes in preparation for role transitions. Update the /etc/fstab to match the primary settings.

4.14 Set the DR WebLogic Environment Variables

See [Set the WebLogic Environment Variables](#).

4.15 Setup the Standby Load Balancer

The F5 load balancer on site 2 was configured in the same way as site 1. See “[Set up a Load Balancer](#)”.
5 Site Test

The key elements for the Site test are:

- The F5 load balancer on site 2 was configured in the same way as site 1.
- The standby site has host aliases.
- The GridLink data sources point to the new snapshot standby database service.

5.1 Create an alternate set of WLS JDBC files

In preparation for the Site Test, create a set of JDBC files that will use the snapshot standby database service, `atgsvc_tst`. These will be used via the ZFS replication and the Site Test ZFS clone.

- On the primary WLS Admin server, navigate to `$WL_DOMAIN_HOME` (`/u01/app/wls/atgDomain/atg/atg_domain`) on the scan03vm0039-eoiib1 server and copy all files in the jdbc directory, as new IDs (repeat with each of the 4 JDBC files):
  
  ```
  cp GridLink_ATGProductionDS-0829-jdbc.xml GridLink_ATGProductionDS-0904-jdbc.xml
  ```

- Edit the newly created files, replacing the service_name in the `<url>` tag of atgsvc, with the snapshot standby service_name, `atgsvc_tst`:

  ```
  <url>jdbc:oracle:thin:@(DESCRIPTION=(FAILOVER=on)(CONNECT_TIMEOUT=1)(TRANSPORT_CONNECT_TIMEO
UT=1)(RETRY_COUNT=3) (ADDRESS_LIST=(LOAD_BALANCE=on) (ADDRESS=(PROTOCOL=TCP) (HOST=scan02-
scan7) (PORT=1521)) (ADDRESS=(PROTOCOL=TCP) (HOST=scan08-
scan3) (PORT=1521))) (CONNECT_DATA=(SERVER=DEDICATED) (SERVICE_NAME=atgsvc_tst)))</url>
  ```

- Copy the Admin `$WL_DOMAIN_HOME/config/config.xml` as `$WL_DOMAIN_HOME/config/config.xml/stby`:

  ```
  cp /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml
  /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml.stby
  ```

- Edit the `/u01/app/wls/atgDomain/admin/atg_domain/config/config.xml.stby`, replacing the Production JDBC config files with the standby config files:

  ```
  <jdbc-system-resource>
  <name>GridLink_ATGProductionDS</name>
  <target>CRS-Cluster,scan03vm0059-eoiib1-slm01,scan03vm0060-eoiib1-slm01,scan03vm0059-eoiib1-
bcc01,scan03vm0060-eoiib1-bcc01</target>
  <descriptor-file-name>jdbc/GridLink_ATGProductionDS-0904-jdbc.xml</descriptor-file-name>
  </jdbc-system-resource>
  ```

  ```
  <jdbc-system-resource>
  <name>GridLink_ATGPublishingDS</name>
  <target>scan03vm0059-eoiib1-bcc01,scan03vm0060-eoiib1-bcc01</target>
  <descriptor-file-name>jdbc/GridLink_ATGPublishingDS-0904-jdbc.xml</descriptor-file-name>
  </jdbc-system-resource>
  ```

  ```
  <jdbc-system-resource>
  <name>GridLink_ATGSwitchingDS_A</name>
  <target>CRS-Cluster,scan03vm0059-eoiib1-bcc01,scan03vm0060-eoiib1-bcc01</target>
  <descriptor-file-name>jdbc/GridLink_ATGSwitchingDS_A-0904-jdbc.xml</descriptor-file-name>
  ```
5.2 Convert the Standby Database to a Snapshot Standby

Use Data Guard Broker to convert the standby database to a snapshot standby, for example:

dgmgrl sys/welcome1 <<EOF
  convert database atgmaa_scam to snapshot standby
EOF

The database service that was configured for snapshot standby mode (atgsvc_tst) under “Create the role-based services” will be started automatically.

5.3 Create a File System Clone

- Log into ZFS BUI on standby
- Select the REPLICA project, for example “scan03sn01: ATG”
- Hit the "Replication" tab
- Hit the "Clone most recently received project snapshot" icon (labeled with the + sign)
- Enter the new project name, for example “ATG_tst”
- Enter an override mount point “/export/ATG_tst”
- Hit CONTINUE
- Select the new LOCAL project - ATG_tst

5.4 Mount the WLS and Commerce File System Clone

- On each Commerce server, edit the /etc/fstab to point to the cloned file system and mount on the appropriate mount point, replacing /export/ATG with /export/ATG_tst, for example:

  172.17.0.9:/export/ATG_tst /u01/app/oracle_atg/product/fmw nfs4
  rw,bg,hard,nointr,rsize=131072,wsize=131072

- We have accomplished this, by creating an alternate fstab file, which contains the cloned share mount points, and swapping it when required.

  mv /etc/fstab /etc/fstab.orig
  mv /etc/fstab.stby /etc/fstab
• As root, umount the file old systems and mount the new file systems:

```bash
umount /u01/app/wls/atgDomain/admin
umount /u01/app/oracle_atg/product/fmw
umount /u01/app/wls/atgDomain/atg
umount /u01/app/oracle_atg/data
mount /u01/app/wls/atgDomain/admin
mount /u01/app/oracle_atg/product/fmw
mount /u01/app/wls/atgDomain/atg
mount /u01/app/oracle_atg/data
```

*Note, the same mount points are used as for primary operation and so the Commerce configuration does not need to be changed.

5.5 Change the WLS config.xml

• Change the WLS config.xml to the Alternate Standby Version that was previously created in Section 5.1 Create an alternate set of WLS JDBC files.

```bash
cp /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml.orig
cp /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml.stby /u01/app/wls/atgDomain/admin/atg_domain/config/config.xml
```

5.6 Failover and start the WLS Admin listen address

• Create a host alias. Add the following line to /etc/hosts on the standby WLS Administration node (scan04cn21):

```bash
10.133.219.197 scae01ec2-vip1.us.oracle.com scae01ec2-vip1
```

(where 10.133.219.197 is the IP address of scan04cn21)

5.7 Commerce Platform Startup and Test

• Start up the Commerce Platform applications using the regular process.

• Commerce application testing can now begin.
6  Site Test to Standby

6.1 Shutdown Commerce applications

- Shut down Commerce applications on the standby site using the regular process.

6.2 Convert the Standby to a Physical Standby

- Use the Data Guard Broker to convert the snapshot standby database to a physical standby, for example:

  ```
  dgmgrl sys/welcome1 <<EOF
  convert database atgmaa_scam to physical standby
  EOF
  ```

6.3 Unmount the File Systems

- As root, unmount the cloned Commerce File System used for testing on each server, for example:

  ```
  umount /u01/app/oracle_atg/product/fmw
  ```

- So that we are ready for primary operation when necessary, restore the original `/etc/fstab` file on each server:

  ```
  mv /etc/fstab.orig /etc/fstab
  ```

  *Note: There is no need to attempt to mount the file system at this time.

