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

Kenneth Baxter
Product Strategy, Oracle EBS

Don Hankins
Sr. DBA, Flint Hills Resouces (FHR)

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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

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HARDWARE.
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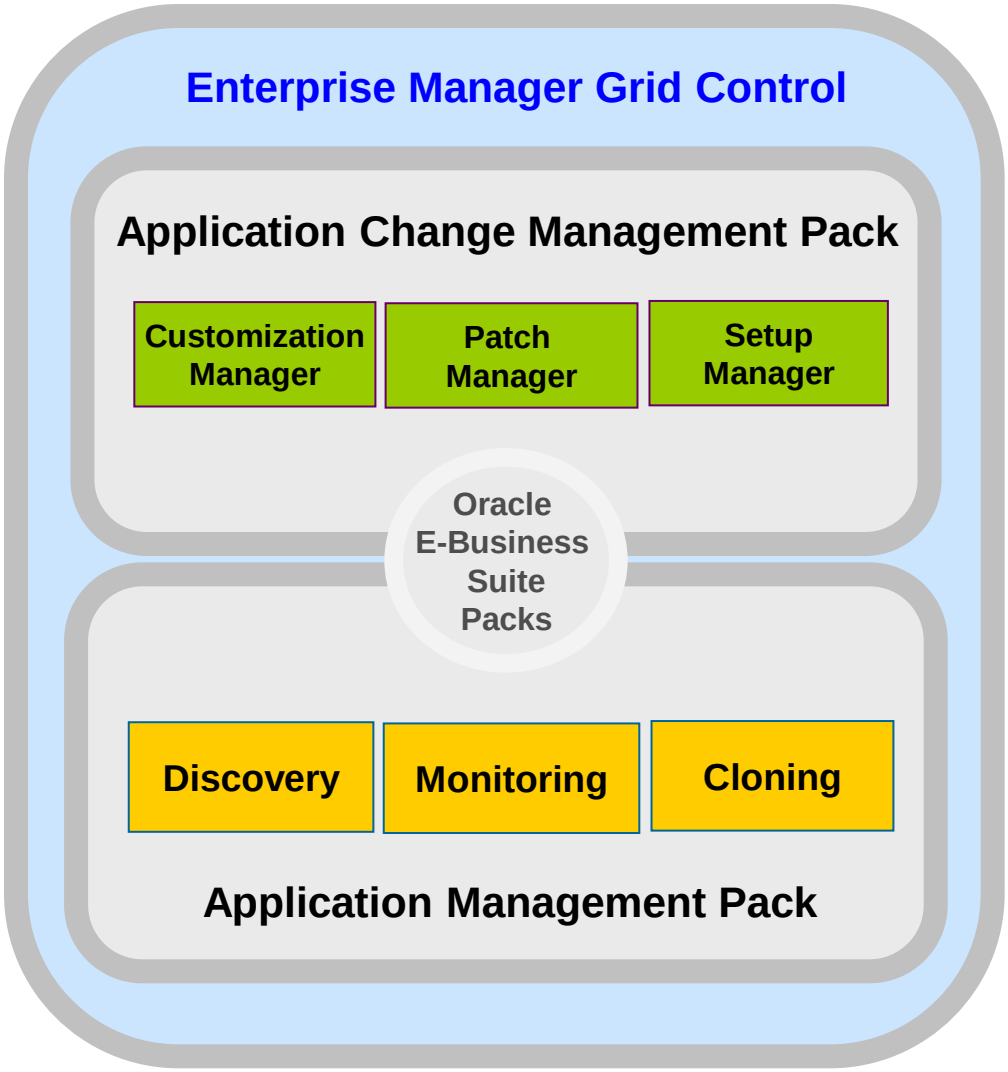
Application Management Pack Overview

