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S318123 - Reduce TCO with Oracle Application Management Pack for Oracle E-Business Suite

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Application Management Pack

Agenda

- AMP Overview
- Key successes with AMP
- Key enhancements in AMP 3.1
- FHR Case Study, presented by Don Hankins
 - Executive Summary
 - AMP Cloning Solution
 - Project Results
 - Helpful Hints
- Further Information
- Related Sessions
- Q&A



AMP Overview

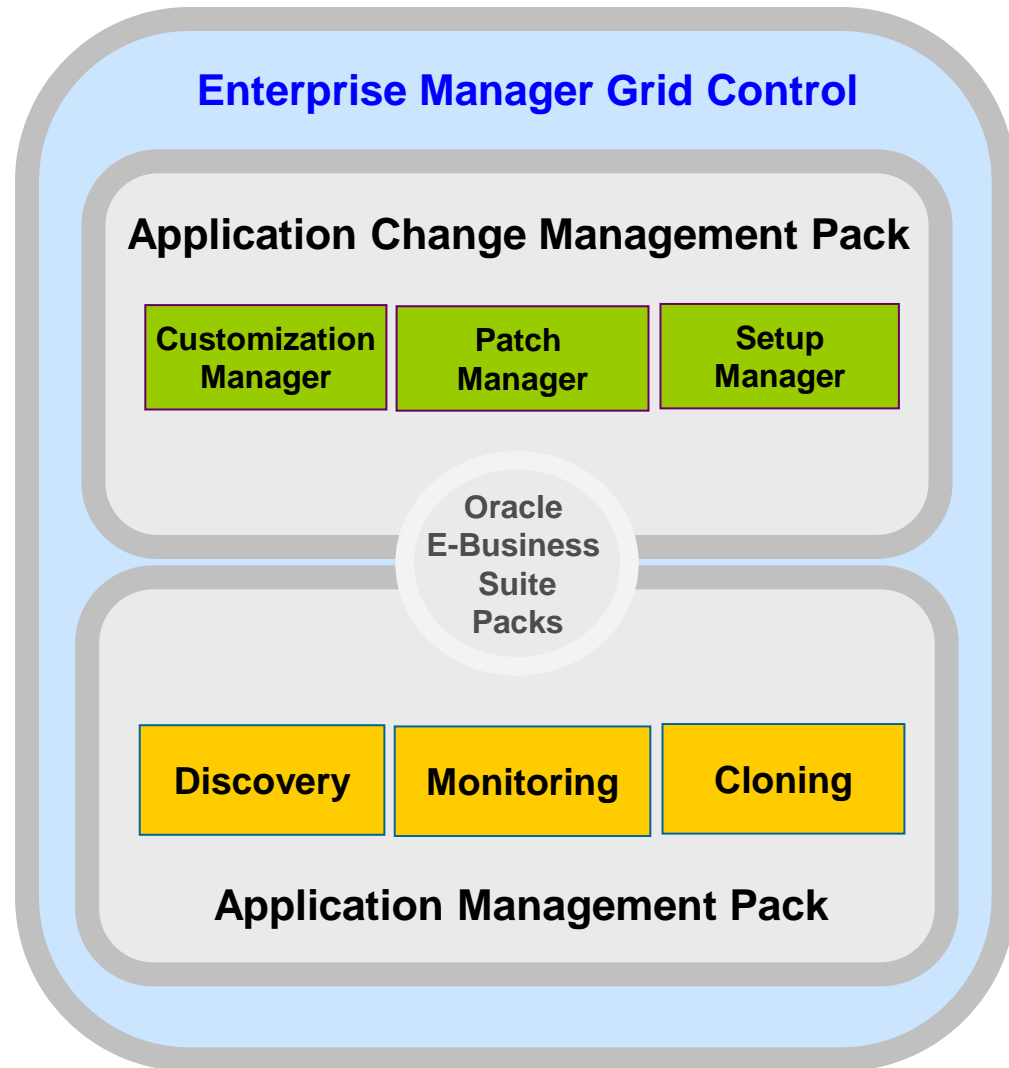
SOFTWARE.
HARDWARE.
COMPLETE.

ORACLE

Application Management Pack Overview

E-Business Suite Management Packs

- **WHAT** – Products that extend Oracle Enterprise Manager Grid Control to lower the cost of managing changes in E-Business Suite.
- **HOW** – Integrates Enterprise Manager Grid Control framework with the embedded features of E-Business Suite to provide end to end change management solutions
- **RESULTS** – Lowers operational cost and improves user productivity by centralizing and automating change management processes across the data center