6.4 Remove the Clone of the Commerce File System Replica

- Log into ZFS BUI on the standby site
- Select the LOCAL project, for example “ATG_tst”
- Confirm that you have the correct project
- Hit the "Remove of Destroy Entry" trash can icon
- Hit OK to confirm
7 Site Switchover

7.1 Shutdown Commerce Applications on Primary Site
- Shutdown all Commerce applications using the standard procedure and unmount all ZFS file systems, eg:
  umount /u01/app/oracle_atg/product/fmw

7.2 Perform Database Switchover
- Use Data Guard Broker to perform the database switchover, for example:
  
dgmgrl sys/welcome1 <<EOF
  switchover to atgma_scam
  EOF

7.3 Stop Commerce File System Replication at Source
- Login to the ZFSSA BUI on the old primary (source) site.
- Locate the Commerce File System project, for example ATG.
- Navigate to the “Replication” tab and confirm that replication is up-to-date – the “Last Sync” time should be later than when the Commerce File System was dismounted.
- Click the “Enable/disable action” button to disable replication, and wait for the “STATUS” column to indicate a status of “disabled”.

7.4 Perform Commerce File System Role Reversal at Target
- Login to the ZFSSA BUI on the new primary site.
- Locate the replica project on the standby (target) site, for example scan03sn01:ATG.
- Navigate to the Replication tab and confirm that replication is up-to-date – the “Last Sync” time should be later than when the Commerce File System was dismounted on the old primary site.
- Click the “Reverse Direction of Replication” button.
- Enter the new project name “ATG”.
- Configure the project so the ATG Servers have access.

7.5 Mount the Commerce File System
This procedure should be performed on each Commerce Server.
- As root, make sure the current Commerce File System is not mounted, for example:
  umount /u01/app/oracle_atg/product/fmw
• Check the `/etc/fstab` file to confirm that the server is mounting the Commerce File System from the primary export (`/export/ATG`), for example:

```
172.17.0.9:/export/ATG/WLSbin1 /u01/app/oracle_atg/product/fmw nfs4
rw,rsize=131072,wsize=131072,bg,hard,timeo=600
```

• As root, mount the Commerce file System. Note, the mount points, e.g. `/u01/app/oracle_atg/product/fmw`, do not change and so the ATG configuration does not need to be changed.

### 7.6 Startup Commerce Apps as Prod on new primary site

• Use the standard procedure to start all Commerce applications

### 7.7 Start File System Replication to New Standby Site

• Login to the ZFSSA BUI on the new primary site.
• Locate the Commerce File System project, for example ATG.
• Navigate to the Replication tab and click the “Edit Entry” button.
• Enable the “Send Updates: Continuous” radio button and hit the “Apply” button.
• Wait until the sync completes and the “Last Sync” time is updated.

### 7.8 Delete Old Commerce File System Project

It is important to delete the old Commerce File System project after the switchover so that a subsequent switchover or failover will not be slowed down by this work. To clean up:

• Login to the ZFSSA BUI on the old primary (new standby) site.
• Locate the Commerce File System project, for example ATG.
• Confirm that there are no shares in this project.
• Delete the project.

### 7.9 Switch to the standby load balancer

At this stage you would also activate the standby site load balancer. Using a global traffic manager is beyond the scope of this paper, but a good reference is the Enterprise Manager 12c Cloud Control: Configuring OMS Disaster Recovery with F5 BIG-IP Global Traffic Manager paper.
8 Site Failover

8.1 Perform Database Failover

- This activity can be performed in parallel with the Commerce File System Role Reversal. Using Data Guard Broker the database failover was performed, for example:

```
dgmgrl sys/welcome1 <<EOF
failover to atgmaa_scam
EOF
```

8.2 Perform Commerce File System Role Reversal

This activity could be performed in parallel with the database failover. The following steps were performed:

- Login to the ZFSSA BUI on the new primary site.
- Locate the replica project on the standby (target) site, for example scan03sn01:ATG.
- Navigate to the Replication tab and make a note of the “Last Sync” time.
- Click the “Reverse Direction of Replication” button.
- Enter the new project name “ATG”.
- Configure the project so the Commerce Servers have access.

8.3 Mount the Commerce File System

This procedure was performed on all Commerce application servers.

- As root, make sure the current Commerce File System is not mounted.
- Check the `/etc/fstab` file to confirm that the server is mounting the File System from the primary export (`/export/ATG`), for example:

```
172.17.0.9:/export/ATG/WLSData /u01/app/oracle_atg/data nfs4
rw,rsize=131072,wsize=131072,bg,hard,timeo=600
```
- As root, mount the Commerce File System.

*Note, the mount point does not change and so the Commerce configuration does not need to be changed.

8.4 Startup Commerce Apps as Prod on new primary site

- Use the standard procedure to start all Commerce applications

8.5 Switch to the standby load balancer

At this stage you would also activate the standby site load balancer. Using a global traffic manager is beyond the scope of this paper, but a good reference is the [Enterprise Manager 12c Cloud Control: Configuring OMS Disaster Recovery with F5 BIG-IP Global Traffic Manager](#) paper.
9 Reinstate

9.1 Perform database reinstate

- Startup one database instance on the new standby (old primary) site:
  
  \texttt{srvctl start instance -d atgmaa -i atgmaa1}

- Use Data Guard Broker to reinstate the old primary as a physical standby database:
  
  \begin{verbatim}
  dgmgrl sys/welcome1 <<EOF
  reinstate database atgmaa
  EOF
  \end{verbatim}

- If flashback database is not on then see
  
  \url{http://docs.oracle.com/cd/E11882_01/server.112/e41134/scenarios.htm#BACJCDGH}

9.2 Start Commerce File System Replication to Standby Site

- Login to the ZFSSA BUI on the new primary site.
- Locate the Commerce File System project, for example ATG.
- Navigate to the Replication tab and click the “Edit Entry” button.
- Enable the “Send Updates: Continuous” radio button and hit the “Apply” button.
- Wait until the sync completes and the “Last Sync” time is updated.