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



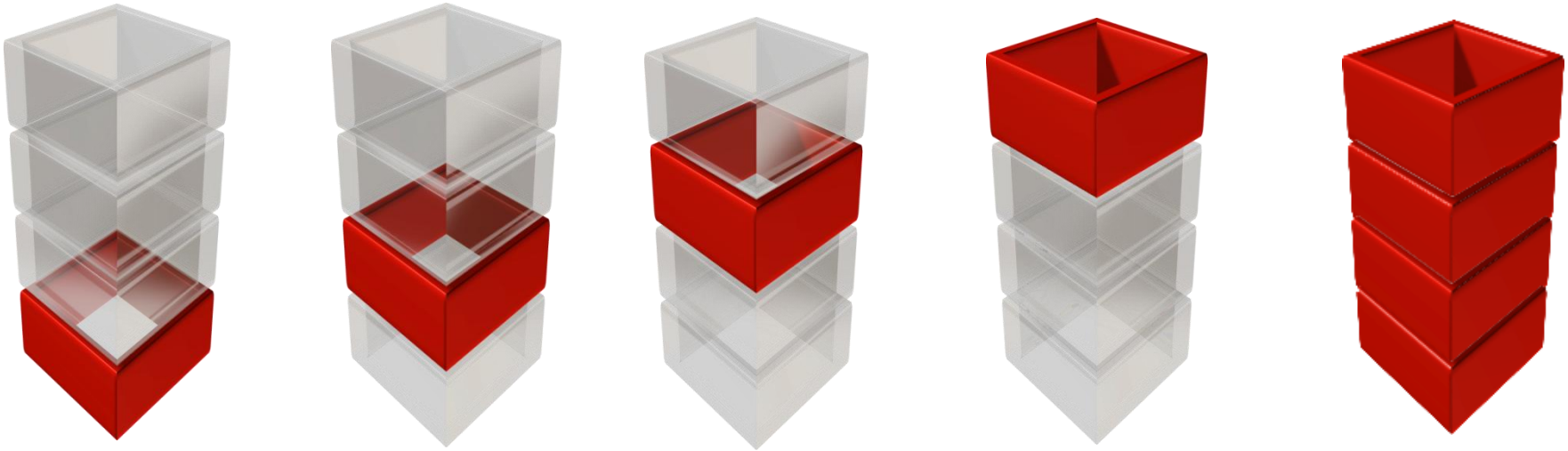
Application Management Pack

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



- Complete Lifecycle Management of Physical & Virtual Systems (Ops Center)
- Hardware, Firmware, OS, VM, Storage

- Industry's Leading Database Self-Management Solution

- Integrated, Deep Middleware Management
- WebLogic, SOA, Portal, Identity Management, BI

- Deep, Out-of-box Management solutions for Oracle Applications
- EBS, Siebel, PSFT, JD Edwards, BRM, Fusion Apps

Complete, Integrated, Application-to-Disk 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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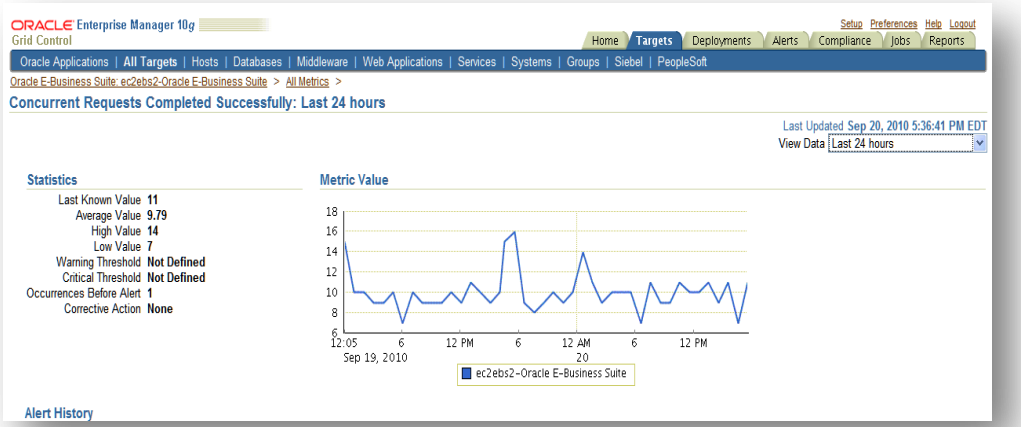
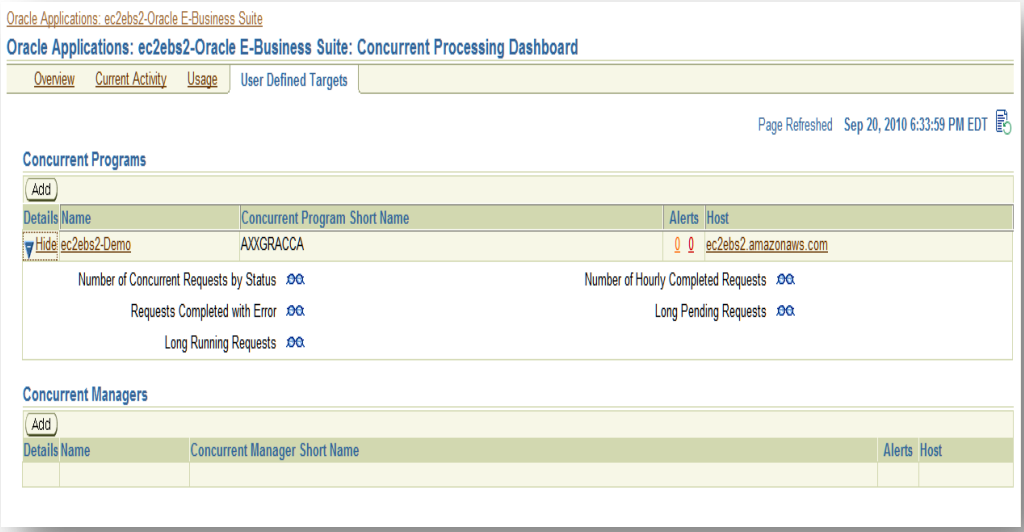
Key Enhancements in AMP 3.1