Application Management Pack

Key Components



Service Level Management

SLA Enforcement

Synthetic User Monitoring

Component Monitoring

Configuration Analysis

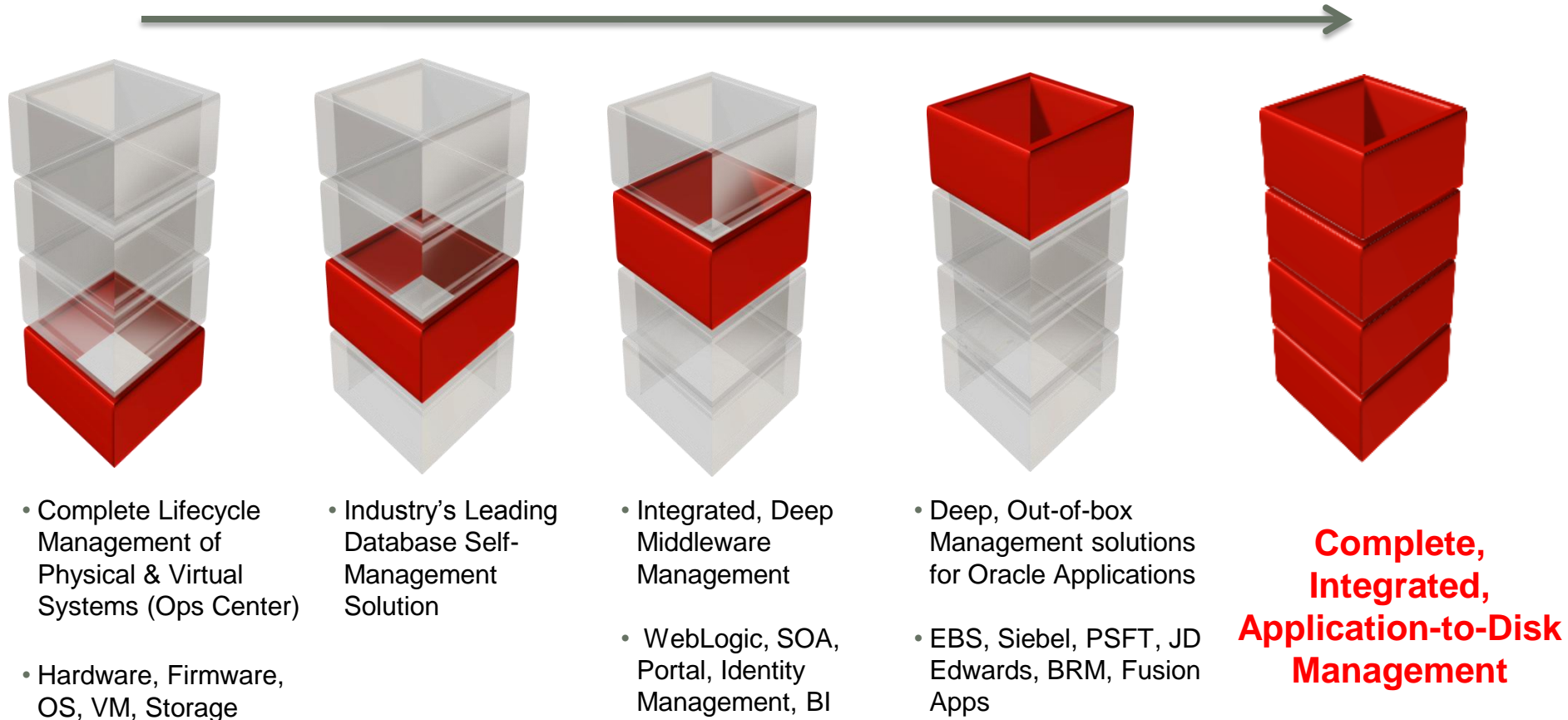
End-to-End User Monitoring

Concurrent Processing Dashboard

Executive and Operational Reporting

Integrated Application-to-Disk Management

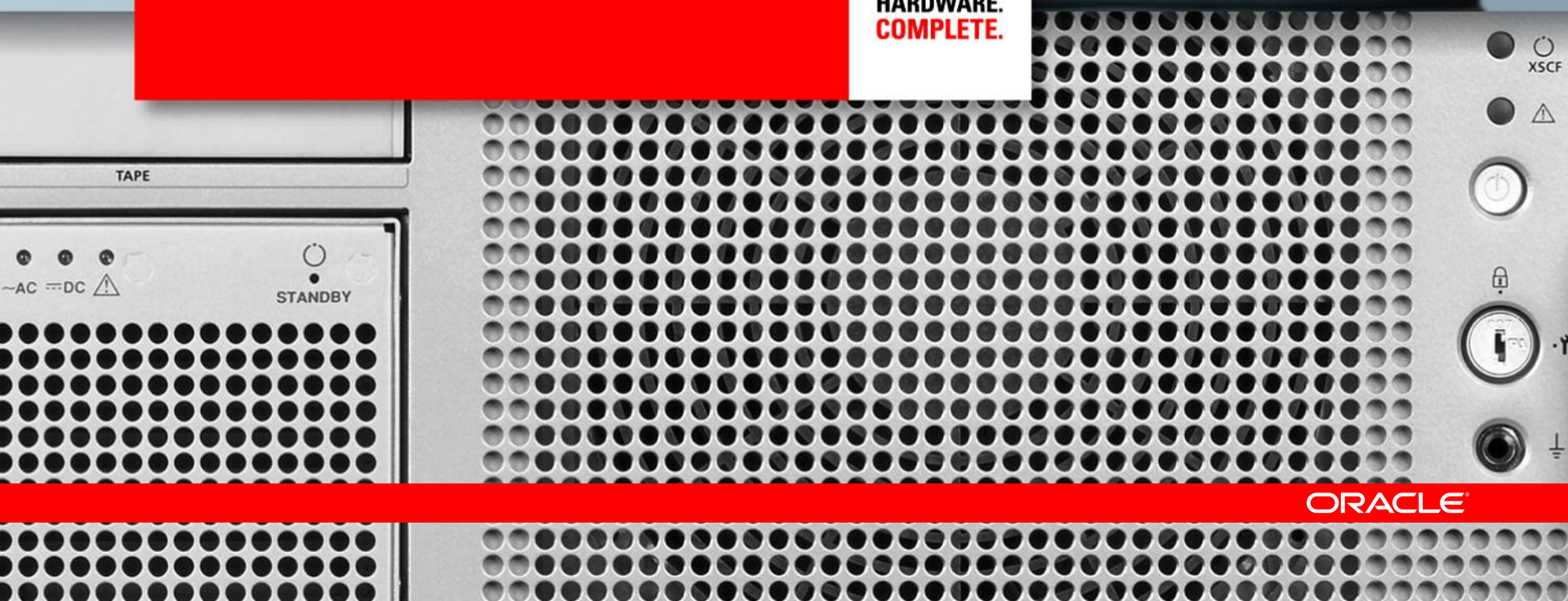
Only Oracle Can Deliver Complete Stack Management





Product Successes

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Application Management Pack

Quantifiable Return on Investment

Implementing Application Management Pack for Oracle E-Business Suite has allowed GE Infrastructure to realize \$200K annual savings, 84% reduction in clone cycle time, and 75% reduction in resources

General Electric

Reduced operator (i.e., DBA) time to perform a clone by approximately 90%, from 20 hours per week to 1-2 hours

Flint Hills Resources

The implementation of the Management Suite resulted in a 66% reduction in error resolution time for E-Business Suite-related issues, and freed up DBA time by approximately 35%.

Oracle GSI



Key Enhancements in AMP 3.1

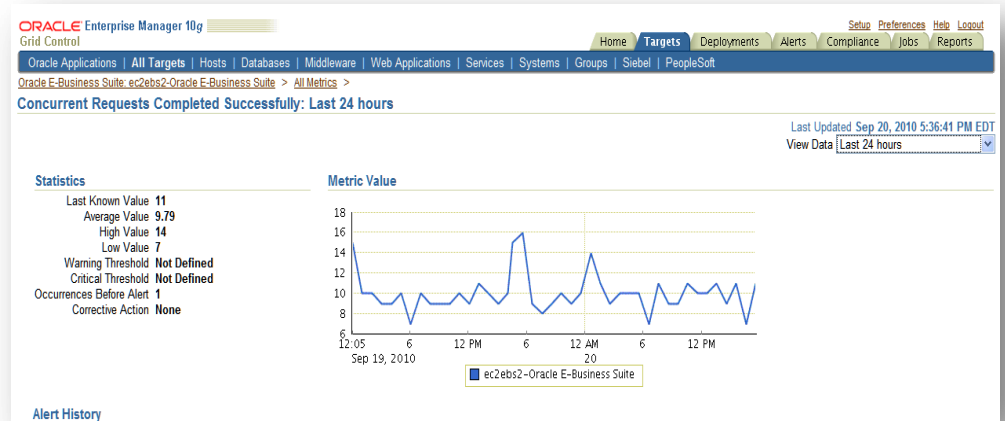
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Key Enhancements in AMP 3.1

Concurrent Processing Dashboard

- Better, more timely, management of Concurrent Managers and Programs
- **Individual** Concurrent Managers and Programs can be represented as targets, allowing:..
 - Metric Collection
 - Long running Threshold
 - Long pending request
 - Monitoring
 - Alerting/Notifications
 - Reporting



Oracle Applications: ec2ebs2-Oracle E-Business Suite
Oracle Applications: ec2ebs2-Oracle E-Business Suite: Concurrent Processing Dashboard
Overview Current Activity Usage User Defined Targets
Page Refreshed Sep 20, 2010 6:33:59 PM EDT

Concurrent Programs

Add

Details Name	Concurrent Program Short Name	Alerts	Host
Hide ec2ebs2-Demo	AXXGRACCA	0 0	ec2ebs2.amazonaws.com

Number of Concurrent Requests by Status

Requests Completed with Error

Long Running Requests

Number of Hourly Completed Requests

Long Pending Requests

Concurrent Managers

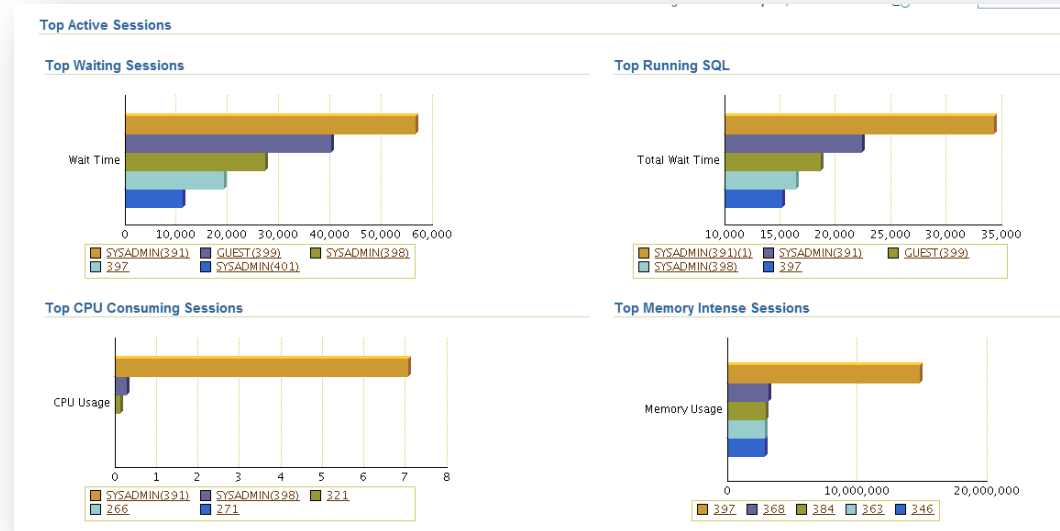
Add

Details Name	Concurrent Manager Short Name	Alerts	Host
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Key Enhancements in AMP 3.1

End-to-End User Monitoring

- Ability to track, trace, troubleshoot in-flight transactions
- Consolidated view of the entire transaction on each tier
- Facilitates deep root-cause analysis
- Search user activity within EBS System
 - Session from OAF, Forms, and CP details
 - Components used
 - Database Session



Database Instance: ec2ebs2 > Top Activity > Logged in As SYSTEM

Session Details: 398 (APPS)

Collected From Target Sep 20, 2010 6:17:10 PM EDT View Data Real Time: 15 Second Refresh

General | Activity | Statistics | Open Cursors | Blocking Tree | Wait Event History | Parallel SQL

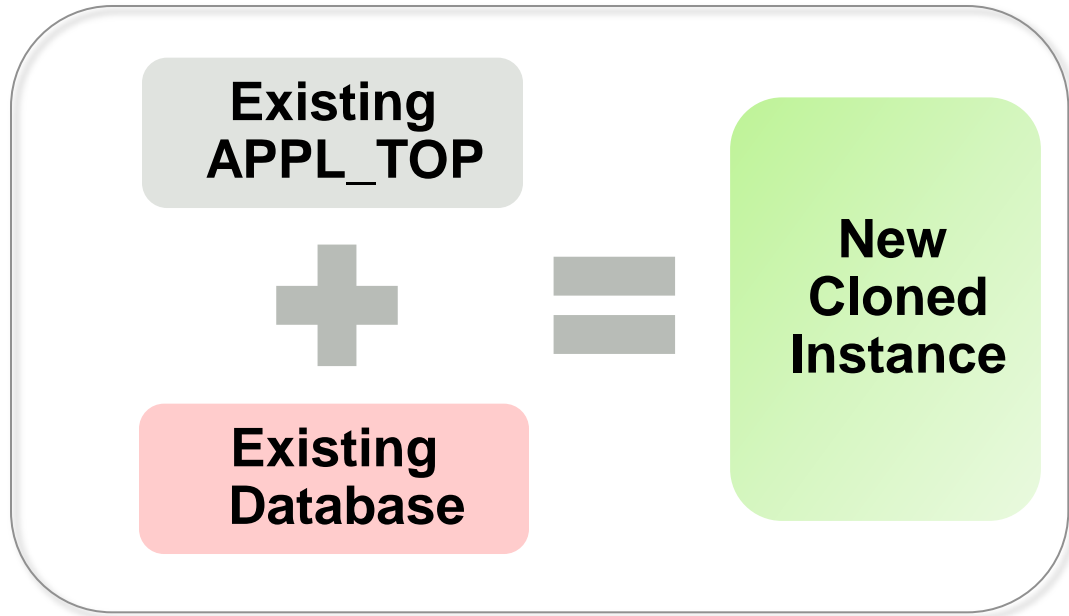
Server	Client	Application
Current Status INACTIVE Serial Number 31753 DB User Name APPS OS Process ID 1370 Login Time Sep 19, 2010 3:45:00 PM Login Duration 1:23:29 (dd:hh:mm:ss) Connection Type DEDICATED Type USER Resource Consumer Group Unavailable	OS User Name applingr OS Process ID 10995 Host ec2ebs2.amazonaws.com Terminal unknown Current Client ID Unavailable Current Client Info 204 0	Current SQL 3m5x0cdyvk7h Current SQL Command SELECT Last Call Duration 6 (s) SQL Trace DISABLED Current SQL Trace Level 1 Trace With Wait Information DISABLED Trace With Bind Information DISABLED Open Cursors 200 Program JDBC Thin Client Service ec2ebs2 Current Module find_security_grants_server.GrantSummaryAM Current Action 10995