9.3 Delete Old Commerce File System Project

It is important to delete the old Commerce File System project after the switchover so that a subsequent switchover or failover will not be slowed down by this clutter. To clean up:

- Login to the ZFSSA BUI on the new standby site.
- Locate the Commerce File System project, for example ATG.
- Confirm that there are no shares in this project.
- Delete the project.
10 WLS Administration Server Failover

This step assumes that the WLS Adminitration server is down, including the VIP. On the new WS Administration Sever:

- Verify th VIP is down
  
  ping scae01ec2-vip1

- Mount the shared file system necessary to start the WLS Adminitration server. The required file systems are:
  
  /u01/app/wls/atgDomain/admin
  /u01/app/oracle_atg/product/fmw

- Start the VIP
  
  ifconfig bond0:1 10.133.49.181 netmask 255.255.248.0
  /sbin/arping -q -U -c 3 -I bond0 10.133.49.181

- Ping 10.133.49.181 or scae01ec2-vip1 from another host to ensure it is active and plumbed on the interface

- Start the WLS Admin server using the previously installed script.
  
  sudo service wls_admin start
11 Enable Active Data Guard for Read-Only Reporting

- View whether the standby database is mounted:
  - As user oracle_atg, execute sqlplus / as sys
  - Check to make sure database isn't mounted
  ```sql
  SQL> select db_unique_name,open_mode from v$database;
  DB_UNIQUE_NAME OPEN_MODE
  ---------------- -------------
  atgmaa_scam08 MOUNTED
  ```
- If database is mounted, you need to stop mrp and then open in read-only
  ```sql
  SQL> alter database recover managed standby database cancel;
  Database altered.
  SQL> !ps -ef|grep mrp
  1013 98993 98912 0 13:12 pts/3 00:00:00 /bin/bash -c ps -ef|grep mrp
  1013 98995 98993 0 13:12 pts/3 00:00:00 grep mrp
  ```
- Open database in read-only
  ```sql
  SQL> alter database open ;
  Database altered.
  SQL> select db_unique_name,open_mode from v$database;
  DB_UNIQUE_NAME OPEN_MODE
  ---------------- -------------
  atgmaa_scam08 READ ONLY
  ```
- Now restart Redo Apply
  ```sql
  SQL> alter database recover managed standby database using current logfile disconnect from session;
  Database altered.
  ```
- Verify whether redo-apply is enabled or not using the following query:
  ```sql
  SQL> select process,status,sequence# from v$managed_standby where process like '%MRP%';
  PROCESS STATUS  SEQUENCE#
  ------- ----------------- ----------
  MRP0 APPLYING_LOG 133
  ```
- Monitor Active Data Guard:
  - From the Primary:
    ```sql
    SQL> select dest_name,status,database_mode,recovery_mode from v$archive_dest_status where dest_id=2;
    DEST_NAME  STATUS DATABASE_MODE RECOVERY_MODE
    ------------------------- ------- ---------------- ------------------------
    LOG_ARCHIVE_DEST_2 VALID OPEN_READ-ONLY MANAGED REAL TIME APPLY
    ```
  - From the standby:
    ```sql
    SQL> select db_unique_name,open_mode from v$database;
    DB_UNIQUE_NAME OPEN_MODE
    ---------------- -------------
    atgmaa_scam08 READ ONLY WITH APPLY
    ```
SQL> select 'YES' Active_DataGuard from v$managed_standby ms, v$database db where ms.process like '%MRP%' and db.open_mode like '%READ ONLY%';

ACT
---
YES

SQL> SELECT * FROM V$STANDBY_EVENT_HISTOGRAM WHERE NAME = 'apply lag' AND COUNT > 0;

<table>
<thead>
<tr>
<th>NAME</th>
<th>TIME</th>
<th>UNIT</th>
<th>COUNT</th>
<th>LAST_TIME_UPDATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>apply lag</td>
<td>0</td>
<td>seconds</td>
<td>165860</td>
<td>10/25/2013 13:54:05</td>
</tr>
<tr>
<td>apply lag</td>
<td>1</td>
<td>seconds</td>
<td>722</td>
<td>10/25/2013 13:51:33</td>
</tr>
<tr>
<td>apply lag</td>
<td>2</td>
<td>seconds</td>
<td>190</td>
<td>10/25/2013 13:24:12</td>
</tr>
<tr>
<td>apply lag</td>
<td>3</td>
<td>seconds</td>
<td>49</td>
<td>10/25/2013 13:19:13</td>
</tr>
<tr>
<td>apply lag</td>
<td>4</td>
<td>seconds</td>
<td>12</td>
<td>10/25/2013 13:22:00</td>
</tr>
<tr>
<td>apply lag</td>
<td>5</td>
<td>seconds</td>
<td>7</td>
<td>10/25/2013 13:22:01</td>
</tr>
<tr>
<td>apply lag</td>
<td>6</td>
<td>seconds</td>
<td>5</td>
<td>10/25/2013 13:22:02</td>
</tr>
<tr>
<td>apply lag</td>
<td>7</td>
<td>seconds</td>
<td>3</td>
<td>10/25/2013 13:22:03</td>
</tr>
<tr>
<td>apply lag</td>
<td>8</td>
<td>seconds</td>
<td>4</td>
<td>10/25/2013 13:22:04</td>
</tr>
<tr>
<td>apply lag</td>
<td>9</td>
<td>seconds</td>
<td>3</td>
<td>10/25/2013 13:22:05</td>
</tr>
<tr>
<td>apply lag</td>
<td>10</td>
<td>seconds</td>
<td>3</td>
<td>10/25/2013 13:22:06</td>
</tr>
</tbody>
</table>
Appendix

A Commerce Tablespace and Schema Creation

A.1 Commerce Tablespace Creation

Create bigfile tablespace userdata01 datafile '+DATA_ATG'

```
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata02 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata03 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata04 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata05 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata06 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata07 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata08 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata09 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace userdata10 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
```

Create bigfile tablespace useridx01 datafile '+DATA_ATG'

```
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx02 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx03 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx04 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx05 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx06 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx07 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx08 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
create bigfile tablespace useridx09 datafile '+DATA_ATG'
size 2g autoextend on next 2g maxsize 30g NOLOGGING EXTENT MANAGEMENT LOCAL AUTOALLOCATE
SEGMENT SPACE MANAGEMENT AUTO;
```

```
col file_name format a60
select FILE_NAME,TABLESPACE_NAME,bytes/1048576 TBS_SIZE_MB, AUTOEXTENSIBLE, MAXBYTES/1048576 MAX_MB
from dba_data_files
where TABLESPACE_NAME like 'USER%0%';
```
<table>
<thead>
<tr>
<th>FILE_NAME</th>
<th>TABLESPACE_NAME</th>
<th>TBS_SIZE_MB</th>
<th>AUTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata01.265.800092499</td>
<td>USERDATA01</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata02.273.800092501</td>
<td>USERDATA02</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata03.264.800092503</td>
<td>USERDATA03</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata04.263.800092507</td>
<td>USERDATA04</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata05.279.800092509</td>
<td>USERDATA05</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata06.277.800092511</td>
<td>USERDATA06</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata07.262.800092513</td>
<td>USERDATA07</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata08.261.800092515</td>
<td>USERDATA08</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/userdata09.258.800092517</td>
<td>USERDATA09</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx01.260.800092539</td>
<td>USERIDX01</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx02.259.800092541</td>
<td>USERIDX02</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx03.274.800092543</td>
<td>USERIDX03</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx04.267.800092545</td>
<td>USERIDX04</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx05.270.800092549</td>
<td>USERIDX05</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx06.276.800092551</td>
<td>USERIDX06</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx07.271.800092553</td>
<td>USERIDX07</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx08.280.800092555</td>
<td>USERIDX08</td>
<td>30720</td>
<td>YES</td>
</tr>
<tr>
<td>+DATA_ATG/atgmaa/datafile/useridx09.281.800092557</td>
<td>USERIDX09</td>
<td>30720</td>
<td>YES</td>
</tr>
</tbody>
</table>

19 rows selected.

