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Oracle Forms Services Oracle Traffic Director Configuration

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Introduction

This paper provides an overview of how to configure Oracle Traffic Director to be used with Oracle Forms Services (FMw 11gR1 and 11gR2). After reading this paper you will:

- Understand the purpose and benefits of using Oracle Traffic Director.
- Understand which product versions and patches are needed.
- Understand some of the possible topologies that can be used.
- Understand the basic installation and configuration steps.
- Understand how to configure single sign-on integration.

Throughout this paper, configuration steps may be provided for Oracle Traffic Director, Oracle Forms, and other related products and components. For complete details on the installation and configuration of any mentioned product, please refer to their official product Documentation Library.

What is Oracle Traffic Director

Oracle Traffic Director (OTD) is a fast, reliable, and scalable layer-7 software load balancer. Oracle Traffic Director can be setup to serve as the reliable entry point for all HTTP, HTTPS and TCP traffic to application servers and web servers in the back end. Oracle Traffic Director distributes the requests that it receives from clients to servers in the back end based on the specified load-balancing method, routes the requests based on specified rules, caches frequently accessed data, prioritizes traffic, and controls the quality of service.

Oracle Traffic Director is optimized for use in Oracle Exalogic Elastic Cloud and Oracle SuperCluster. It can communicate with servers in the back end over Exalogic's InfiniBand fabric. For more information about Exalogic, see the Oracle Exalogic Elastic Cloud documentation,

http://docs.oracle.com/cd/E18476_01/index.htm

Requirements

The following will outline which product versions and patches were used in the making of this paper. In cases where patch versions are mentioned, newer patch sets can be used in most cases. Be sure to review the product Certification Guides for details. Additionally, upgrading to a newer product family is not supported by this document unless documented elsewhere. In other words, you can patch the product versions mentioned, but you cannot replace the mentioned product major family version with a newer major version.

Be sure to review each product's Installation Guide and each patch's ReadMe before attempting to perform any installation.

In order to achieve the best performance and reliability, it is recommended that OTD directly communicate with the target application server(s) (e.g. WLS_FORMS) rather than routing through Oracle HTTP (OHS) server. However, if necessary, OHS can be used between OTD and WebLogic Server (WLS).

WebLogic Server

Install WebLogic Server in accordance with the product Installation and System Requirements Guide. The WebLogic Server documentation for the required version can be found here:

http://docs.oracle.com/cd/E28280_01/wls.htm

Required version and patches:

- WebLogic Server 10.3.6
- On top of WLS 10.3.6, add Patch ID 14142550
- On top of WLS 10.3.6, add Patch ID 13972486

Oracle Forms Services

Install Oracle Forms/Reports for deployment in accordance with the product Installation and System Requirements Guide. The Forms/Reports documentation for the required versions can be found here:

For Portal, Forms, Reports, and Discoverer 11g Release 1:

http://docs.oracle.com/cd/E28280_01/pfrd.htm

For Forms and Reports 11g Release 2:

http://docs.oracle.com/cd/E38115_01/index.htm

Required version and patches for 11g Release 1:

- Portal, Forms, Reports, and Discoverer 11.1.1.7 or newer
- (optional) Oracle SSO 10.1.4.3

Required version and patches for 11g Release 2:

- Forms and Reports 11.1.2.1 or newer.
- (optional) Oracle Access Manager 11.1.2.1

Oracle Traffic Director

Install Oracle Traffic Director in accordance with the product Installation and System Requirements Guide. The Oracle Traffic Director documentation for the required version can be found here:

http://docs.oracle.com/cd/E28280_01/wls.htm

An installation overview is provided in the next section.