Contention	Wait	Other
Blocking Session ID None	Current Wait Event SQL*Net message from client Current Wait Class Idle Wait Duration 6 (s) P1 driver id 675562835 P2 #bytes 1 P3 None Object APPLSYS.FND_FORM_FUNCTIONS_TL	Parsing Schema APPS Failover Type NONE Failover Method NONE Failed Over NO PDML Status DISABLED PDDL Status ENABLED PQ Status ENABLED Current Queue Duration 0 (s)

Key Enhancements in AMP 3.1

Cloning Enhancements

- Smart clone
 - Solutions for large databases
 - “Marrying” an existing APPL_TOP with an existing database **backup** to create a new instance
- Hot Mode Clone
 - Ability to Clone a source instance without shutting it down



AMP/ACP Roadmap

AMP 2.0

- Released: **February 2007**
- First Release of AMP
- Supports EM 10gR5

AMP 2.0.2

- Released: **August 2008**
- EMGC 10gR4 Certified
- Support all major OS platforms including windows & EBS environments with logical names

AMP/ACMP 3.0

- Released: **30th April 2009**
- EMGC 10gR4/R5 Certified
- Advanced Discovery
- Start/Stop EBS Services
- Hot and RAC Cloning (R12)
- Packaging Customization
- Automated Patch Deployment
- Migration of functional setups

AMP/ACMP 3.1

- Released: **January 2010**
- EMGC 10gR5 Certified
- Next Generation Cloning
- Monitor Concurrent Process Performance
- End to End Tracing
- Change Approval Framework
- Register New Custom Applications
- Prerequisite Patch Checking
- Offline Transformation



FHR Case Study

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Incorporating Custom Cloning Tasks with AMP Clone

Agenda

- Executive Summary
- Understanding the components of AMP Cloning
- Project Results
- Helpful Hints

Incorporating Custom Cloning Tasks with AMP Clone

Executive Summary

- Introduction

- Flint Hills Resources (FHR) is an independent refining and chemicals company.. The company, based in Wichita, Kansas, has expanded its operations through capital projects and acquisitions worth more than \$5.1 billion since 2002

- System Details

- Database size/version: 85GB / 10.2.0.4
- Version of E-Business Suite: 12.0.4
- Version of Enterprise Manager: 10.2.0.5
- Version of AMP: 3.0
- Number of supporting, non-production environments: 6

- Key Results

- Operator (i.e., DBA) time to perform clones has been reduced by more than 90%, from 22 hours/week to approx. 1-2 hours/week
- Clones are executed in “Hot Mode”, allowing end-users 24/7 access to the Production environment
- Successfully integrated the AMP Clone into the 3rd party scheduling tool (i.e., Autosys)

Incorporating Custom Cloning Tasks with AMP Clone

Executive Summary

- Drivers in the decision to purchase AMP
 - The ability to retire/remove custom-built scripts and procedures, as well as the associated support/maintenance of the same.
 - The ability to easily incorporate custom steps or procedures into a pre-built infrastructure.
 - The ability to perform a clone without impacting the availability of the source (i.e., Production) instance.
 - The ability to standardize their cloning procedures across multiple E-business Suite environments.
 - FHR had already standardized their system management around Oracle Enterprise Manager, and therefore were predisposed to solutions that leveraged that infrastructure.



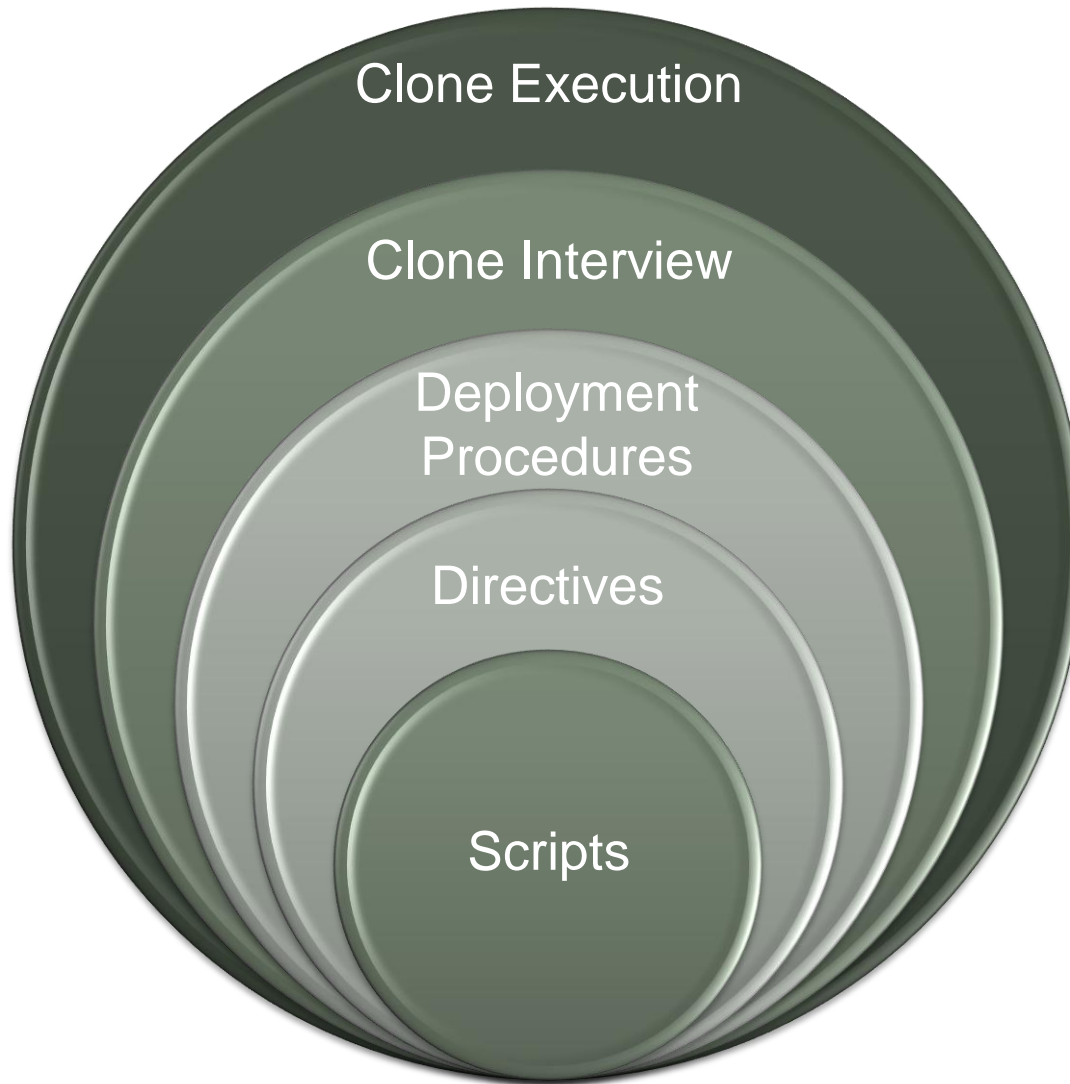
FHR Case Study: Solution

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Incorporating Custom Cloning Tasks with AMP Clone

Understanding the Moving Parts of AMP Cloning



Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Script Creation

- ✓ Determine what processes can be automated via scripts
- ✓ Examples: passwords, concurrent manager definitions, stop/start procedures, FND commands, etc.



Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Script Creation

```
. ./bash_profile
sqlplus /nolog <<EOF1
connect apps/<PW>;
/* Internal Monitor: ICT0LXAP004 */
UPDATE applsys.fnd_concurrent_queues
SET   node_name = 'ICT0LXAP004',
      node_name2 = 'ICT0LXAP001'
WHERE concurrent_queue_name = 'FNDIM_ICT0LXAP004';

/* Internal Manager */
UPDATE applsys.fnd_concurrent_queues
SET   node_name = 'ICT0LXAP001',
      node_name2 = 'ICT0LXAP004'
WHERE concurrent_queue_name = 'FNDICM';
```

- If a custom procedure can be captured in a script, it can be automated
- FHR used ksh wrappers around each script.
- Variables assigned at runtime

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process - Directives

- ✓ Scripts can be uploaded and registered into the Enterprise Manager repository.
- ✓ Customers can identify run-time variables when creating Directives
- ✓ Directives can be included in, and executed by, Deployment Procedures



Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process - Directives

ORACLE Enterprise Manager 10g
Grid Control

Home Targets **Deployments** Alerts Compliance Jobs Reports

General | Provisioning

Provisioning

Provision a full stack of software ranging from Operating System to applications onto a Hardware Server. Page Refreshed July 28, 2010 2:57:08 PM CDT Refresh

Components **Directives** Networks Images Suites Assignments Hardware Cluster Suite Instance Administration

Upload scripts to stage and install Components and Images.