**A.2 Commerce Database Schema Creation**

drop user ATG_PRODUCTION_SWITCHB cascade;
drop user ATG_PRODUCTION_SWITCHA cascade;
drop user ATG_PUBLISHING cascade;
drop user ATG_PRODUCTION cascade;

```
# create user ATG_PRODUCTION_SWITCHB identified by atg default tablespace USERDATA01;
create user ATG_PRODUCTION_SWITCHA identified by atg default tablespace USERDATA02;
create user ATG_PUBLISHING identified by atg default tablespace USERDATA04;
create user ATG_PRODUCTION identified by atg default tablespace USERDATA06;
```

grant connect, resource, dba to ATG_PRODUCTION_SWITCHB;
grant connect, resource, dba to ATG_PRODUCTION_SWITCHA;
grant connect, resource, dba to ATG_PUBLISHING;
grant connect, resource, dba to ATG_PRODUCTION;```
B Oracle Commerce Applications Installation Examples

B.1 Install Commerce Platform Example

```
[oracle_atg@scan03vm0059-eoib1 atg]$ export DISPLAY=adc6140316:1
[oracle_atg@scan03vm0059-eoib1 atg]$ ./ATG10.2_99REL.bin

Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...
```

Choose Locale...

```
-----------------
1- Dansk
2- Deutsch
->3- English
4- Español
5- Français
6- Italiano
7- Nederlands
8- Português
9- Português (Brasil)
10- Suomi
11- Svenska

CHOOSE LOCALE BY NUMBER:
```

Oracle ATG Web Commerce                        (created with InstallAnywhere)
-------------------------------------------------------------------------------
Preparing CONSOLE Mode Installation...
```

Introduction

```
It is strongly recommended that you quit all programs before continuing with this installation.

Respond to each prompt to proceed to the next step in the installation. If you want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE: [ENTER]
```

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```
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PRESS <ENTER> TO CONTINUE: [ENTER]
```
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DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Y/N): y

Choose Install Folder

Where would you like to install?
  Default Install Folder: /home/oracle_atg/ATG/ATG10.2

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE DEFAULT: /u01/app/oracle_atg/product/fmw/atg/ATG10.2

INSTALL FOLDER IS: /u01/app/oracle_atg/product/fmw/atg/ATG10.2
IS THIS CORRECT? (Y/N): y

Please choose products from the list by typing their number, separating them with commas, or press <enter> to install all products (default): 1,2,3,4

Please choose products from the list by typing their number, separating them with commas, or press <enter> to install all products (default): 1,2,3,4

Select Application Server

Select the application server.
1- JBoss
2- IBM WebSphere
3- IBM WebSphere - cluster
4- Oracle WebLogic
5- Skip server selection

ENTER THE NUMBER OF THE DESIRED CHOICE: 4

Please enter the full path to your Oracle Middleware Directory: /u01/app/oracle_atg/product/fmw

Please enter the full path to your WebLogic home directory (DEFAULT: /u01/app/oracle_atg/product/fmw/wlserver_10.3): [ENTER]

Please enter the full path to your WebLogic domain directory (DEFAULT: /u01/app/oracle_atg/product/fmw/user_projects/domains/base_domain): /u01/app/wls/atgDomain/admin/atg_domain

Please enter the full path to a valid JDK Home directory (DEFAULT: /u01/app/oracle_atg/product/fmw/jrockit-jdk1.6.0_45-R28.2.7-4.1.0): [ENTER]

Please enter the WebLogic listen port (DEFAULT: 7001): [ENTER]

Please enter ATG RMI port (DEFAULT: 8860): [ENTER]

Pre-Installation Summary

Please Review the Following Before Continuing:
Product Name: Oracle ATG Web Commerce 10.2
Install Folder: /u01/app/oracle_atg/product/fmw/atg10.2

Product Features:
- ATG Platform (DAS/DAF/DPS/DSS),
- Commerce & Merchandising,
- ATG Portal,
- ATG Content Administration

Application server
- Oracle WebLogic

JDK path
- /u01/app/oracle_atg/product/fmw/jrockit-jdk1.6.0_45-R28.2.7-4.1.0

Disk Space Information (for Installation Target):
- Required: 731,203,098 Bytes

PRESS <ENTER> TO CONTINUE:

===============================================================================
Installing...
-------------
[==================|==================|==================|==================]
[------------------|------------------|------------------|------------------]

===============================================================================

Installation Complete
------------

Congratulations. Oracle ATG Web Commerce 10.2 has been successfully installed to:
/u01/app/oracle_atg/product/fmw/atg10.2

PRESS <ENTER> TO EXIT THE INSTALLER:

B.2 Install Commerce Reference Store Example

[oracle_atg@scan03vm0059-eoib1 atg]$ ./CommerceReferenceStore10.2.93RCN.bin
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...

===============================================================================

Oracle ATG Web Commerce Reference Store          (created with InstallAnywhere)
-------------------------------------------------------------------------------

===============================================================================

Introduction
----------
InstallAnywhere will guide you through the installation of Oracle ATG Web Commerce Reference Store 10.2

It is strongly recommended that you quit all programs before continuing with this installation.

Respond to each prompt to proceed to the next step in the installation. If you want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE: [ENTER]
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DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Y/N): Y

Choose Install Folder

Where would you like to install?

Default Install Folder: /home/oracle_atg/ATG/ATG10.2

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE DEFAULT: /u01/app/oracle_atg/product/fmw/atg/ATG10.2
INSTALL FOLDER IS: /u01/app/oracle_atg/product/fmw/atg/ATG10.2
IS THIS CORRECT? (Y/N): Y

Pre-Installation Summary

Please Review the Following Before Continuing:

Product Name: Oracle ATG Web Commerce Reference Store 10.2
Install Folder: /u01/app/oracle_atg/product/fmw/atg/ATG10.2
Link Folder: /home/oracle_atg

Disk Space Information (for Installation Target):
Required: 83,057,467 bytes
Available: 29,584,121,856 bytes