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

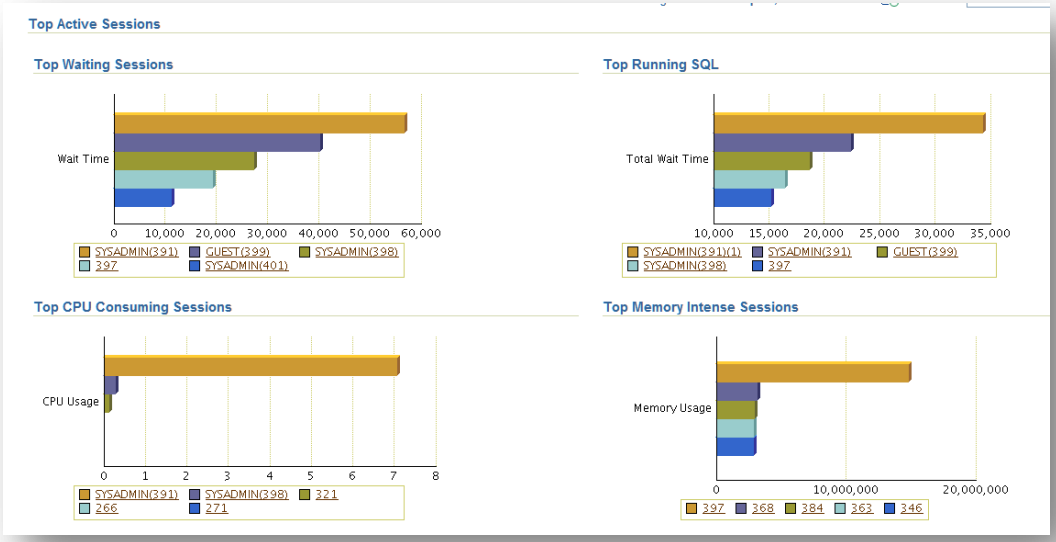


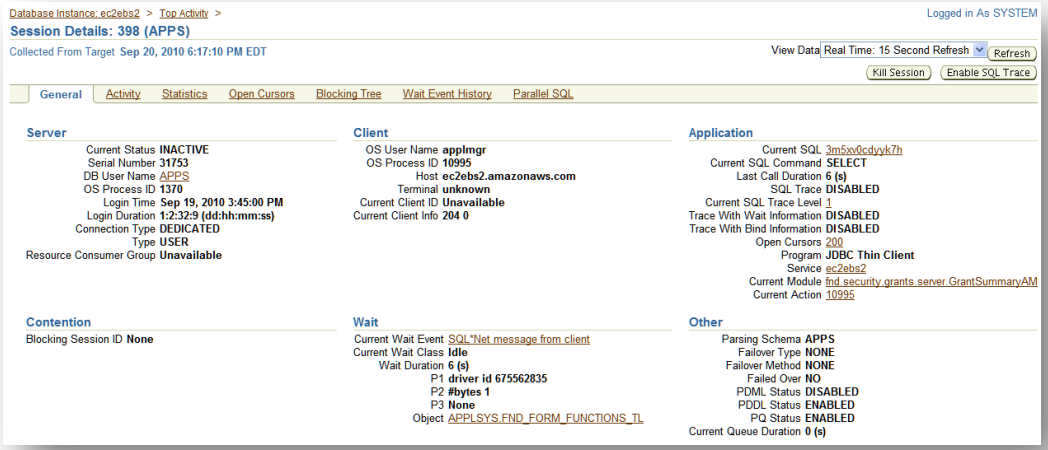


Key Enhancements in AMP 3.1

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