View Latest Version Go Advanced Search

(View) (Edit) (Activate) (Deactivate) (Delete) (Promote) (Demote) (Create Folder) **(Create Directives)**

Select	Name	Type	Revision	Status	Maturity	Product name/Patch number	Product version	Description
<input type="radio"/>	Directives							
<input checked="" type="radio"/>	FHR CUSTOM - OCE							OCE Custom Directives
<input type="radio"/>	Apps Only - File Cleanup		0.1	Active	Untested			Remove All Application Files
<input type="radio"/>	Autoconfig		0.1	Active	Untested			Run autoconfig on all target nodes
<input type="radio"/>	Bounce CCMgrs		0.1	Active	Untested			Shutdown / Startup Concurrent Managers
<input type="radio"/>	Configure CCMgrs		0.1	Active	Untested			Apply configuration changes to concurrent managers
<input type="radio"/>	File Cleanup		0.1	Active	Untested			Remove misc files from all target nodes
<input type="radio"/>	FNDCPASS		0.1	Active	Untested			Change apps password on target
<input type="radio"/>	FNDLOAD		0.1	Active	Untested			Run FNDLOAD processes plus SRT scripts
<input type="radio"/>	Kill Apps Processes		0.1	Active	Untested			Kills leftover apps processes
<input type="radio"/>	Post-Clone Database DML		0.1	Active	Untested			Modify profile settings, sys & system pw, db links
<input type="radio"/>	Rebuild Context Table		0.1	Active	Untested			Rebuilds fnd_oam_context_files table
<input type="radio"/>	Shutdown Application		0.1	Active	Untested			Shutdown application nodes
<input type="radio"/>	Shutdown CCMgrs		0.1	Active	Untested			Shutdown concurrent managers for a given SID

- Oracle provides seeded Directives. Customers can also create their own Directives.
- Creation/registration of a Directive is a four step guided interview process
- FHR has created approximately 15 custom Directives

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process - Directives

ORACLE Enterprise Manager 10g
Grid Control

Home Targets **Deployments** Alerts Compliance Jobs Reports

General | Provisioning

Describe Configure **Upload File** Review

Create Directives: Upload File

Parent **FHR CUSTOM - OCE**

Cancel Save Back Step 3 of 4 Next

Upload a file that has the content for the new Directives.

Currently associated File **None**

Upload Later

Upload from Agent Machine

* Host Select Target

* File name Select File

Upload from Local Machine

Cancel Save Back Step 3 of 4 Next

- **Configure Step:** Identify the runtime variable and bash type. Variables identified during the Interview creation
- **Upload Step:** Locate, select, and upload the the custom script into the EM Directives Repository

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process - Directives

ORACLE Enterprise Manager 10g Grid Control

Home Targets **Deployments** Alerts Compliance Jobs Reports

General | Provisioning

Provisioning

Provision a full stack of software ranging from Operating System to applications onto a Hardware Server. Page Refreshed July 28, 2010 3:11:24 PM CDT Refresh

Components **Directives** Networks Images Suites Assignments Hardware Cluster Suite Instance Administration

Upload scripts to stage and install Components and Images.

View Latest Version Go Advanced Search

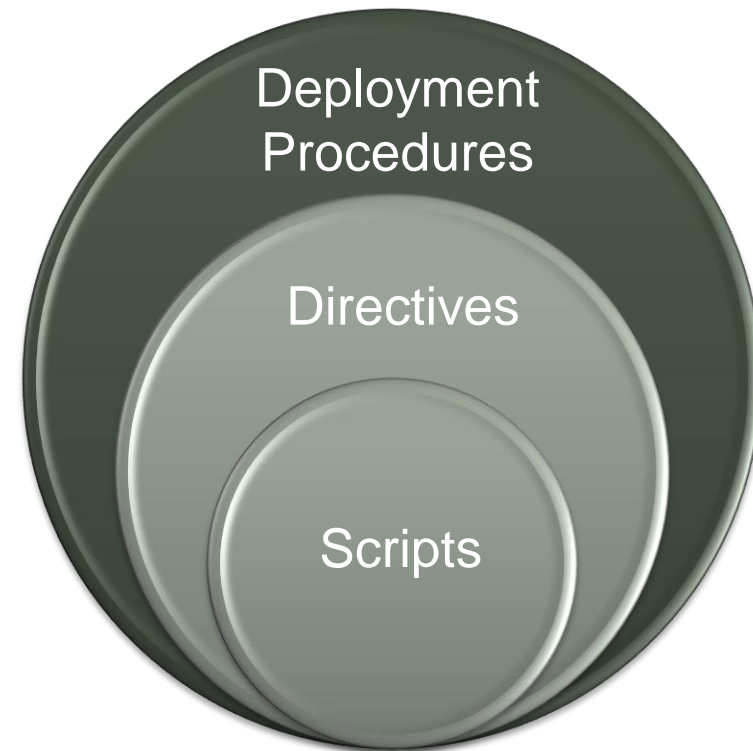
Select	Name	Type	Revision	Status	Maturity	Product name/Patch number	Product version	Description
<input type="checkbox"/>	Directives							
<input type="checkbox"/>	FHR CUSTOM - OCE							OCE Custom Directives
<input type="checkbox"/>	Apps Only - File Cleanup		0.1	Active	Untested			Remove All Application Files
<input type="checkbox"/>	Autoconfig		0.1	Active	Untested			Run autoconfig on all target nodes
<input type="checkbox"/>	Bounce CCMgrs		0.1	Active	Untested			Shutdown / Startup Concurrent Managers
<input type="checkbox"/>	Configure CCMgrs		0.1	Active	Untested			Apply configuration changes to concurrent managers
<input type="checkbox"/>	File Cleanup		0.1	Active	Untested			Remove misc files from all target nodes
<input type="checkbox"/>	FNDCPASS		0.1	Active	Untested			Change apps password on target
<input type="checkbox"/>	FNDLOAD		0.1	Active	Untested			Run FNDLOAD processes plus SRT scripts
<input type="checkbox"/>	Kill Apps Processes		0.1	Active	Untested			Kills leftover apps processes
<input type="checkbox"/>	Post-Clone Database DML		0.1	Active	Untested			Modify profile settings, sys & system pw, db links
<input checked="" type="checkbox"/>	Post-Clone Internal Manager		0.2	Active	Untested			Configure internal manager for target application
<input type="checkbox"/>	Rebuild Context Table		0.1	Active	Untested			Rebuilds ind_iam_context_files table
<input type="checkbox"/>	Shutdown Application		0.1	Active	Untested			Shutdown application nodes
<input type="checkbox"/>	Shutdown CCMgrs		0.1	Active	Untested			Shutdown concurrent managers for a given SID
<input type="checkbox"/>	Shutdown Database		0.1	Active	Untested			Shutdown Target Database
<input type="checkbox"/>	Start CCMgrs		0.1	Active	Untested			Startup concurrent managers on target nodes

- Once registered and activated, the Directive is available to be used in a Deployment Procedure

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

- ✓ A Deployment Procedures is a framework of tasks, jobs, or directives that are logically sequenced.
- ✓ Deployment Procedures can be created and edited to include custom Directives
- ✓ Oracle delivers 6 Deployment Procedures especially for AMP Cloning
- ✓ Deployment Procedures execute the AMP Clone



Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

ORACLE Enterprise Manager 10g Grid Control

Home Targets Deployments Alerts Compliance Jobs Reports Oracle Applications

Hosts | Databases | Middleware | Web Applications | Services | Systems | Groups | All Targets | Alaska | Prod Databases | Prod Servers | Physical Standby Databases | Oracle Applications

Clone Oracle Applications

Page Refreshed Aug 20, 2010 2:41:29 PM

Home Cloned Images Cloning Procedures

Cloning Procedures are best practices provided by Oracle for cloning Oracle Applications. Procedures created by Oracle cannot be edited, but can be copied using Create Like, so that you can customize the procedure to fit your environment. You can run a Cloning Procedure to start a Clone Operation.