PRESS <ENTER> TO CONTINUE: [ENTER]
C  Sample Scripts

The following is a listing of the various scripts created for the MAA applications.

```
#!/bin/sh
# style chkconfig
###
# chkconfig: 2345 95 85
# description: Script to start and stop Endeca Platform Services
###

SCRIPT_USER=oracle_atg
SERVICE_NAME=endeca_platform
SCRIPT_PATH=/u01/app/oracle_atg/product/oracle_endeca/endeca/PlatformServices/6.1.3/tools/server/bin
START_SCRIPT_NAME=startup.sh
STOP_SCRIPT_NAME=shutdown.sh

case "$1" in
  start)
    if [ "ps -ef | grep "java" | grep "PlatformServices" | grep -v grep | awk '{print $2}' | wc -l" = 0 ]; then
      echo "Starting Endeca Platform Services"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    else
      echo "ENDECA PLATFORM SERVICES IS ALREADY RUNNING"
      fi
    =
  ;;
  stop)
    if [ "ps -ef | grep "java" | grep "PlatformServices" | grep -v grep | awk '{print $2}' | wc -l" = 0 ]; then
      echo "Stopping Endeca Platform Services"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
    else
      echo "ENDECA PLATFORM SERVICES IS NOT RUNNING"
      fi
    =
  ;;
  restart)
    if [ "ps -ef | grep "java" | grep "PlatformServices" | grep -v grep | awk '{print $2}' | wc -l" = 0 ]; then
      echo "Restarting Endeca Platform Services"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
      /bin/sleep 10
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    else
      echo "Restarting Endeca Platform Services"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
      /bin/sleep 10
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    fi
    =
  ;;
* )
  echo "Usage: /sbin/service $SERVICE_NAME {start|stop|restart}"
  exit 1
  =
esac

exit 0
```
/etc/init.d/endeca_tools

#!/bin/sh

# chkconfig
###
# chkconfig: 2345 95 85
# description: Script to start and stop Endeca Workbench
###

SCRIPT_USER=oracle_atg
SERVICE_NAME=endeca_tools
SCRIPT_PATH=/u01/app/oracle_atg/product/oracle_endeca/ToolsAndFrameworks/3.1.2/server/bin
START_SCRIPT_NAME=startup.sh
STOP_SCRIPT_NAME=shutdown.sh

case "$1" in
  start)
    if [ `ps -ef | grep "java" | grep "ToolsAndFrameworks" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "Starting Endeca Workbench"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    else
      echo "ENDECA WORKBENCH IS ALREADY RUNNING"
    fi
  ;;
  stop)
    if [ `ps -ef | grep "java" | grep "ToolsAndFrameworks" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "STOPPING Endeca Workbench"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
    else
      echo "ENDECA WORKBENCH IS NOT RUNNING"
    fi
  ;;
  restart)
    if [ `ps -ef | grep "java" | grep "ToolsAndFrameworks" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "RESTARTING Endeca Workbench"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    else
      echo "RESTARTING Endeca Workbench"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
      /bin/sleep 10
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME"
    fi
  ;;
  *)
    echo "Usage: /sbin/service $SERVICE_NAME {start|stop|restart}"
    exit 1
    ;;
esac

exit 0
#!/bin/sh
# style chkconfig
###
# chkconfig: 2345 95 85
# description: Script to start and stop Endeca Content Acquisition System
###

SCRIPT_USER=oracle_atg
SERVICE_NAME=endeca_cas
SCRIPT_PATH=/u01/app/oracle_atg/product/oracle_endeca/endeca/CAS/3.1.2/bin
START_SCRIPT_NAME=cas-service.sh
STOP_SCRIPT_NAME=cas-service-shutdown.sh

case "$1" in
  start)
    if [ `ps -ef | grep "java" | grep "endeca.cas.root" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "Starting Endeca CAS"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME &"
    else
      echo "ENDECA CAS IS ALREADY RUNNING"
      fi
  ;;
  stop)
    if [ `ps -ef | grep "java" | grep "endeca.cas.root" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "ENDECA CAS IS NOT RUNNING"
      else
      echo "Stopping Endeca CAS"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME &"
      fi
  ;;
  restart)
    if [ `ps -ef | grep "java" | grep "endeca.cas.root" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "ENDECA CAS IS NOT RUNNING"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME &"
      else
      echo "Restarting Endeca CAS"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME &"
      /bin/sleep 10
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$START_SCRIPT_NAME &"
      fi
  ;;
  *)
    echo "Usage: /sbin/service $SERVICE_NAME {start|stop|restart}"
    exit 1
  ;;
esac
exit 0
#!/bin/sh
#
# chkconfig: 2345 95 85
# description: Script to start and stop WebLogic Node Manager
#

SCRIPT_USER=oracle_atg
SERVICE_NAME=wls_nodemgr
SCRIPT_PATH=/u01/app/oracle_atg/product/fmw/wlserver_10.3/server/bin
START_SCRIPT_NAME=startNodeManager.sh

case "$1" in
  start)
    if [ `ps -ef | grep "java" | grep "weblogic.NodeManager" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "Starting WebLogic Node Manager"
      /bin/su - $SCRIPT_USER -c "/usr/bin/nohup $SCRIPT_PATH/$START_SCRIPT_NAME > /u01/app/oracle_atg/product/fmw/wlserver_10.3/common/nodemanager/nm.log 2>&1 &"
    else
      echo "WEBLOGIC NODE MANAGER IS ALREADY RUNNING"
    fi
  ;;
  stop)
    if [ `ps -ef | grep "java" | grep "weblogic.NodeManager" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "WEBLOGIC NODE MANAGER IS NOT RUNNING"
    else
      echo "Stopping WebLogic Node Manager"
      /bin/su - $SCRIPT_USER -c "/bin/ps ux | awk '/weblogic.NodeManager/ && !/awk/ {print $2}' > /tmp/nm.pid"
      /bin/su - $SCRIPT_USER -c "/bin/kill `/bin/cat /tmp/nm.pid`"
      /bin/su - $SCRIPT_USER -c "/bin/rm /tmp/nm.pid"
    fi
  ;;
  restart)
    if [ `ps -ef | grep "java" | grep "weblogic.NodeManager" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "WEBLOGIC NODE MANAGER IS NOT RUNNING"
      /bin/su - $SCRIPT_USER -c "/bin/nohup $SCRIPT_PATH/$START_SCRIPT_NAME > /u01/app/oracle_atg/product/fmw/wlserver_10.3/common/nodemanager/nm.log 2>&1 &"
    else
      echo "Restarting WebLogic Node Manager"
      /bin/su - $SCRIPT_USER -c "/bin/nohup $SCRIPT_PATH/$START_SCRIPT_NAME > /u01/app/oracle_atg/product/fmw/wlserver_10.3/common/nodemanager/nm.log 2>&1 &"
    fi
  ;;
  *)
    echo "Usage: /sbin/service $SERVICE_NAME {start|stop|restart}"
    exit 1
;;;
esac
exit 0
#!/bin/sh
# chkconfig
###
# chkconfig: 2345 95 85
# description: Script to start and stop WebLogic Admin Console JVM
###