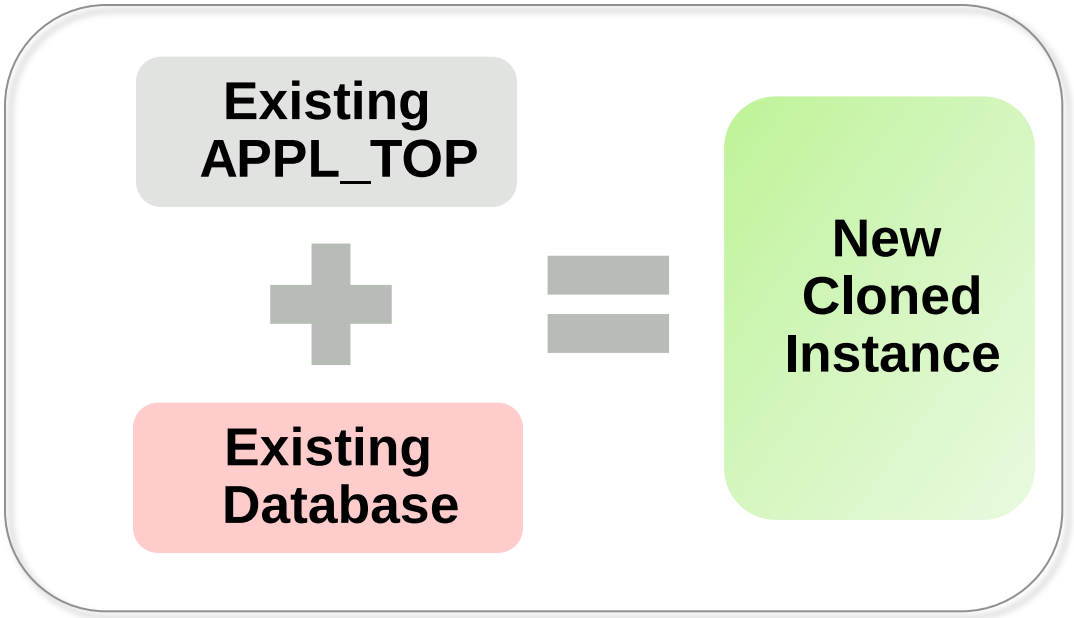




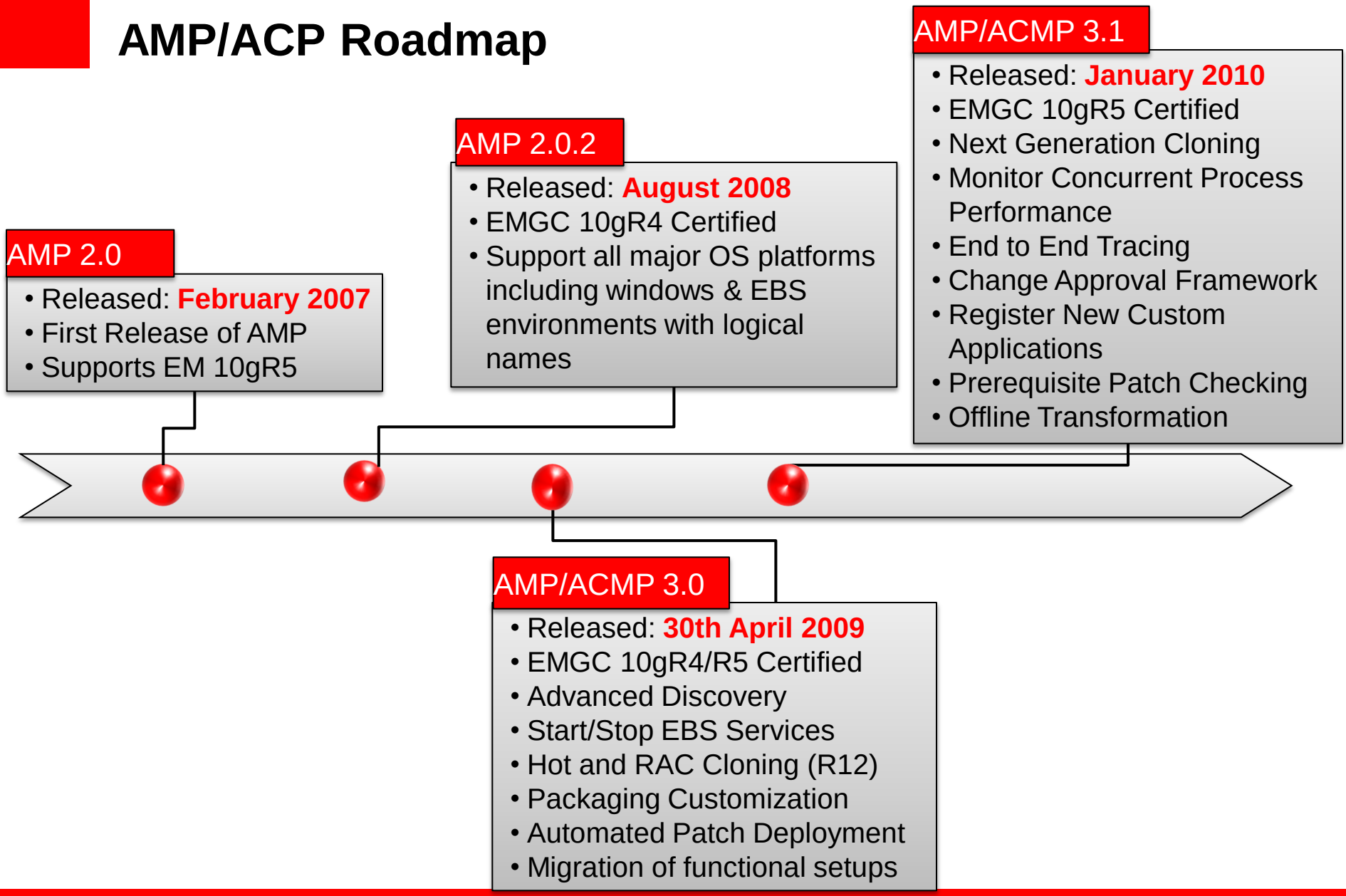
Key Enhancements in AMP 3.1

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



