

# AutoConfig, Rapid Clone and Why Is the Sky Blue?

Session Leader

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Release 11i Workshop

NCOAUG

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# James Morrow Profile

- 15+ yrs experience in IT Industry
- 12+ yrs experience Oracle Applications
- Presenter of Training/Presentations multiple clients, conferences
- **Solution Beacon** is a leading provider of expert-level resources to Government Agencies and Fortune 1000 companies specializing in the Oracle Applications marketplace, providing leading expertise in the following areas:
  - ◆ Release 11/ Upgrades/Implementations
  - ◆ Oracle Apps Database Administration
  - ◆ Oracle Systems Architecture
  - ◆ Oracle Performance Tuning
  - ◆ Oracle Workflow

# Audience Profile

- Functional
  - ◆ Implementation/Upgrade Project Managers
- Technical
  - ◆ Oracle Applications DBA
  - ◆ Oracle Applications Developers
  - ◆ Anyone bitten by AutoConfig

# Overview

- Objectives of presentation
  - ◆ Provide a good understanding of how AutoConfig and Rapid Clone actually work.
  - ◆ Explain how to use AutoConfig and Rapid Clone in order to stabilize your environment
- Agenda
  - ◆ AutoConfig Background
  - ◆ Surviving AutoConfig
  - ◆ Extending AutoConfig
  - ◆ Rapid Clone

# Background

# Background

- Why do we need AutoConfig?
  - ◆ 10.7 (Character, SmartClient) < 10 configuration files
  - ◆ 10.7 (NCA) < 50 configuration files
  - ◆ 11.0 < 50 configuration files
  - ◆ 11i > 300 configuration files

# Background

- What does AutoConfig enable?
  - ◆ Configuration Management
  - ◆ Stable
  - ◆ Reproducible
  - ◆ And mostly: CLONING

# Background

- How does it work?
  - ◆ Completely recreates all managed configuration files
  - ◆ Context name is `SID_hostname` (unique for each instance/node combination)
  - ◆ Context file:  
`$APPL_TOP/admin/SID_hostname.xml`
  - ◆ Templates in  
`$FND_TOP/admin/templates`  
`$AD_TOP/admin/templates`

# Background

- How does it work?
  - ◆ Written in perl/java
  - ◆ Uses a “sed-like” search and replace to replace “tokens” in the template with “values” from the context file.

# Background

Config file (`$APPL_TOP/APPS.env`) containing:

```
export TWO_TASK=PROD
```

Template (`$FND_TOP/admin/template/apps_ux.env`) would contain:

```
export TWO_TASK=%s_oracle_sid%
```

Context file (`$APPL_TOP/admin/PROD_appshost.xml`) would contain:

```
<s_oracle_sid>PROD</s_oracle_sid>
```

# Background

- How does it work?
  - ◆ AutoConfig would (essentially) perform this operation:

```
cat $FND_TOP/admin/template/apps_ux.env | \  
sed s/%s_oracle_sid%/"PROD"/g \  
>$APPL_TOP/APPS.env
```

# Surviving AutoConfig

# Surviving AutoConfig

- AutoConfig is run
  - ◆ On demand by the DBA
  - ◆ By Rapid Clone to configure an instance
  - ◆ After patching (either by `adpatch` or manually by the DBA)
- An AutoConfig run CAN be backed-out (See: [Oracle Apps Maintenance Procedures](#))

`$APPL_TOP/admin/PROD_appshost/out/<MMDDhhmm>`

`$ORACLE_HOME/appsutil/out/PROD_appshost/<MMDDhhmm>`

# Surviving AutoConfig

- Things to avoid
  - ◆ Direct edits to configuration files
    - ◆ Managed configuration files generally contain a "header" that identifies them as such
  - ◆ Direct edits to the templates
  - ◆ "Never get involved in a land war in Asia."

# Surviving AutoConfig

- But I need to change things!
  - ◆ Change values in the Context File
  - ◆ Make use of Include Files
    - ◆ Database `initSID.ora`  
`$ORACLE_HOME/dbs/PROD_appshost_ifile.ora`
    - ◆ All `tnsnames.ora`  
`$TNS_ADMIN/PROD_appshost_ifile.ora`
    - ◆ All `listener.ora`  
`$TNS_ADMIN/listener_ifile.ora`
    - ◆ Unix Environment files  
`customPROD_appshost.env`

# Surviving AutoConfig

- But I need to change things!