(Run)

Select	Procedure	Type	Description	Created By	Version	Last Updated	Simple Wizard
<input checked="" type="radio"/>	FHR_CUSTOM - Clone App Only	Clone Oracle Applications: Hot Mode Source to Target	Clone Source to Target - Applicatin Only	SYSMAN	1.2	10:29:57 AM Jun 30 2010 CDT	
<input type="radio"/>	FHR_CUSTOM - Hot Mode Clone - Source to Target	Clone Oracle Applications: Hot Mode Source to Target	Hot Mode Clone Source to Target - Full	SYSMAN	1.21	10:46:09 AM Apr 09 2010 CDT	
<input type="radio"/>	FHR_CUSTOM - Hot Mode Clone - DB Only	Clone Oracle Applications: Hot Mode Source to Target	Hot Mode Clone Source to Target - DB Only	SYSMAN	1.7	09:06:53 AM Mar 02 2010 CST	
<input type="radio"/>	Clone Source to Target	Clone Oracle Applications: Source to Target	Clone Source to Target	Oracle	1.4	03:13:48 PM Nov 30 2009 CST	
<input type="radio"/>	Clone Source to Image	Clone Oracle Applications: Source to Image	Clone Source to Image	Oracle	1.4	03:13:46 PM Nov 30 2009 CST	
<input type="radio"/>	Deploy Image to Target	Clone Oracle Applications: Image to Target	Deploy Image to Target	Oracle	1.4	03:13:44 PM Nov 30 2009 CST	
<input type="radio"/>	Hot Mode Clone Source to Target	Clone Oracle Applications: Hot Mode Source to Target	Hot Mode Clone Source to Target	Oracle	1.4	03:13:43 PM Nov 30 2009 CST	
<input type="radio"/>	Hot Mode Clone Source to Image	Clone Oracle Applications: Hot Mode Source to Image	Hot Mode Clone Source to Image	Oracle	1.4	03:13:41 PM Nov 30 2009 CST	
<input type="radio"/>	Hot Mode Clone Image to Target	Clone Oracle Applications: Hot Mode Image to Target	Hot Mode Clone Image to Target	Oracle	1.4	03:13:39 PM Nov 30 2009 CST	

Home Cloned Images Cloning Procedures

- AMP 3.0 ships with 6 pre-defined seeded Deployment procedures
- FHR has created 3 custom DP that utilize custom Directives to execute AMP Clones

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

The screenshot displays a configuration window for a deployment procedure. At the top, there are buttons for 'Enable', 'Disable', 'Delete', 'Insert', and 'Edit Step'. Below these are options to 'Select All', 'Select None', 'Expand All', and 'Collapse All'. The main area is a table with columns for 'Select', 'Name', 'Type', 'Description', and 'Action'. A red box highlights a section of the table labeled 'Set of Custom Directives', which includes tasks like 'Shutdown Application', 'Shutdown Database', 'File Cleanup', and 'Kill Apps Processes'. A blue box highlights a section labeled 'Set of Seeded Directives', which includes tasks like 'Stage Applications (Source System)', 'Stage Applications Nodes', and 'Copy Stage to Shared Location'. A mouse cursor is visible over the 'Copy Stage to Shared Location' task.

Select	Name	Type	Description	Action
<input type="checkbox"/>	▼ FHR CUSTOM - Hot Mode Clone - Source to Target		Hot Mode Clone Source to Target - Full	Stop On Error
<input type="checkbox"/>	▼ FHR CUSTOM - Pre-Clone Steps	Rolling		Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Application	Directive	Shutdown target application node(s)	Normal Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Database	Directive	Shutdown target database and listener	Normal Inherit (Stop On Error)
<input type="checkbox"/>	File Cleanup	Directive	Remove target DB files; misc. files from previous clone	Normal Inherit (Stop On Error)
<input type="checkbox"/>	Kill Apps Processes	Directive	kills leftover target applications processes	Normal Continue On Error
<input type="checkbox"/>	▼ Pre-Clone dbTier	Parallel	preClones the DB tier	Inherit (Stop On Error)
<input type="checkbox"/>	Pre-Clone dbTier	Job	Pre-Clone dbTier	Normal Inherit (Stop On Error)
<input type="checkbox"/>	▼ Stage Applications (Source System)	Parallel	Stage contents of each Application Nodes	Inherit (Stop On Error)
<input type="checkbox"/>	Stage Applications Nodes	Job	Stage Applications Nodes	Normal Inherit (Stop On Error)
<input type="checkbox"/>	Copy Stage to Shared Location	Job	Copy Staged Node contents to a specified shared filesystem location.	Normal Inherit (Stop On Error)
<input type="checkbox"/>	▼ Stage Data tops (Source System)	Parallel	Stage contents of each Database Nodes	Inherit (Stop On Error)
<input type="checkbox"/>	Stage Database Nodes	Job	Stage Database Nodes	
<input type="checkbox"/>	Copy Stage to Shared Location	Job	Copy Staged Node contents to a specified shared filesystem location.	

- Sample of a FHR customer Deployment Procedure
- FHR has created custom Deployment Procedures that combine both Seeded and Custom Directives

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

Enable Disable Delete **Insert** Edit Step

Select All | Select None | Expand All | Collapse All

Select	Name	Type	Description	Run Privilege	Run Privilege Command/Privilege Delegation	Error Handling Mode
<input type="checkbox"/>	▼ FHR CUSTOM - Hot Mode Clone - Source to Target		Hot Mode Clone Source to Target - Full			Stop On Error
<input type="checkbox"/>	▼ FHR CUSTOM - Pre-Clone Steps	Rolling				Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Application	Directive	Shutdown target application node(s)	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Database	Directive	Shutdown target database and listener	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	File Cleanup	Directive	Remove target DB files; misc. files from previous clone	Normal		Inherit (Stop On Error)
<input checked="" type="checkbox"/>	Kill Apps Processes	Directive	kills leftover target applications processes	Normal		Continue On Error
<input type="checkbox"/>	▼ Pre-Clone dbTier	Parallel	preClones the DB tier			Inherit (Stop On Error)
<input type="checkbox"/>	Pre-Clone dbTier	Job	Pre-Clone dbTier	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	▼ Stage Applications (Source	Parallel	Stage contents of each Application Nodes			Inherit (Stop On Error)

- Ability to Enable, Disable, Edit, Insert, or Delete any Directive
- Ability to sequence Directives
- Ability to change “Error Handling Mode” for each Directive

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

The screenshot shows the Oracle Enterprise Manager 10g Grid Control interface. At the top, there are navigation tabs: Home, Targets, Deployments, Alerts, Compliance, Jobs, and Reports. Below these, there are sub-tabs: General and Provisioning. A progress bar at the top indicates the current step: Create (grey), Select Directive (blue), Map Properties (white), and Review (white). The main content area is titled 'Create Directive Step: Select Directive'. It includes a 'Cancel' button, 'Back' button, 'Step 2 of 4', and 'Next' button. Below this, there is a 'Select Directive' section with form fields for Component Name, File name, Status (set to Active), Product Name, Revision (set to All Versions), Maturity (set to --Any--), and Author. A 'Go' button is located below the Product Name field. Below the form is a table of directives. The table has columns for Select, Component Name, Type, Revision, Status, Maturity, Product Name, Product Version, and Description. The last row in the table is highlighted with a red box, indicating it is the selected directive.

Select	Component Name	Type	Revision	Status	Maturity	Product Name	Product Version	Description
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Apps Only - File Cleanup	Directives	0.1	Active	Untested			Remove All Application Files
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Autoconfig	Directives	0.1	Active	Untested			Run autocfg on all target nodes
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Bounce CCMgrs	Directives	0.1	Active	Untested			Shutdown / Startup Concurrent Managers
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Configure CCMgrs	Directives	0.1	Active	Untested			Apply configuration changes to concurrent managers
<input type="radio"/>	Directives/FHR CUSTOM - OCE/File Cleanup	Directives	0.1	Active	Untested			Remove misc files from all target nodes
<input type="radio"/>	Directives/FHR CUSTOM - OCE/FNDCPASS	Directives	0.1	Active	Untested			Change apps password on target
<input type="radio"/>	Directives/FHR CUSTOM - OCE/FNDLOAD	Directives	0.1	Active	Untested			Run FNDLOAD processes plus SRT scripts
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Kill Apps Processes	Directives	0.1	Active	Untested			Kills leftover apps processes
<input type="radio"/>	Directives/FHR CUSTOM - OCE/Post-Clone Database BML	Directives	0.1	Active	Untested			Modify profile settings, sys & system priv, db links
<input checked="" type="radio"/>	Directives/FHR CUSTOM - OCE/Post-Clone Internal Manager	Directives	0.2	Active	Untested			Configure internal manager for target application

- Select the Directive that was created earlier

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

ORACLE Enterprise Manager 10g
Grid Control

Home Targets **Deployments** Alerts Compliance Jobs Reports

General | Provisioning

ORACLE Enterprise Manager 10g
Grid Control

Home Targets **Deployments** Alerts Compliance Jobs Reports

General | Provisioning

Create Directive Step: Map Properties

Specify the values for the component and/or directive properties. You can also change the run privilege accordingly.

Cancel Back Step 3 of 4 Next

Run Mode

Run Privilege Normal

Directive Run Mode

Run Directive
Perform Cleanup

Directive Properties

Target SID Target SID Target Database SID Choose Variable Procedure Variable: V CLN_ACT_TARGET

Cancel Back Step 3 of 4 Next

- Ability to prompt for runtime constants, variables at runtime
- FHR leverages this capability to automatically pass the “Target SID” variable from the AMP Clone Interview

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – Deployment Procedures

Enable Disable Delete Insert Edit Step

Select All Select None Expand All Collapse All

Select	Name	Type	Description	Run Privilege	Run Privilege Command/Privilege Delegation	Error Handling Mode
<input type="checkbox"/>	▼ FHR_CUSTOM - Hot Mode Clone - Source to Target		Hot Mode Clone Source to Target - Full			Stop On Error
<input type="checkbox"/>	▼ FHR_CUSTOM - Pre-Clone Steps	Rolling				Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Application	Directive	Shutdown target application node(s)	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	Shutdown Database	Directive	Shutdown target database and listener	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	File Cleanup	Directive	Remove target DB files; misc. files from previous clone	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	Kill Apps Processes	Directive	kills leftover target applications processes	Normal		Continue On Error
<input type="checkbox"/>	Post-Clone Internal Manager	Directive		Normal		Inherit (Stop On Error)
<input type="checkbox"/>	▼ Pre-Clone dbTier	Parallel	preClones the DB tier			Inherit (Stop On Error)
<input type="checkbox"/>	Pre-Clone dbTier	Job	Pre-Clone dbTier	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	▼ Stage Applications (Source System)	Parallel	Stage contents of each Application Nodes			Inherit (Stop On Error)
<input type="checkbox"/>	Stage Applications Nodes	Job	Stage Applications Nodes	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	Copy Stage to Shared Location	Job	Copy Staged Node contents to a specified shared filesystem location.	Normal		Inherit (Stop On Error)
<input type="checkbox"/>	▼ Stage Data tops (Source System)	Parallel	Stage contents of each Database Nodes			Inherit (Stop On Error)