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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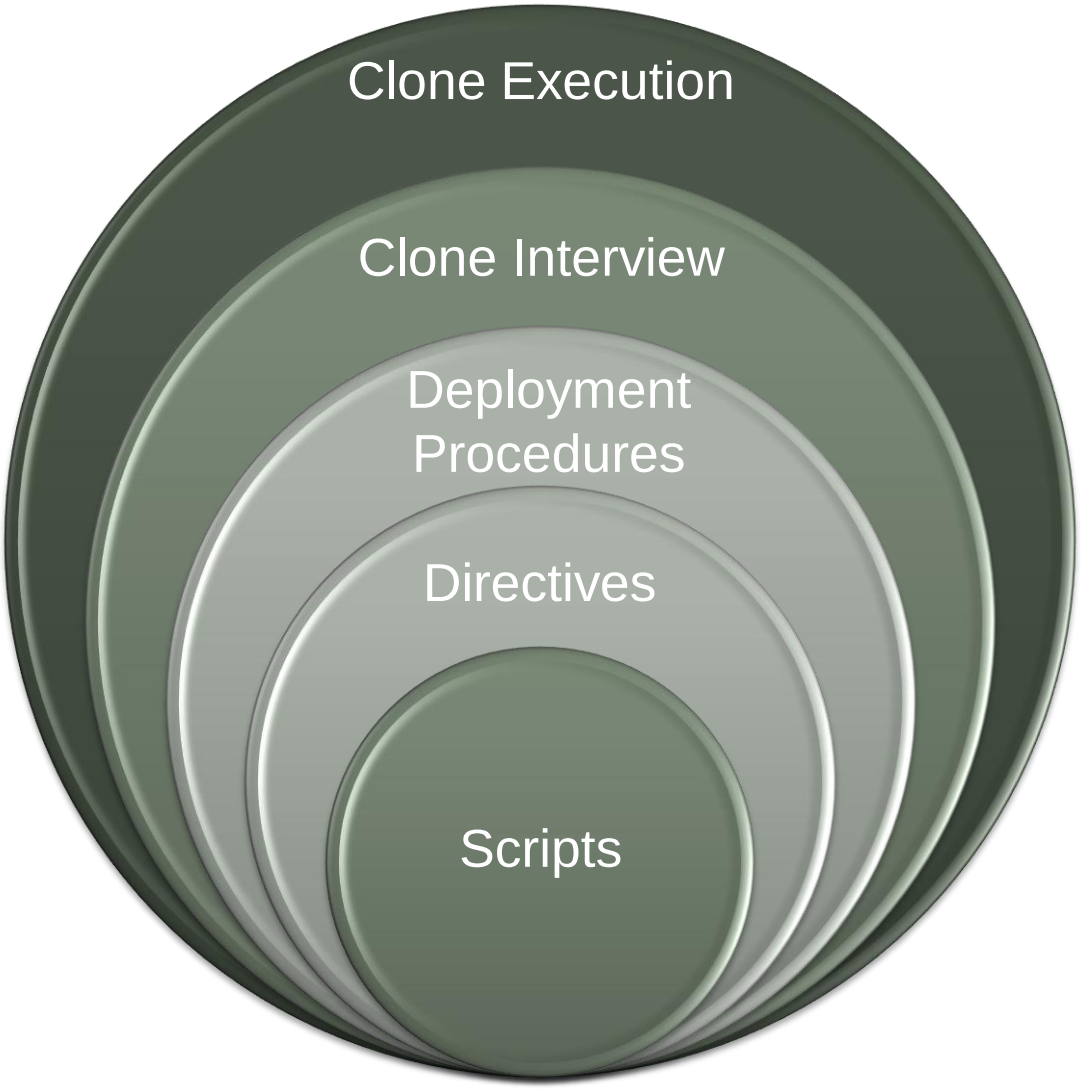
Incorporating Custom Cloning Tasks with AMP Clone