Required version and patches:

- Oracle Traffic Director 11.1.1.7

Example Topologies

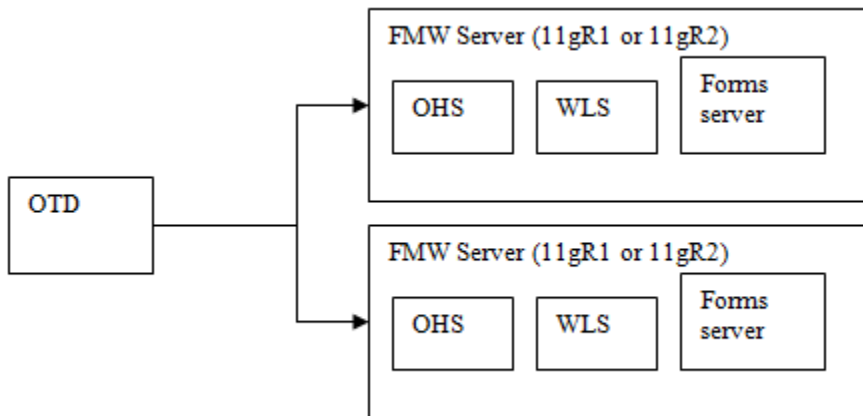


Figure 1. Topology 1- OHS without SSO

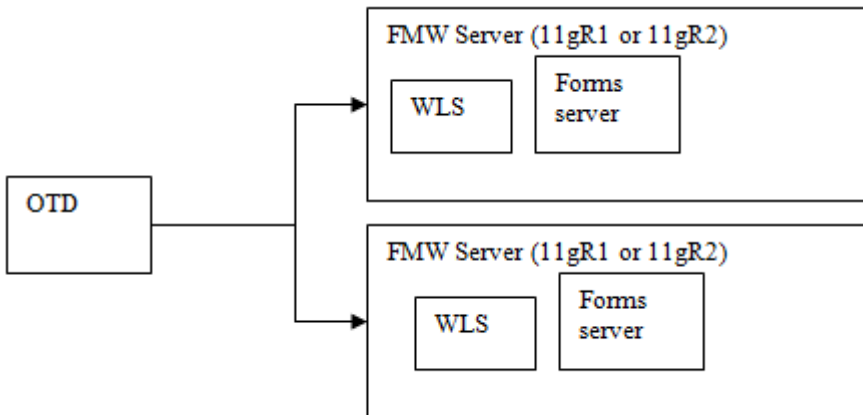


Figure 2. Topology 2- No OHS and no SSO

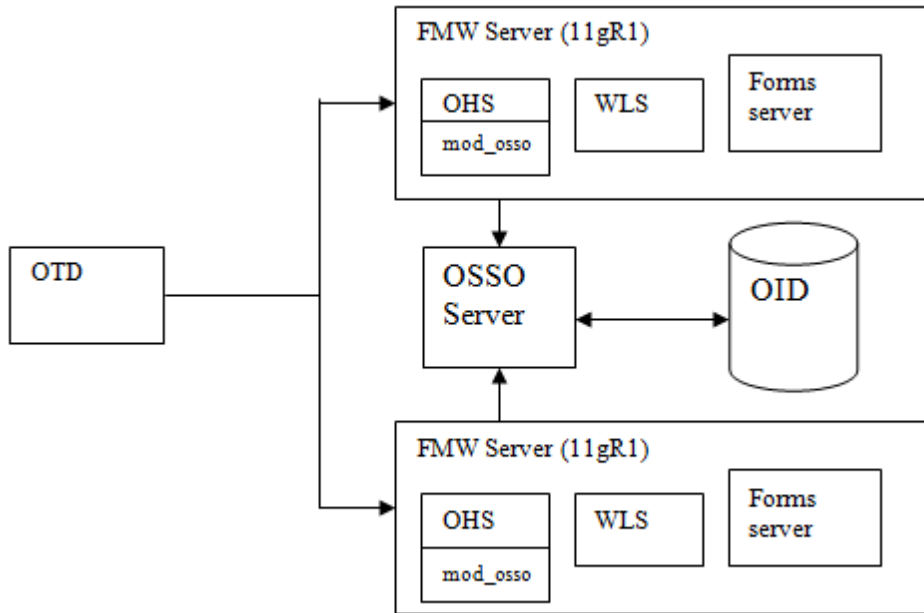


Figure 3. Topology 3 – OHS with SSO

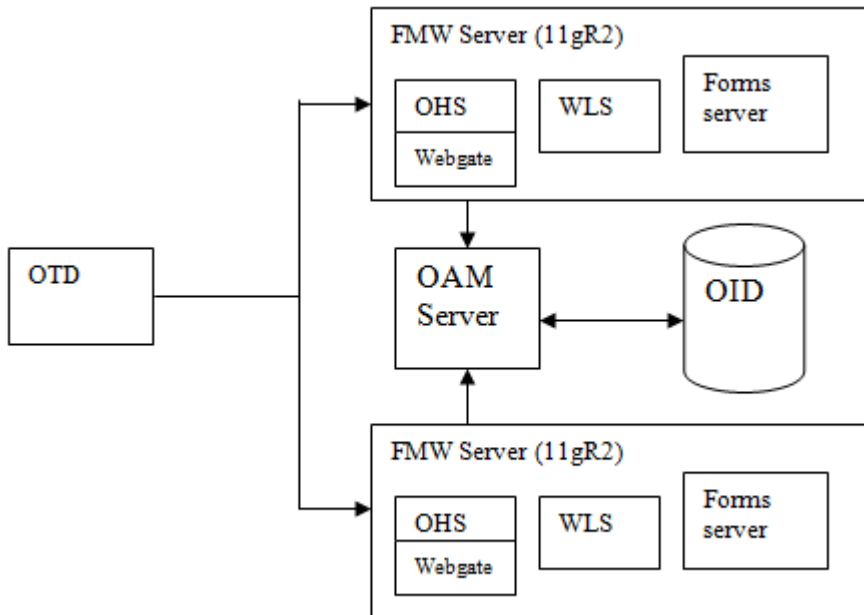


Figure 4. Topology 4 – OAM with OHS and Webgate

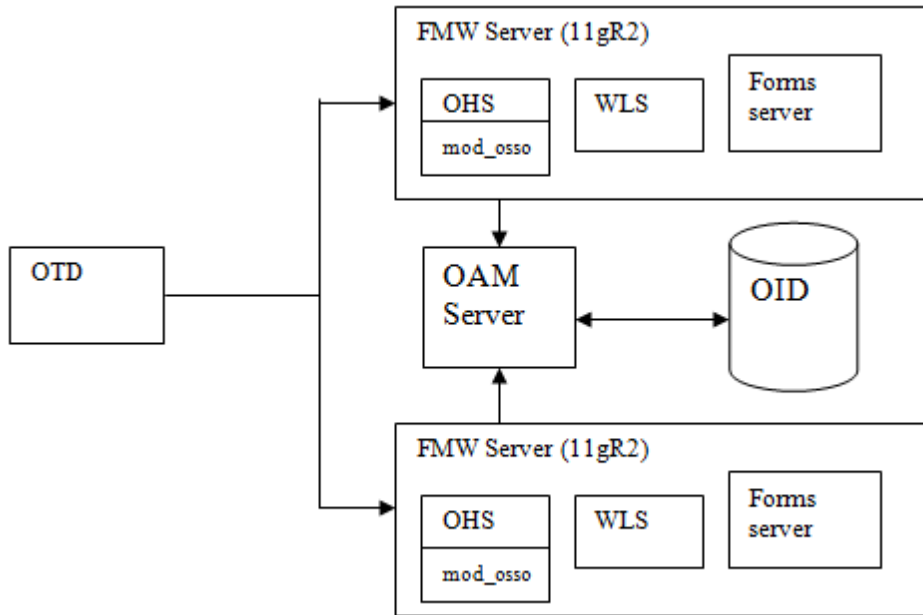


Figure 5. Topology 5 – OAM with OHS and mod_osso

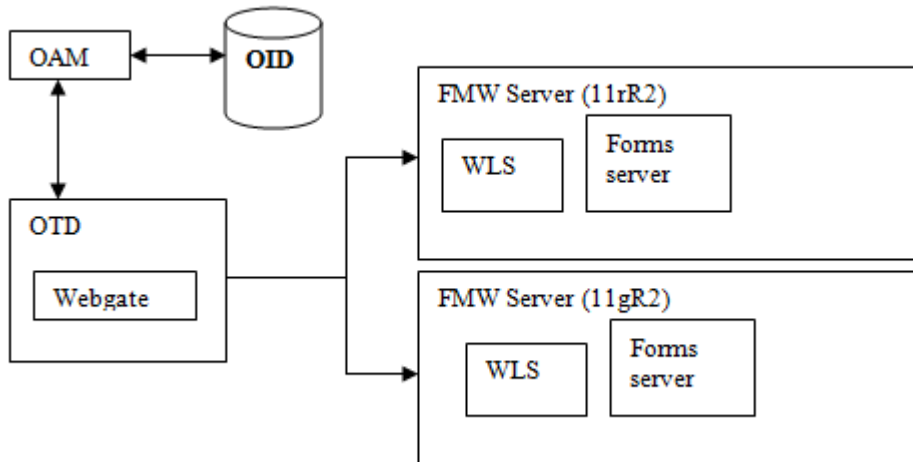


Figure 6. Topology 6 – OAM with Webgate and without OHS

Oracle Traffic Director Installation Overview and Configuration

Detailed instructions for installing Oracle Traffic Director can be found in the product documentation previously mentioned. The following is an overview of the steps needed to perform the installation.

1. Start the Installer (e.g. runInstaller.sh) and follow the prompts through the completion of the installation.
2. After completing the OTD installation, you will now need to create the Administration Server. From the OTD ORACLE_HOME/bin directory, execute the following command to create the Administration Server:

```
tadm configure-server --user=otd_admin --server-user=root --instance-home=production/otd/
```

Refer to the OTD Installation Guide (Chapter 5) for additional switch options and additional details about this task.

http://docs.oracle.com/cd/E23389_01/doc.11116/e21034/admin_server_and_node.htm