SCRIPT_USER=oracle_atg
SERVICE_NAME=wls_admin
SCRIPT_PATH=/u01/app/wlsDomain/admin/AG_domain/bin
START_SCRIPT_NAME=startWebLogic.sh
STOP_SCRIPT_NAME=stopWebLogic.sh

case "$1" in
  start)
    if [ `ps -ef | grep "java" | grep "AdminServer" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "Starting WebLogic Admin Console JVM"
      /bin/su - $SCRIPT_USER -c "nohup $SCRIPT_PATH/$START_SCRIPT_NAME -Dweblogic.security.SSL.ignoreHostnameVerification=true >> $SCRIPT_PATH/../servers/AdminServer/logs/AdminServer.out 2>&1 &"
    else
      echo "WEBLOGIC ADMIN CONSOLE JVM IS ALREADY RUNNING"
    fi
  ;;
  stop)
    if [ `ps -ef | grep "java" | grep "AdminServer" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "WEBLOGIC ADMIN CONSOLE JVM IS NOT RUNNING"
    else
      echo "Stopping WebLogic Admin Console JVM"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
    fi
  ;;
  restart)
    if [ `ps -ef | grep "java" | grep "AdminServer" | grep -v grep | awk '{print $2}' | wc -l` = 0 ]; then
      echo "WEBLOGIC ADMIN CONSOLE JVM IS NOT RUNNING"
      /bin/su - $SCRIPT_USER -c "nohup $SCRIPT_PATH/$START_SCRIPT_NAME -Dweblogic.security.SSL.ignoreHostnameVerification=true >> $SCRIPT_PATH/../servers/AdminServer/logs/AdminServer.out 2>&1 &"
    else
      echo "Restarting WebLogic Admin Console JVM"
      /bin/su - $SCRIPT_USER -c "$SCRIPT_PATH/$STOP_SCRIPT_NAME"
      /bin/sleep 10
      /bin/su - $SCRIPT_USER -c "nohup $SCRIPT_PATH/$START_SCRIPT_NAME -Dweblogic.security.SSL.ignoreHostnameVerification=true >> $SCRIPT_PATH/../servers/AdminServer/logs/AdminServer.out 2>&1 &"
    fi
  ;;
  *)
    echo "Usage: /sbin/service $SERVICE_NAME {start|stop|restart}"
    exit 1
  esac
exit 0
D Required ATG-Data Layer Configurations

The following are required additions or changes to configuration files within the various ATG-Data layers. See ATG-Data layer copying for information on which servers have which server layers.

D.1 slm01 Files

D.1.1 localconfig/atg/dynamo/service/ServerLockManager.properties

Add:

```
otherLockServerPort=9010
otherLockServerAddress=scan03vm0060-eoib1.us.oracle.com (on sca01evm224)
otherLockServerAddress=scan03vm0059-eoib1.us.oracle.com (on sca01evm226)
```

D.2 crs01 and crs02 Files

D.2.1 localconfig/atg/dynamo/service/ClientLockManager_production.properties and

D.2.2 localconfig/atg/dynamo/service/ClientLockManager.properties

Change:

```
lockServerPort=9010
lockServerAddress=scan03vm0059-eoib1.us.oracle.com
```

to read:

```
lockServerPort=9010,9010
lockServerAddress=scan03vm0059-eoib1.us.oracle.com,scan03vm0060-eoib1.us.oracle.com
```

D.2.3 localconfig/atg/dynamo/Configuration.properties

Add:

```
backingUpSessions=true
```

D.3 bcc01

D.3.1 localconfig/atg/dynamo/service/ClientLockManager_production.properties

Change:

```
lockServerPort=9010
lockServerAddress=scan03vm0059-eoib1.us.oracle.com
```

to read:

```
lockServerPort=9010,9010
lockServerAddress=scan03vm0059-eoib1.us.oracle.com,scan03vm0060-eoib1.us.oracle.com
```

D.3.2 localconfig/atg/dynamo/service/ClientLockManager.properties

Change:

```
lockServerAddress=localhost
```

to read:

```
lockServerAddress=scan03vm0059-eoib1.us.oracle.com (on scan03vm0059-eoib1)
lockServerAddress=scan03vm0060-eoib1.us.oracle.com (on scan03vm0060-eoib1)
```
D.3.3  localconfig/atg/scenario/scenarioManager.xml

Create file with the following contents:

```xml
<?xml version="1.0" encoding="ISO-8859-1" ?>
<scenario-manager-configuration>
    <scenario-editor-server>
        <server-name>scan03vm0061-eoib1.us.oracle.com:7055</server-name>
    </scenario-editor-server>
    <global-server>
        <server-name>scan03vm0061-eoib1.us.oracle.com:7055</server-name>
        <server-name>scan03vm0062-eoib1.us.oracle.com:7055</server-name>
    </global-server>
</scenario-manager-configuration>
```

D.3.4  localconfig/atg/epub/workflow/process/workflowProcessManager.xml

Create file with the following contents:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<process-manager-configuration>
    <process-editor-server>
        <server-name>scan03vm0059-eoib1.us.oracle.com:7059</server-name> #(on scan03vm0059-eoib1 server)
        <server-name>scan03vm0060-eoib1.us.oracle.com:7059</server-name> #(on scan03vm0060-eoib1 server)
    </process-editor-server>
</process-manager-configuration>
```
E Monitoring and Troubleshooting

E.1 Monitor with Enterprise Manager Grid Control

E.1.1 Exadata
See the MAA Enterprise Manager page at Enterprise Manager for best practice papers, especially these Exadata related ones:
- Support Note 1110675.1 - Monitoring Exadata Database Machine using Enterprise Manager - contains updated monitoring suggestions for each component.
- Exadata Health and Resource Usage Monitoring
- Oracle Exadata Discovery Cookbook

E.1.2 Exalogic
See 10 Monitoring the Topology Using Oracle Enterprise Manager Grid Control in the Oracle Fusion Middleware Exalogic Enterprise Deployment Guide

E.2 View WLS server startup logs
- cd $WL_DOMAIN_HOME/servers/<server-name>/logs
- Once there check out the following:
  <server-name>.out
  <server-name>.log

E.3 Use Oracle JRockit Mission Control
The JRockit Mission Control tools suite includes tools to monitor, manage, profile, and eliminate memory leaks in your Java application without introducing the performance overhead normally associated with tools of this type. See JRockit Mission Control for download, documentation and further detail.
F  SDP Listener Setup Example

The basis for this is the steps at 7.8.1 Enabling SDP on Database Nodes to configure the system, however that documentation has some issues so also see bug 14647242. This example includes the corrections in that bug. **Note that no reboot is necessary after configuring SDP.**

The high level steps are:

- **Enable SDP on the database nodes**
- **Create an SDP Listener on the Infiniband network**
- **Configure the database to use the SDP listener**
- **Add compute node IB hostnames to /etc/hosts**

F.1 Enable SDP on the database nodes

This needs to be done on each DB node

- Open the /etc/ofed/openib.conf file in a text editor, and add the following:

  ```
  set: SDP_LOAD=yes
  
  $ cat /etc/ofed/openib.conf
  # Load IPA
  IPOIB_LOAD=yes
  # Set connected mode for IPA
  SET_IPOIB_CM=yes
  # Load RDS
  RDS_LOAD=yes
  # Load SDP module
  SDP_LOAD=yes
  # Load SRP module
  SRP_LOAD=no
  # Load iSER module
  ISER_LOAD=no
  # Should we modify the system mtrr registers? We may need to do this if you
  # get messages from the ib_ipath driver saying that it couldn’t enable
  # write combining for the PIO buffs on the card.
  FIXUP_MTRR_REGS=no
  ```

- Open the /etc/ofed/libsdp.conf file in a text editor, and edit the file as follows:

  ```
  use both server * *:*:*
  use both client * *:*:*
  ```

- Open /etc/modprobe.conf file in a text editor, and add the following setting:

  ```
  options ib_sdp sdp_zcopy_thresh=0 recv_poll=0
  ```

- Reload on all database nodes for the changes to take effect

  ```
  /sbin/modprobe ib_sdp
  ```

F.2 Create an SDP Listener on the IB network

- Add unused IB hosts to each nodes /etc/hosts file for the IP’s to be used for the IB network

  ```
  #!/bin/ksh

  export TIME_STAMP=`date +%Y%m%d_%H%M%S`
  cp /etc/hosts /etc/hosts.$TIME_STAMP
  echo "## Entries for Infiniband Listener" >> /etc/hosts
  echo "192.168.41.253 scam02db07-ibvip.us.oracle.com scam02db08-ibvip" >> /etc/hosts
  echo "192.168.41.254 scam02db08-ibvip.us.oracle.com scam02db08-ibvip" >> /etc/hosts
  ```
• Identify the IB network to use; as the Grid Infrastructure software owner execute:

```
$ oifcfg iflist -p -n
eth0 10.133.40.0 PRIVATE 255.255.248.0
bondeth0 10.133.56.0 PRIVATE 255.255.252.0
bondib0 169.254.0.0 UNKNOWN 255.255.0.0
bondib0 192.168.40.0 PRIVATE 255.255.248.0
```

• You want to use the bondib0 private network; on one of the database nodes, as the root user, create a network resource for the InfiniBand network:

```
#/u01/app/11.2.0.3/grid/bin/srvctl add network -k 2 -S
192.168.40.0/255.255.248.0/bondib0 -v
Successfully added Network.
```

• Validate the network is online

```
#/u01/app/11.2.0.3/grid/bin/crs_stat -u | grep -A3 network
NAME=ora.net1.network
TYPE=application
TARGET=ONLINE
STATE=ONLINE on scam02db07

NAME=ora.net2.network
TYPE=application
TARGET=ONLINE
STATE=ONLINE on scam02db07
```

```
#/u01/app/11.2.0.3/grid/bin/srvctl config network -k 2
Network exists: 2/192.168.40.0/255.255.248.0/bondib0, type static
```

• Add and start the VIPs for each node

```
#/u01/app/11.2.0.3/grid/bin/srvctl add vip -n scam02db07 -A scam02db07-ibvip/255.255.248.0/bondib0 -k 2
#/u01/app/11.2.0.3/grid/bin/srvctl add vip -n scam02db08 -A scam02db08-ibvip/255.255.248.0/bondib0 -k 2
```

• Start as the Grid owner:

```
$ srvctl status vip -n scam02db07
VIP scam02db07-ibvip is enabled
VIP scam02db07-ibvip is running on node: scam02db07
VIP scam02db07-vip is enabled
VIP scam02db07-vip is running on node: scam02db07

$ srvctl status vip -n scam02db08
VIP scam02db08-ibvip is enabled
VIP scam02db08-ibvip is running on node: scam02db08
VIP scam02db08-vip is enabled
VIP scam02db08-vip is running on node: scam02db08
```

• Add the SDP listener as the Grid owner and start it

```
$ srvctl add listener -l LISTENER_IB -k 2 -p TCP:1522,SDP:1522
$ srvctl start listener -l LISTENER_IB
Listener LISTENER_IB is enabled
Listerner LISTENER_IB is running on node(s): scam02db08,scam02db07
```
F.3 Configure the database to use the SDP listener

- Add appropriate tnsnames.ora entries ($ORACLE_HOME/network/admin/tnsnames.ora)

```
ATGMAA =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02-scan7)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = atgmaa)
    )
  )

ATG =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02-scan7)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = atgmaa)
    )
  )

ATG_IB =
  (DESCRIPTION =
    (LOAD_BALANCE=on)
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02db07-ibvip)(PORT = 1522))
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02db08-ibvip)(PORT = 1522))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = atgmaa)
    )
  )

LISTENER_IBREMOTE=
  (DESCRIPTION=
    (ADDRESS=(PROTOCOL=tcp)(HOST=scam02db08-ibvip.us.oracle.com)(PORT=1522))
  )

LISTENER_IBLOCAL=
  (DESCRIPTION=
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02db07-ibvip)(PORT = 1522))
    (ADDRESS = (PROTOCOL = SDP)(HOST = scam02db07-ibvip)(PORT = 1522))
  )

LISTENER_IPLOCAL=
  (DESCRIPTION=
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02-scan7-vip)(PORT = 1521))
  )

LISTENER_IPREMOTE=
  (DESCRIPTION=
    (ADDRESS = (PROTOCOL = TCP)(HOST = scam02-scan7)(PORT = 1521))
  )
```

```
[root@scam02db07 scripts]# /u01/app/11.2.0.3/grid/bin/srvctl start listener -l LISTENER_IB
[root@scam02db07 scripts]# /u01/app/11.2.0.3/grid/bin/srvctl status listener -l LISTENER_IB

LISTENER_IB is enabled
LISTENER_IB is running on node(s): scam02db08,scam02db07

SQL> alter system set listener_networks='((NAME=network2)
(LOCAL_LISTENER=LISTENER_IBLOCAL) (REMOTE_LISTENER=LISTENER_IBREMOTE))',
'((NAME=network1) (LOCAL_LISTENER=LISTENER_IPLOCAL) (REMOTE_LISTENER=LISTENER_IPREMOTE))'
scope=both;