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

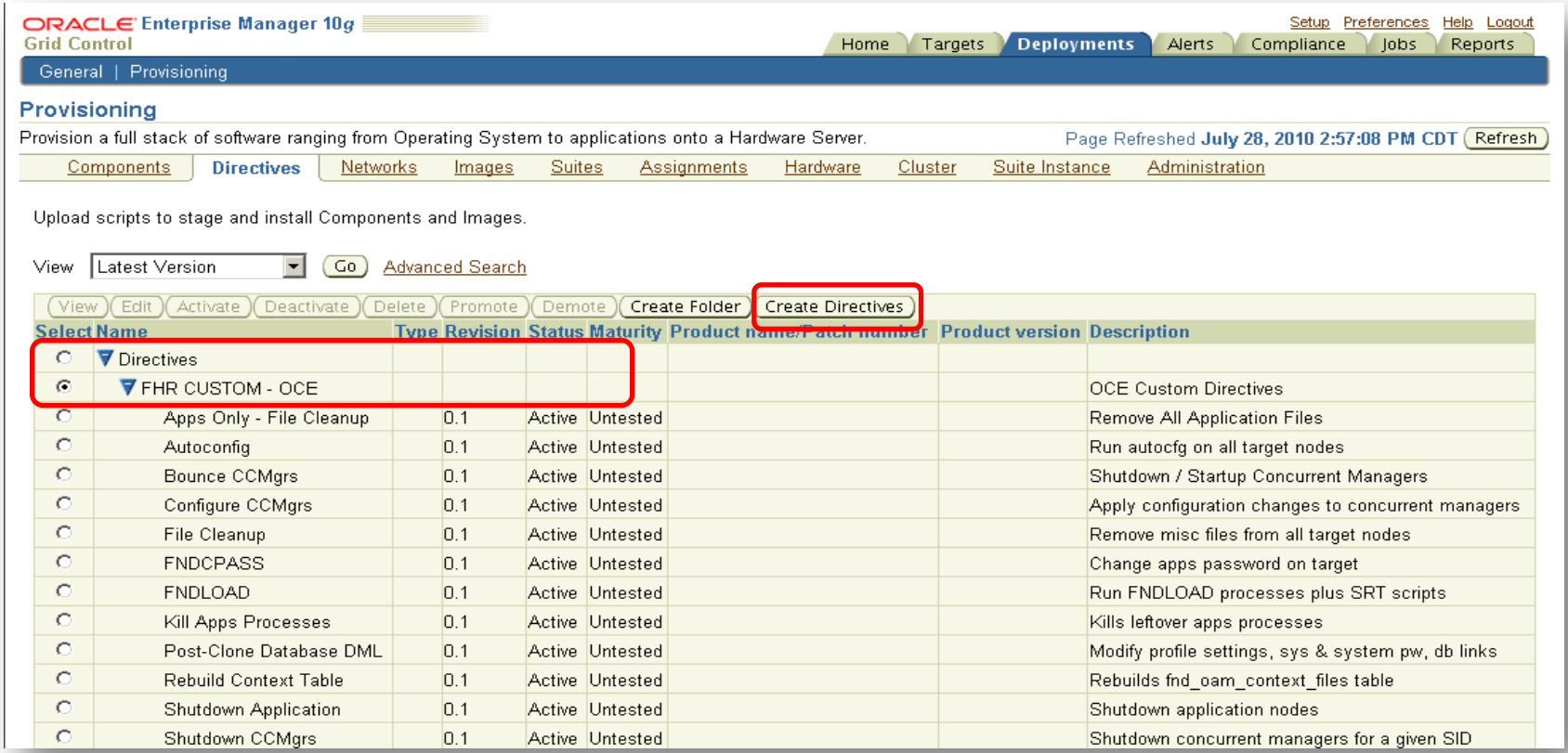
Incorporating Custom Cloning Tasks with AMP Clone