- ◆ Define a custom top the "old" way:

```
# Begin customizations
XXCUST_TOP=$APPL_TOP/xxcust/11.5.0
export XXCUST_TOP
# End customizations
```

- ◆ Or, the current way, by adding the following line to  
\$APPL\_TOP/admin/topfile.txt  
(MetaLink: 216589.1)

```
xxcust /oracle/oraprod/prodappl
```

# Surviving AutoConfig

- New method of customizing (MetaLink 270519.1)
  - ◆ `adcustomizer.sh` (convert from old method to new)

# Surviving AutoConfig

- But I need to change things!
  - ◆ Use the configuration wizards to enable things like Forms Servlet Mode (MetaLink 277574.1)

```
$FND_TOP/bin/txkrun.pl \  
-script=SetAdvCfg \  
-appsuser=apps -appspass=apps \  
-enable=FormsLsnrServlet
```

# Extending AutoConfig

# Extending AutoConfig

- Customizing Templates (MetaLink 270519.1)

- ◆ appsTier templates live in:

- `$AD_TOP/admin/template`

- `$FND_TOP/admin/template`

- ◆ dbTier templates live in:

- `$ORACLE_HOME/appsutil/template`

# Extending AutoConfig

- Customizing Templates (MetaLink 270519.1)
  - ◆ Determine which template is being used

appsTier:

```
$AD_TOP/bin/adtmplreport.sh  
contextfile=<context> \  
target=<configurationfile>
```

dbTier:

```
$ORACLE_HOME/appsutil/bin/adtmplreport.sh \  
contextfile=<context> \  
target=<configurationfile>
```

# Extending AutoConfig

- Customizing Templates (MetaLink 270519.1)
  - ◆ Create a "custom" directory  
`$FND_TOP/admin/template/custom`
  - ◆ Copy template into custom directory
  - ◆ Apply your changes to the custom template

# Extending AutoConfig

- Caveat:
  - ◆ Certain patches (Notably AD, FND, TXK) can deliver updated templates.
  - ◆ Use `$APPL_TOP/admin/applcust.txt` to keep track
- You can also create your own AutoConfig tokens and templates (MetaLink 270519.1)

# Rapid Clone

# Rapid Clone

- Used to produce clones of a given environment (MetaLink 230672.1)
- Preparing for a clone
  - ◆ Build a current appsutil directory for your database \$ORACLE\_HOME (MetaLink 165195.1)

```
perl $AD_TOP/bin/admkappsutil.pl
```

will produce

```
$APPL_TOP/admin/out/appsutil.zip
```

Which you will then need to unzip into your database \$ORACLE\_HOME

```
cd $ORACLE_HOME
```

```
unzip -o $APPL_TOP/admin/out/appsutil.zip
```

# Rapid Clone

- Pre-Clone (on SOURCE) gathers information

- ◆ dbTier

```
cd $ORACLE_HOME/appsutil/clone/bin  
perl adpreclone.pl dbTier
```

- ◆ Context file stored in:

```
$ORACLE_HOME/appsutil/clone/context/db/PRO  
D_appshost.xml and CTXORIG.xml
```

- ◆ Database Controlfile Script stored in:

```
$ORACLE_HOME/appsutil/clone/data/stage/adcrdb.z  
ip (adcrdbclone.sql)
```

# Rapid Clone

- Pre-Clone (on SOURCE) gathers information

- ◆ appsTier

```
cd $COMMON_TOP/admin/scripts/PROD_appshost  
perl adpreclone.pl appsTier
```

- ◆ Context file stored in

```
$COMMON_TOP/clone/context/apps/PROD_appshost.xml  
and CTXORIG.xml
```

# Rapid Clone

## ■ Copy Files

### ◆ appsTier

<APPL\_TOP>

<OA\_HTML>

<OA\_JAVA>

<OA\_JRE\_TOP>

<COMMON\_TOP>/util

<COMMON\_TOP>/clone

<COMMON\_TOP>/\_pages (when exists)