- Once the interview is complete, the Directive is placed into the Deployment Procedure
- Once the Deployment Procedure is saved, it can be used by the AMP Clone Interview process

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

- ✓ The Interview process gathers information from the customer about the Clone (e.g., source system, target system name, mount points, credentials, etc)
- ✓ Each AMP Clone Interview uses one Deployment Procedure
- ✓ Interviews/Definitions can be run n times, thereby standardizing the Clone process



Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

ORACLE Enterprise Manager 10g Grid Control

Home Targets Deployments Alerts Compliance Jobs Reports

Hosts | Databases | Middleware | Web Applications | Services | Systems | Groups | All Targets | Alaska | Prod Databases | Prod Servers | Physical Standby Databases | Oracle Applications

Clone Oracle Applications

Page Refreshed Aug 20, 2010 2:37:57 PM

Home Cloned Images Cloning Procedures

Start a Clone FHR CUSTOM - Clone App Only

Completed Clone Operations 6 (6 ✓ (100%), 0 ✗ (0%)) (last 6 months)

In Progress

Select Name	Procedure	Source	Target	Last Updated	Status	Notes
No clones found.						

Scheduled

Select Name	Procedure	Source	Target	Scheduled Date	Notes
No clones found.					

Saved

Select	Name	Procedure	Source	Target	Last Updated	Notes
<input checked="" type="radio"/>	App Only - OCPRD to OCGLD	FHR CUSTOM - Clone App Only	OCPRD-Oracle E-Business Suite	OCGLD	12:58:30 PM Jun 30 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCDEV	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCDEV	03:34:04 PM May 25 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone-OCPRD to OCSNB	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCSNB	03:27:49 PM May 25 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCPCH	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCPCH	02:05:10 PM May 25 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCCNV	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCCNV	01:20:46 PM May 20 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCCRP	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCCRP	09:19:11 AM May 18 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCGLD	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCGLD	04:29:39 PM May 17 2010 CDT	<input type="button" value="Add"/>

Completed

- The AMP Clone interview process uses Deployment Procedures to orchestrate and execute different individual tasks
- FHR utilizes 3 different deployment procedures in 6 different AMP Cloning definitions (e.g., PROD to TEST,_FULL, PROD to TEST_DBONLY)

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

The screenshot shows the Oracle Enterprise Manager 10g Grid Control interface. The top navigation bar includes 'Home', 'Targets', 'Deployments', 'Alerts', 'Compliance', 'Jobs', and 'Reports'. Below this, a breadcrumb trail shows the current path: 'General' > 'Source/Target' > 'Node Type Details' > 'Stage Environment Tasks' > 'Copy Parameters' > 'Target System Tasks' > 'More'. The main content area is titled 'Clone Source to Target: Source/Target'. It shows the source system as 'OCPRD-Oracle E-Business Suite' and the target system as 'OCGLD'. There are buttons for 'Cancel', 'Save For Later', 'Back', 'Step 2 of 10', and 'Next'. Below this, there are input fields for 'Source Applications System' (OCPRD-Oracle E-Business Suite), 'Target Applications System' (OCGLD), and 'Target Port Pool' (30). A note below the port pool field says: 'Select the port pool number to populate all ports on all nodes for your target Applications System.' Under the 'Components' section, there is a text block explaining cloning options and a table for selecting focus node types. The table has a 'Select Focus Node Type' header and lists various node types with radio buttons and expand/collapse icons. A red box highlights the 'Select Focus Node Type' table. At the bottom, there are buttons for 'Cancel', 'Save For Later', 'Back', 'Step 2 of 10', and 'Next'.

ORACLE Enterprise Manager 10g
Grid Control

Home Targets Deployments Alerts Compliance Jobs Reports

Hosts | Databases | Middleware | Web Applications | Services | Systems | Groups | All Targets | Alaska | Prod Databases | Prod Servers | Physical Standby Databases | Oracle Applications

General Source/Target Node Type Details Stage Environment Tasks Copy Parameters Target System Tasks More

Clone Source to Target: Source/Target

Source System OCPRD-Oracle E-Business Suite Target System OCGLD Cancel Save For Later Back Step 2 of 10 Next

* Source Applications System OCPRD-Oracle E-Business Suite
* Target Applications System OCGLD
Target Applications System Name and Database Name
Target Port Pool 30
Select the port pool number to populate all ports on all nodes for your target Applications System.

Components

You can choose to clone the entire Applications System or only the Database Node or the Applications Node. You can also choose to clone only the Technology Stack or the Database for the Database Node or only the Technology Stack or the APPL_TOP for the Applications Node.

Expand All | Collapse All

Select Focus Node Type	
<input checked="" type="radio"/>	Application System
<input type="radio"/>	Database Node
<input type="radio"/>	Technology Stack
<input type="radio"/>	Database
<input type="radio"/>	Application Node
<input type="radio"/>	Technology Stack
<input type="radio"/>	APPL_TOP

Click on Save For Later button to save and continue later.

Cancel Save For Later Back Step 2 of 10 Next

- Multi-step interview process
- Identify Source system, Destination target (a variable that is used at runtime), and the different components of the EBS instance
- FHR performs full stack clone and a database-only clone

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

The screenshot shows the Oracle Enterprise Manager 10g Grid Control interface. The main window displays the 'Hot Clone Source to Target: Application Node: Update Target Node Details' dialog box. The dialog is titled 'Hot Clone Source to Target: Application Node: Update Target Node Details' and shows the source system as 'OCPRD-Oracle E-Business Suite' and the target system as 'OCGLD'. The 'Target Node Summary' section includes the following details:

- Node Name: OCGLD_ict01xap004
- Host: ict01xap004
- Platform: LINUX_X86-64
- Source Node Name: OCPRD_ict01xap008
- Supported Application Services: Administration, Concurrent Processing, Forms, Web
- Domain: fhr.com
- * Apps OS User: aplocgld
- * Apps OS Group: apps

The 'Locations' section includes the following details:

- * Base Directory: /u04/oracle/OCGLD
- * COMMON_TOP directory: /u04/oracle/OCGLD/apps/apps_st/comm
- * Tools Oracle Home: /u04/oracle/OCGLD/apps/tech_st/10.1.2
- * Web Oracle Home: /u04/oracle/OCGLD/apps/tech_st/10.1.3
- * Instance Home: /u04/oracle/OCGLD/inst

The 'APPL_TOP Mount Point(s)' section includes the following details:

- * APPL_TOP mount point: /u04/oracle/OCGLD/apps/apps_st/appl
- Auxiliary mount point 2: /u04/oracle/OCGLD/apps/apps_st/appl
- Auxiliary mount point 3: /u04/oracle/OCGLD/apps/apps_st/appl
- Auxiliary mount point 4: /u04/oracle/OCGLD/apps/apps_st/appl

- Verify Database and Application node details (captured via Autoconfig)
- FHR clones PROD into different environments, each of which might have different mount points/paths. This step allows FHR to define and capture those different mount points for future reuse.

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

ORACLE Enterprise Manager 10g
Grid Control

Home Targets Deployments Alerts Compliance Jobs Reports
Hosts Databases Middleware Web Applications Services Systems Groups All Targets Alaska Prod Databases Prod Servers Physical Standby Databases Oracle Applications

Clone Source to Target
Source System OCPRD-0
Stage And Copy Options

Default Options
For 'Source' or 'Target' Host
Source Stage Area

Transfer from Source

Transfer from Source

- Copy to Shared Location
Directory Path
Use this option to save Image to a common shared file system
- No Copy
Use this option if your Stage Area is a common shared file system location.

Transfer to Target

- Remote File Transfer
Use this option to copy Image from remote Source Machine(s).
- No Copy
Use this option if your Stage Area is a common shared file system location that is the same as Image location.

Target Stage Area

- Common Stage
- Local Stage per Node

Name	Host	Type	Stage Path
OCGLD_ict01xdb006	ict01xdb006	Database	<input type="text"/>
OCGLD_ict01xap004	ict01xap004	Application	<input type="text"/>
OCGLD_ict01xap002	ict01xap002	Application	<input type="text"/>
OCGLD_ict01xap001	ict01xap001	Application	<input type="text"/>
OCGLD_ict01xap003	ict01xap003	Application	<input type="text"/>

TIP Click on Save For Later button to save and continue later.

Cancel Save For Later Back Step 5 of 10 Next

- Multiple choices for staging areas and transfer options
- NFS mount is a more efficient mode than multiple file copies and storage

Incorporating Custom Cloning Tasks with AMP Clone

Automating the Cloning Process – AMP Clone Interview

ORACLE Enterprise Manager 10g Setup Preferences Help Logout
 Grid Control Home **Targets** Deployments Alerts Compliance Jobs Reports
 Hosts | Databases | Middleware | Web Applications | Services | Systems | Groups | All Targets | Alaska | Prod Databases | Prod Servers | Physical Standby Databases | Oracle Applications

Clone Oracle Applications Page Refreshed Aug 20, 2010 2:37:57 PM

Home Cloned Images Cloning Procedures

Completed Clone Operations 6 (6 ✓ (100%), 0 ✗ (0%)) (last 6 months) Start a Clone FHR CUSTOM - Clone App Only

▼ In Progress

Select Name	Procedure	Source	Target	Last Updated	Status	Notes
No clones found.						