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

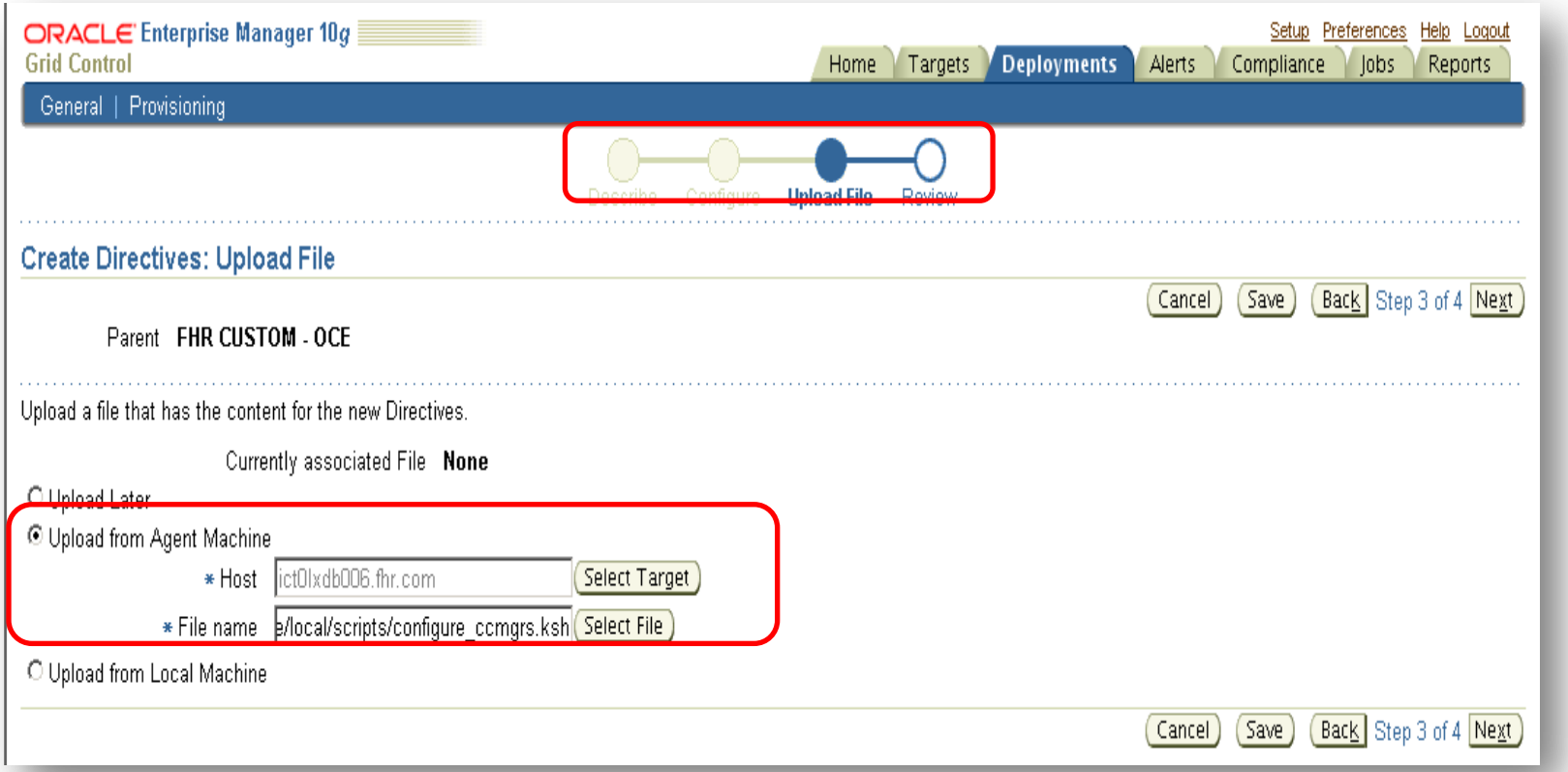
Automating the Cloning Process - Directives