<806 ORACLE\_HOME>

<iAS ORACLE\_HOME>

# Rapid Clone

- Copy Files

- ◆ dbTier

- `$ORACLE_HOME`

- Database Files

# Rapid Clone

- Post-Clone uses gathered information (and interview) to generate new environment

- ◆ dbTier

```
cd $ORACLE_HOME/appsutil/clone/bin  
perl adcfgclone.pl dbTier
```

- ◆ Answer questions

- ◆ `adcfgclone.pl` will generate `$TNS_ADMIN` directory

`$ORACLE_HOME/dbs` and database controlfile.

- ◆ Database and listener will be started

- ◆ `$ORACLE_HOME` will be registered in OUI

# Rapid Clone

- Post-Clone uses gathered information (and interview) to generate new environment

- ◆ appsTier

```
cd $COMMON_TOP/clone/bin  
perl adcfgclone.pl appsTier
```

- ◆ Answer questions
- ◆ `adcfgclone.pl` will generate new config files, updates profile options, and start the appsTier components
- ◆ `$ORACLE_HOME` will be registered in OUI

# Why is the Sky Blue?

# Why is the Sky Blue?

- According to Wikipedia:

*The sky is blue partly because air scatters short wavelength light in preference to longer wavelengths. Where the sunlight is nearly tangent to the Earth's surface, the light's path through the atmosphere is so long that much of the blue and even yellow light is scattered out, leaving the sun rays and the clouds it illuminates red, at sunrise and sunset.*

<http://tinyurl.com/qfa4f>

- Personally, I prefer the explanation offered by Night Court's Harry Anderson:

*"Because, if it were green, we wouldn't know when to stop mowing..."*

# Referenced Documents

MetaLink	Title
165195.1	Using AutoConfig to Manage System Configurations with Oracle Applications 11i
216212.1	Business Continuity for Oracle Applications Release 11i, Database Releases 9i and 10g
230672.1	Cloning Oracle Applications Release 11i with Rapid Clone
270519.1	Customizing an AutoConfig Environment
345145.1	Is There A Way To Automate The Prompts For Adcfgclone.PI?
362473.1	Cloning E-Business Suite using Hot Backup for Minimal Downtime of Source Environment

# AutoConfig Managed Files

- Some of the most commonly modified AutoConfig managed files

## Database Tier

Database \$ORACLE\_HOME

```
$ORACLE_HOME/PROD.env  
$ORACLE_HOME/PROD_appshost.env  
$ORACLE_HOME/dbs/initPROD.ora  
$TNS_ADMIN/listener.ora  
$TNS_ADMIN/tnsnames.ora
```

## Applications Tier

8.0.6 Client \$ORACLE\_HOME

```
$ORACLE_HOME/PROD.env  
$ORACLE_HOME/PROD_appshost.env  
$TNS_ADMIN/listener.ora  
$TNS_ADMIN/tnsnames.ora
```

Oracle Applications \$APPL\_TOP

```
$APPL_TOP/admin/APPSORA.env  
$APPL_TOP/admin/APPSPROD_appshost.env  
$APPL_TOP/admin/PROD.env  
$APPL_TOP/admin/PROD_appshost.env
```

Oracle iAS \${IAS\_ORACLE\_HOME}

```
$ORACLE_HOME/PROD.env  
$ORACLE_HOME/PROD_appshost.env  
$TNS_ADMIN/listener.ora  
$TNS_ADMIN/tnsnames.ora  
$ORACLE_HOME/Apache/Apache/conf/httpd.conf  
$ORACLE_HOME/Apache/Apache/conf/httpd_pls.conf  
$ORACLE_HOME/Apache/Jserv/etc/formservlet.ini  
$ORACLE_HOME/Apache/Jserv/etc/jserv.properties  
$ORACLE_HOME/Apache/Jserv/etc/jserv.conf
```

# Questions & Answers

*Remember:*

***KISS***



**Keep It Simple and Supportable<sup>sm</sup>**

*Thank You!*

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# Questions & Answers

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*Thank You!*

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