▼ Scheduled

Select Name	Procedure	Source	Target	Scheduled Date	Notes
No clones found.					

▼ Saved

Select	Name	Procedure	Source	Target	Last Updated	Notes
<input checked="" type="radio"/>	App Only - OCPRD to OCGLD	FHR CUSTOM - Clone App Only	OCPRD-Oracle E-Business Suite	OCGLD	12:58:30 PM Jun 30 2010 CDT	<input type="button" value="Add"/>
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<input type="radio"/>	Full Clone - OCPRD to OCCNV	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCCNV	01:20:48 PM May 20 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCCRP	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCCRP	09:19:11 AM May 18 2010 CDT	<input type="button" value="Add"/>
<input type="radio"/>	Full Clone - OCPRD to OCGLD	FHR CUSTOM - Hot Mode Clone - Source to Target	OCPRD-Oracle E-Business Suite	OCGLD	04:29:39 PM May 17 2010 CDT	<input type="button" value="Add"/>

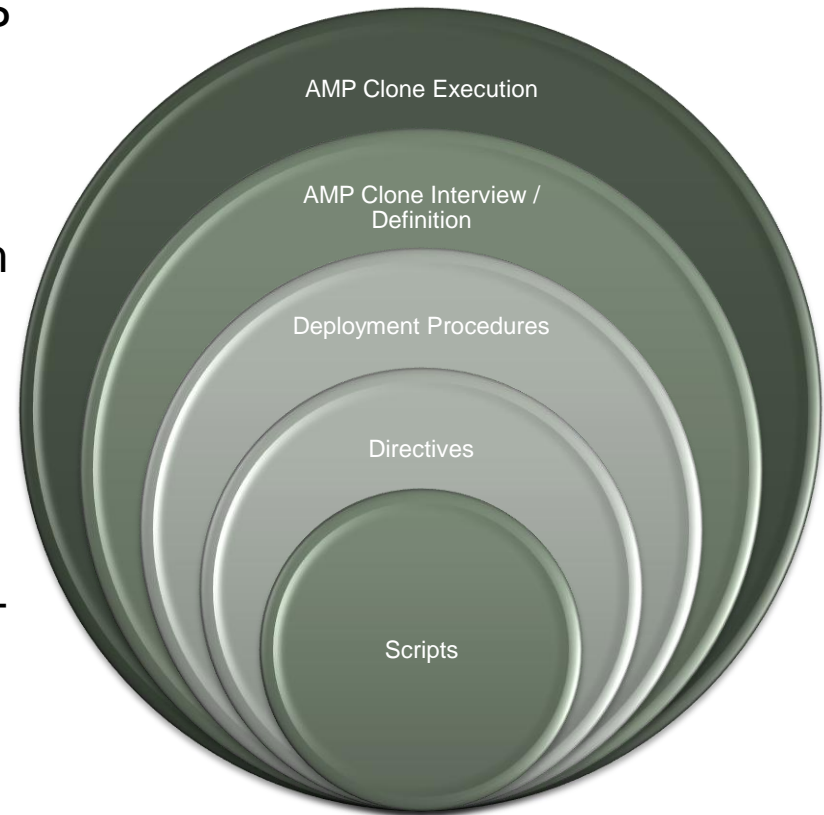
► Completed

- Once the Cloning run has been defined/created, it is eligible to be executed multiple times.

Incorporating Custom Cloning Tasks with AMP Clone

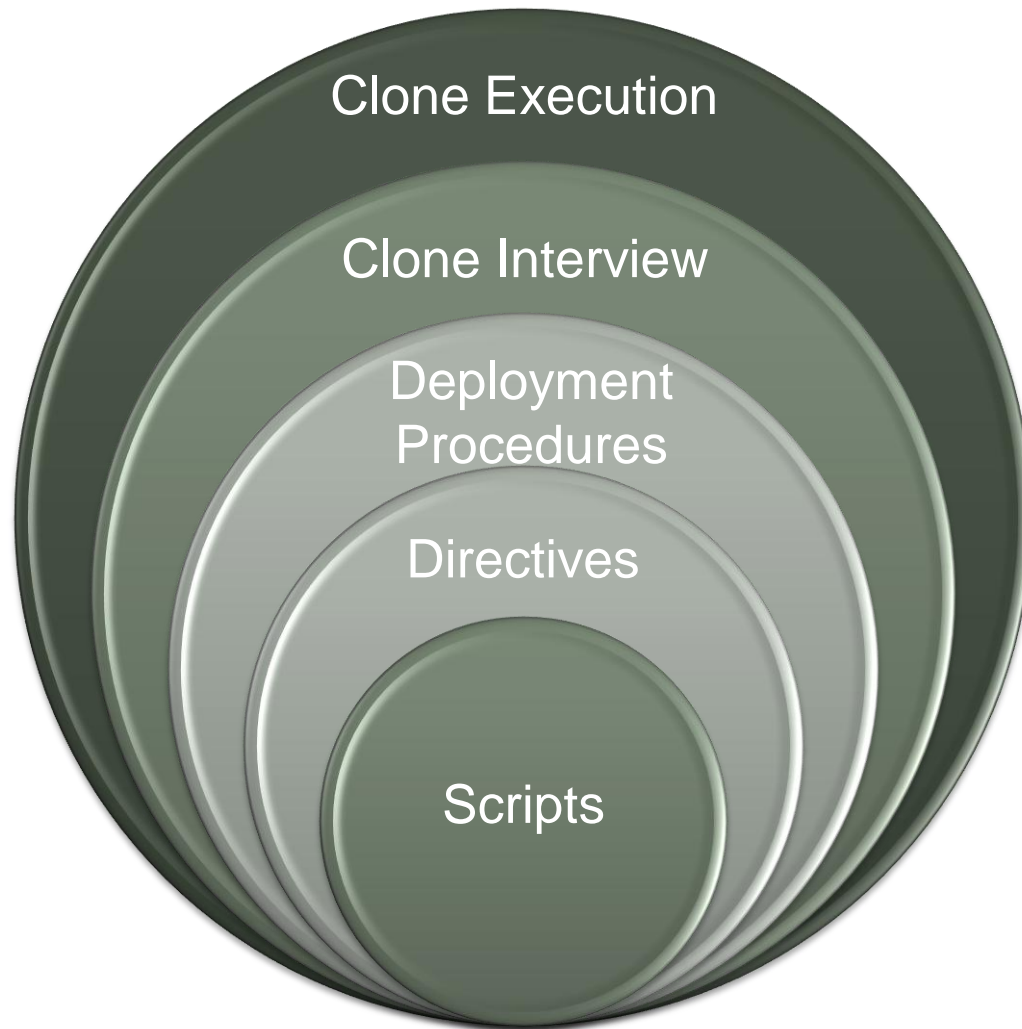
Automating the Cloning Process – AMP Clone Execution

- ✓ Most customers will execute the AMP Clone via the UI, either immediately or at a pre-determined date/time
- ✓ FHR created an executable to launch the AMP Clone from the command line
- ✓ The command execution permits FHR to incorporate the AMP Clone into a larger nightly refresh process – managed by a 3rd party scheduling tool (Autosys)



Incorporating Custom Cloning Tasks with AMP Clone

Understanding the Moving Parts of AMP Cloning





FHR Case Study: Project Results

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Incorporating Custom Cloning Tasks with AMP Clone