3. Set the ORACLE_HOME and JAVA_HOME then execute the following to start the server:

```
$ORACLE_HOME/instances/admin-server/bin/startserv
```

Be aware that the URL needed to access the Administrator Console will be displayed at the end of the startup output.

4. Open a browser and enter the URL mentioned in the previous step. Login using the “user” and “password” you provided when creating the Administration Server
5. After successfully logging in, click on **Create an Oracle Traffic Directory Configuration** button.
6. Enter a name for the server (e.g. **myserver**) and click **Next**.
7. On the “Listener Information” step, use the default settings (e.g. Type: HTTP, Port: 8080, IPAddress: *, Server Name myserver), click **Next**
8. Add the FMw 11g host port information in this screen for the Origin Servers. *Note:* The OHS port information is entered on this screen. You can instead use the WLS port (e.g. 9001) if you want to directly route the traffic to WLS and bypass OHS. Click **Next** after you have entered all the origin servers.
9. Select the available node (which you just created) for deployment and click **Next**.
10. Click on the **Create Configuration** button in this screen.
11. The configuration has been successfully created. Click on the **Close** button.
12. Assuming the Forms WLS managed server (and OHS if used) are running, you should be able to access Forms through OTD using a URL like the following:

```
http://otdhost:8080/forms/frmservlet
```

Single Sign-on and Partner Application Registration