SQL> show parameter net

<table>
<thead>
<tr>
<th>NAME</th>
<th>TYPE</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>fileio_network_adapters</td>
<td>string</td>
<td></td>
</tr>
<tr>
<td>listener_networks</td>
<td>string</td>
<td>((NAME=network2) (LOCAL_LISTENER=LISTENER_IBLOCAL) (REMOTE_LISTENER=LISTENER_IBREMOTE)), ((NAME=network1) (LOCAL_LISTENER=LISTENER_IPLOCAL) (REMOTE_LISTENER=LISTENER_IPREMOTE))</td>
</tr>
</tbody>
</table>
```
LISTENER_IPLOCAL) (REMOTE_LISTENER=LISTENER_IPREMOTE))

[grid@scam02db07 admin]$ lsnrctl status listener_sdp

LSNRCTL for Linux: Version 11.2.0.3.0 - Production on 24-NOV-2012 04:43:46
Copyright (c) 1991, 2011, Oracle. All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=LISTENER_SDP)))
STATUS of the LISTENER
------------------------
Alias                     LISTENER_SDP
Version                   TNSLSNR for Linux: Version 11.2.0.3.0 - Production
Start Date                23-NOV-2012 19:37:20
Uptime                    0 days 9 hr. 6 min. 26 sec
Trace Level               off
Security                   ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   /u01/app/11.2.0.3/grid/network/admin/listener.ora
Listener Log File         /u01/app/11.2.0.3/grid/log/diag/tnslsnr/scam02db07/listener_sdp/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=LISTENER_SDP)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=sdp)(HOST=192.168.41.253)(PORT=1529)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=192.168.41.254)(PORT=1529)))
Services Summary...
Service "atgmaa" has 2 instance(s).
  Instance "atgmaa1", status READY, has 1 handler(s) for this service...
  Instance "atgmaa2", status READY, has 2 handler(s) for this service...
The command completed successfully

F.4 Add compute node IB hostnames to /etc/hosts

- On each VM server that connects to the database you need to add the IB hostnames to the /etc/hosts file so that the connections to the SDP listener on the database nodes will work.

export TIME_STAMP=`date +%Y%m%d_%H%M%S`
cp /etc/hosts /etc/hosts.$TIME_STAMP
echo "## Entries for Infiniband Listener" >> /etc/hosts
echo "192.168.44.253 scam02db07-ibvip.us.oracle.com scam02db07-ibvip" >> /etc/hosts
echo "192.168.44.254 scam02db08-ibvip.us.oracle.com scam02db08-ibvip" >> /etc/hosts
## G Terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session Backup</td>
<td>The ATG platform implements a session backup facility that allows you to specify a set of session-scoped Nucleus components and properties that should be backed up after every request. This session backup mechanism saves these session-scoped components and properties, and restores them when the application server migrates a session to another server.</td>
</tr>
<tr>
<td>Virtualized Data Center (vDC)</td>
<td>A collection of physical compute nodes and storage that sit on the Exalogic fabric. These physical resources are organized into a pool that can then be accessed by self-service users. It offers an access point through which to allocate and control the resources inside.</td>
</tr>
<tr>
<td>Virtual Server (vServer)</td>
<td>An entity that provides the outward interface of a stand-alone operating system. This entity is a virtual machine with guest operating system, which consumes CPU and memory resources. A vServer can be a member of one or more vNets.</td>
</tr>
</tbody>
</table>
Test Environment Details

The hardware and software details for the test environment are as follows:

H.1 Primary Site

H.1.1 Database

- Exadata X3-2 quarter rack, see X2-2 Data Sheet for complete system details
- 2 Compute Nodes

Names: scam02db07, scam02db08

IP Addresses (two high-order octets, xx.xxx, are used to protect IP addresses)

<table>
<thead>
<tr>
<th>Node</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>scam02db07</td>
<td>xxx.xxx.44.227</td>
</tr>
<tr>
<td>scam02db08</td>
<td>xxx.xxx.44.228</td>
</tr>
<tr>
<td>scam0207-vip</td>
<td>xxx.xxx.57.196</td>
</tr>
<tr>
<td>scam0208-vip</td>
<td>xxx.xxx.57.197</td>
</tr>
</tbody>
</table>

- SCAN details (see SINGLE CLIENT ACCESS NAME (SCAN) paper)

  $ srvctl config scan

  SCAN name: scam02-scan7, Network: 1/ xx.xxx.57.0/255.255.252.0/bondeth0
  SCAN VIP name: scan1, IP: /scam02-scan7/ xx.xxx.57.207
  SCAN VIP name: scan2, IP: /scam02-scan7/ xx.xxx.57.208
  SCAN VIP name: scan3, IP: /scam02-scan7/ xx.xxx.57.209

$ host scam02-scan7

scam02-scan7.us.oracle.com has address xx.xxx.57.207
scam02-scan7.us.oracle.com has address xx.xxx.57.208
scam02-scan7.us.oracle.com has address xx.xxx.57.209

- Exadata software version 11.2.3.1.1
- Oracle Linux 2.6.18-274.18.1.0.1.el5 x86_64
- Oracle Grid Infrastructure 11g Release 2 Enterprise Edition (11.2.0.3.9)
- Grid ORACLE_HOME 11.2.0.3.9 - /u01/app/11.2.0/grid
- ASM ORACLE_SID=+ASM1 and +ASM2 respectively
- Oracle Database 11g Release 2 Enterprise Edition (11.2.0.3.9)
- Storage: 3 Exadata Storage Servers (scam02cel08-10), with high capacity drives.

H.1.2 Application Tier

- Exalogic X3-2 quarter rack, see Oracle Exalogic Elastic Cloud X2-2 Data Sheet for details
- Exalogic Version 2.0.4.0.0
- Virtualized Data Center (vDC) deployment
- 384 GB memory
- Infiniband connectivity to the Exadata system
H.2 Standby Site

H.2.1 Database

- Exadata X3-2 quarter rack, see X3-2 Data Sheet for complete system details

- 2 Compute Nodes
  
  Names: scam08db03, scam08db04

- IP Addresses (two high-order octets, xx.xxx, are used to protect IP addresses)
  
  scam08db03 xx.xxx.218.130
  scam0803-vip xx.xxx.240.48
  scam08db04 xx.xxx.218.131
  scam0804-vip xx.xxx.240.49

- SCAN details (see SINGLE CLIENT ACCESS NAME (SCAN) paper)

  $ srvctl config scan
  SCAN name: scam08-scan3, Network: 1/10.133.239.0/255.255.252.0/bondeth0
  SCAN VIP name: scan1, IP: /scam08-scan3/10.133.240.53
  SCAN VIP name: scan2, IP: /scam08-scan3/10.133.240.54
  SCAN VIP name: scan3, IP: /scam08-scan3/10.133.240.55

- Exadata software version 11.2.3.2.1

- Oracle Linux 2.6.18-194.3.1.0.2.el5 x86_64

- Oracle Grid Infrastructure 11g Release 2 Enterprise Edition (11.2.0.3.12)

- Grid ORACLE_HOME 11.2.0.3.12 - /u01/app/11.2.0.3/grid

- ASM ORACLE_SID=+ASM1 and +ASM2 respectively

- Oracle Database 11g Release 2 Enterprise Edition (11.2.0.3.9)

- Storage: 3 Exadata Storage Servers (scam02cel12-14), with high performance drives

H.2.2 Application Tier

- Exalogic X3-2 bare metal rack (see Oracle Exalogic Elastic Cloud X3-2 Data Sheet for complete details)

- Exalogic Version 2.0.4.0.0

- Virtualized Data Center (vDC) deployment

- 1048 GB memory

- 10 GigE connectivity to the Exadata system

- Traffic Manager (AKA load balancer)

- F5 4200v Local Traffic Managers
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   http://www.otn.oracle.com/goto/maa
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14. Oracle Endeca Tools and Frameworks, Release 3.1.2
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19. Oracle Fusion Middleware, Configuring and Managing JDBC Data Sources for Oracle WebLogic Server, 11g Release 1 (10.3.6), E13737-05
20. Oracle Fusion Middleware Disaster Recovery using Oracle's Sun ZFS Storage Appliance
21. Disaster Recovery for Oracle Exalogic Elastic Cloud with Oracle Exadata Database Machine
22. Automating Disaster Recovery using Oracle Site Guard
### Change Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014/04/01</td>
<td>Initial review</td>
</tr>
<tr>
<td>2014/09/02</td>
<td>Accepted review changes and ready for publication</td>
</tr>
</tbody>
</table>