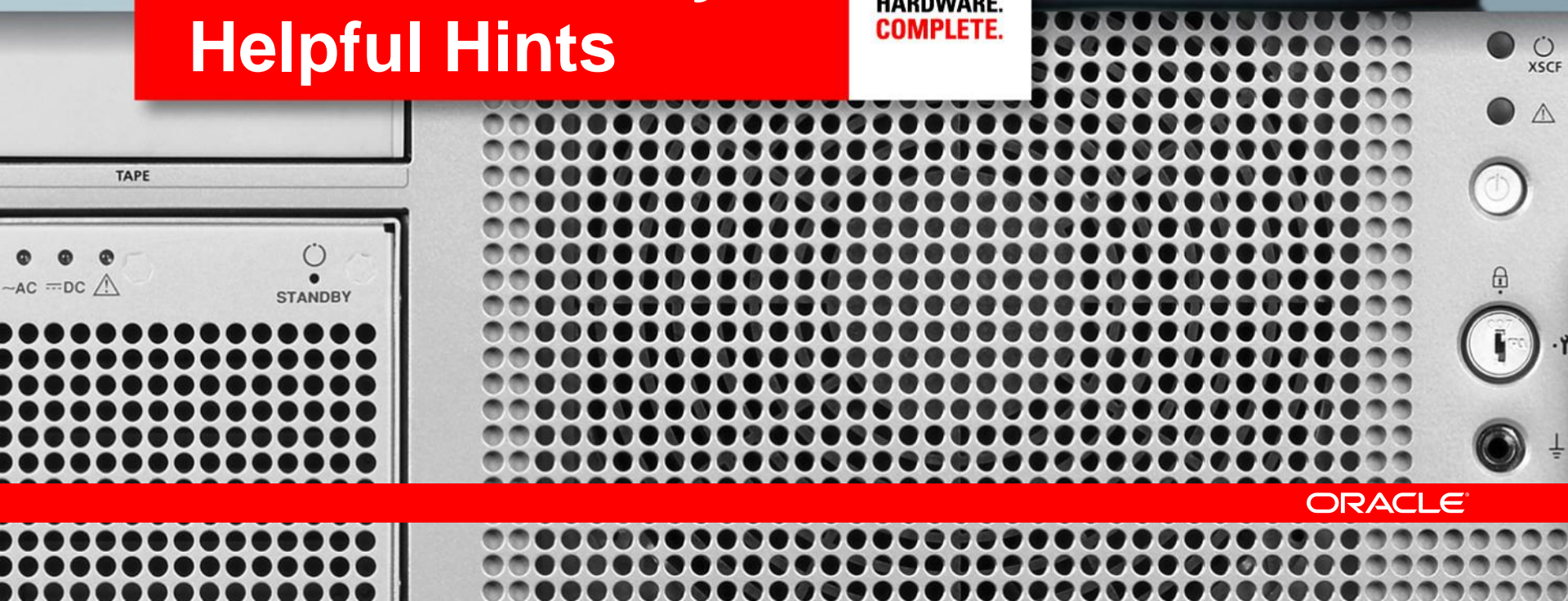
Project Results

- The benefits associated with AMP Cloning are:
 - Operator (i.e., DBA) time to perform clones has been reduced by more than 90%, from 22 hours/week to approx. 1-2 hours/week
 - Clones are executed in “Hot Mode”, allowing end-users 24/7 access to the Production environment
 - Creating cloning executables has given non-DBAs the ability to schedule and execute clones without involving the DBA group.
 - Successfully integrated the AMP Clone into the 3rd party scheduling tool (i.e., Autosys)
- Project Details
 - Total Project Duration (elapsed time): 6 months
 - Total Person Hours: 2.5 person months



FHR Case Study: Helpful Hints

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Incorporating Custom Cloning Tasks with AMP Clone

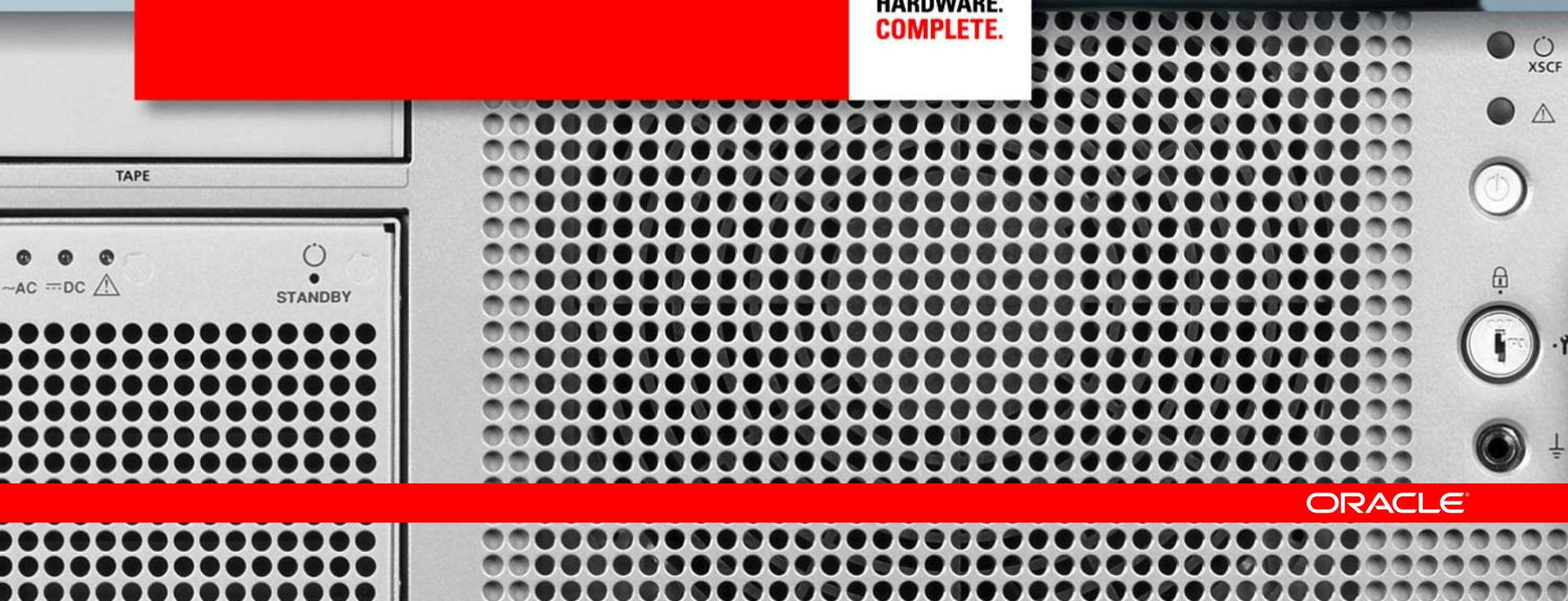
Helpful Hints

- Create a wrapper surrounding each directive created so that the directive only has to call the wrapper thus allowing all code changes to occur dynamically underneath
- Use same apps password on both source and target until after clone process has completed
- Watch out for remaining “**reviver**” processes when shutting down and deleting target application nodes – They need to be “killed” before refresh process will complete successfully
- Will probably have to manually copy E-Bus Suite custom code and forms as the cloning process skips over them
- Remove existing monitoring of target E-Bus Suite, including database from OEM before starting clone process (Process issues a “shutdown normal” rather than “shutdown immediate”)
- AMP’s unzip process does not overwrite files already present. Therefore, you will need to delete all files from application and database nodes pertaining to target environment



Further Information

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Application Management Pack

Further Information

- Collateral
 - Location: Oracle Technology Network -> Enterprise Management -> Applications Management
 - Best Practices (Whitepapers):
 - Case Study – Optimizing E-Business Suite Management Using Oracle Application Management Suite for Oracle E-Business Suite
 - Case Study - FHR Cloning (as of October 2010)
 - Datasheets:
 - Application Management Suite for Oracle E-Business Suite Data Sheet
 - Understanding
 - Installation Guide for the Application Management Suite for E-Business Suite
 - User's Guide for the Application Management Suite for E-Business Suite
- Contacts: kenneth.baxter@oracle.com, angelo.rosado@oracle.com



Related Sessions

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Related Sessions

Monday (20th September)

- [S317039: Oracle@Oracle: How Oracle IT Achieves High Application Service Levels](#)
Time: 11.00 – 12.00
Venue: Moscone West L2 (RM 2020)
- [S317132: Oracle E-Business Suite Technology: Vision, Release Overview, Product Roadmap](#)
Time: 12.30 – 13.30
Venue: Moscone West L2 (RM 2002/2004)

Tuesday (21st September)

- [S318132: Quick Wins That Will Make You a Hero: Oracle E-Business Suite Technology](#)
Time: 12.30 – 13.30
Venue: Moscone West L2 (RM 2024)
- [S318134: Oracle E-Business Suite DBA Techniques: Minimizing Maintenance Downtimes](#)
Time: 14.00 – 15.00
Venue: Moscone West L2 (RM 2024)

Related Sessions

Tuesday (21st September)

- [S318124: Latest on Oracle Application Change Management Pack for Oracle E-Business Suite – Customer Case Study \(JHUAPL\)](#)

Time: 15.30 – 16.30

Venue: Moscone West L2 (RM 2024)

Wednesday (22nd September)

- [S318119: Oracle E-Business Suite Technology Certification Primer and Roadmap](#)

Time: 10.00 – 11.00

Venue: Moscone West L2 (RM 2024)

- [S318125: Upgrading Your Customizations to Oracle E-Business Suite Release 12](#)

Time: 11.30 – 12.30

Venue: Moscone West L2 (RM 2024)

- [S318122: Oracle E-Business Suite Technology: Vision, Release Overview, Product Roadmap](#)

Time: 16.45 – 17.45

Venue: Moscone West L3 (RM 3002 / 3004)

Related Sessions.....contd.

Thursday (23rd September)

- **S318123: Reduce TCO with Oracle Application Management Pack for Oracle E-Business Suite – Customer Case Study (FHR)**
Time: 9.00 – 10.00
Venue: Moscone West L2 (RM 2024)
- **S318120: Oracle E-Business Suite Architectures: Oracle RAC, Clouds, Oracle VM, and More**
Time: 12.00 – 13.00
Venue: Moscone West L2 (RM 2024)
- **S318133: Oracle E-Business Suite DBA Techniques: Install and Cloning Best Practices**
Time: 13.30 – 14.30
Venue: Moscone West L2 (RM 2024)

Related Hands on Labs

Application Management Pack

- [S318765: Oracle Application Management Pack for Oracle E-Business Suite: Monitor/Clone](#)
Date: Monday (20th September)
Time: 17.00 – 18.00
Venue: Marriott Marquis Nob Hill C&D

Application Change Management Pack

- [S318766: Using Oracle Application Change Management Pack for Oracle E-Business Suite](#)
 - Date: Tuesday (21st September)
Time: 11.00 – 12.00
 - **Repeat** Date: Wednesday (22nd September)
Time: 16.45 – 17.45
 - Venue: Marriott Marquis Nob Hill C&D



QUESTIONS
ANSWERS

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