Note that once enabling SSO in OTD the following should be considered:

- Forms SSO protected applications will no longer be protected through the OHS node.
- It is assumed that only the OTD host port information would be exposed to the users and the users will not have access to the OHS host.
- If it is desired to also have applications protected through the OHS host, then they need to separately register OHS as the partner application and create separate entries in the access client configuration files.

Setting Up Webgate in OTD

1. Follow the instructions described in the OTD document for setting up Webgate on OTD tier.
http://docs.oracle.com/cd/E28280_01/doc.1111/e38584/webgate_otd.htm#A1002234282
2. Follow the instructions in the Forms deployment guide for protecting Forms servlet using OAM.
http://docs.oracle.com/cd/E38115_01/doc.111210/e24477/sso.htm#BABGEJBI

Registering OTD in Oracle Single Signon

This section applies to Forms 11g Release 1 (11.1.1)

1. Connect to the Oracle Single Signon (OSSO) server and register the partner application as follows:

```
$ORACLE_HOME/sso/bin/ssoreg.sh -oracle_home_path $ORACLE_HOME -site_name
http://OTD_HOST_NAME -config_mod_osso TRUE -mod_osso_url
http://OTD_HOST_NAME:OTD_PORT_NUMBER -remote_midtier -config_file <File_location>/osso.conf
```

Example:

```
/u01/IDM_OH/sso/bin/ssoreg.sh -oracle_home_path /u01/IDM_OH/ -site_name http://myserver.com -
config_mod_osso TRUE -mod_osso_url http://myserver:8080 -remote_midtier -config_file
/u01/osso_files/osso.conf
```

2. Stop all processes in the Instance

Example:

```
cd $AS_INSTANCE/bin/
opmnctl stopall
```

3. Backup the existing osso.conf found in the OHS tier and copy the file from step 1.

Example:

```
cd $AS_INSTANCE/config/OHS/ohs1
mv osso.conf osso.conf.orig
cp /u01/osso_files/osso.conf
```

4. Add the OTD host port server entries to the httpd.conf file. Refer to step 7 of the OTD Configuration above.

Example:

```
ServerName myOTDserver.com
Listen 8080
```

5. Restart the components under AS Instance.

Example:

```
cd $AS_INSTANCE/bin/
opmnctl startall
```

Registering OTD in Oracle Access Manager – Using mod_osso

This section applies to Forms 11g Release 2 (11.1.2.x) when using mod_osso access agent.

1. Connect to the Forms and Reports 11gR2 installation.
2. Create an input file. Use the OTD host port information for the rreg utility.

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
Copyright (c) 2009, 2010, Oracle and/or its affiliates. All rights reserved.
NAME: OSSORequest.xml - Template for OSSO Agent Registration Request file
DESCRIPTION: Modify with specific values and pass file as input to the tool
-->
<OSSORegRequest>
  <serverAddress>http://mycompany.com:7001</serverAddress>
  <hostIdentifier>NEW_OAM_POLICY_RREG_OSSO</hostIdentifier>
  <agentName>NEW_OAM_POLICY_RREG_OSSO</agentName>
  <agentBaseUrl>http://myserver.com:8080</agentBaseUrl>
  <applicationDomain>NEW_OAM_POLICY_RREG_OSSO</applicationDomain>
  <autoCreatePolicy>true</autoCreatePolicy>
  <ssoServerVersion>v3.0</ssoServerVersion>
  <oracleHomePath>$ORACLE_HOME</oracleHomePath>
  <virtualHost></virtualHost>
  <updateMode></updateMode>
  <adminInfo></adminInfo>
  <adminId></adminId>
</OSSORegRequest>
```

3. Run the *rreg* utility. It will generate the *osso.conf* file under the output directory in the policy name.

Example:

```
cd $ORACLE_HOME/oam/server/rreg/client

$ORACLE_HOME/jdk/java -jar rreg-toolkit.jar inband
$ORACLE_HOME/oam/server/rreg/client/input/OSSORequest.xml
```

(NOTE: The above two lines should be entered on a single line.)

4. Shutdown all components under the AS Instance

Example:

```
cd $AS_INSTANCE/bin/

opmnctl stopall
```

5. Backup the existing *osso.conf* on the OHS tier and copy the file from step 3.

Example:

```
cd $AS_INSTANCE/config/OHS/ohs1

mv osso.conf osso.conf.orig

cp $ORACLE_HOME/oam/server/rreg/client/output/ NEW_OAM_POLICY_RREG_OSSO/osso.conf .
```

6. Add the OTD host port server entries to the *httpd.conf* file.

```
ServerName myOTDserver.com
Listen 8080
```

7. Restart the components in the AS Instance that were previously stopped.

Example:

```
cd $AS_INSTANCE/bin/

opmnctl stopall
```

Registering OTD in Oracle Access Manager – Using WebGate

This section applies to Forms 11g Release 2 (11.1.2.x) when using WebGate access agent.

Follow the instructions in the OAM Administrators guide for registering the Webgate access agent partner applications.

http://docs.oracle.com/cd/E37115_01/admin.1112/e27239/register.htm

References

OSSO Server Load Balancer Configuration

http://docs.oracle.com/cd/B28196_01/idmanage.1014/b15988/part_apps.htm#i1011871

Fusion Middleware Release Notes

6.2.20 Recreating OSSO Agents that Point to the Load Balancer URL

http://docs.oracle.com/cd/E23943_01/relnotes.1111/e10132/ha.htm#ASIRN5407

Installing Webgate with OTD

http://docs.oracle.com/cd/E28280_01/doc.1111/e38584/webgate_otd.htm#A1002234282

OAM Access Agents Registration (Admin Guide)

http://docs.oracle.com/cd/E37115_01/admin.1112/e27239/register.htm

Installing and Configuring Webgate with OAM (Forms Deployment Guide)

http://docs.oracle.com/cd/E48391_01/doc.11120/e24477/sso.htm#BABGEJBI



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