- Oracle 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

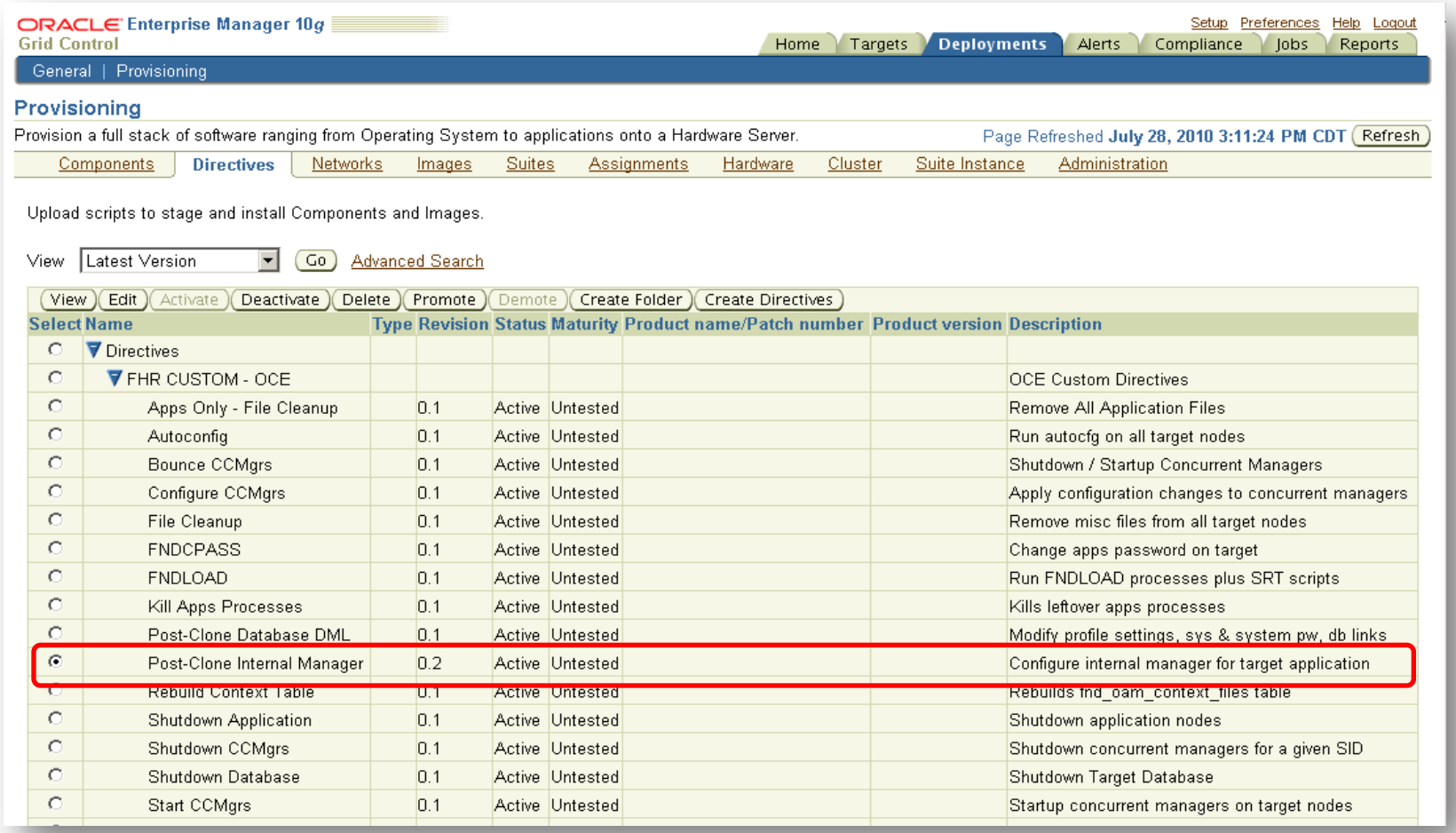
Automating the Cloning Process - Directives



- 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

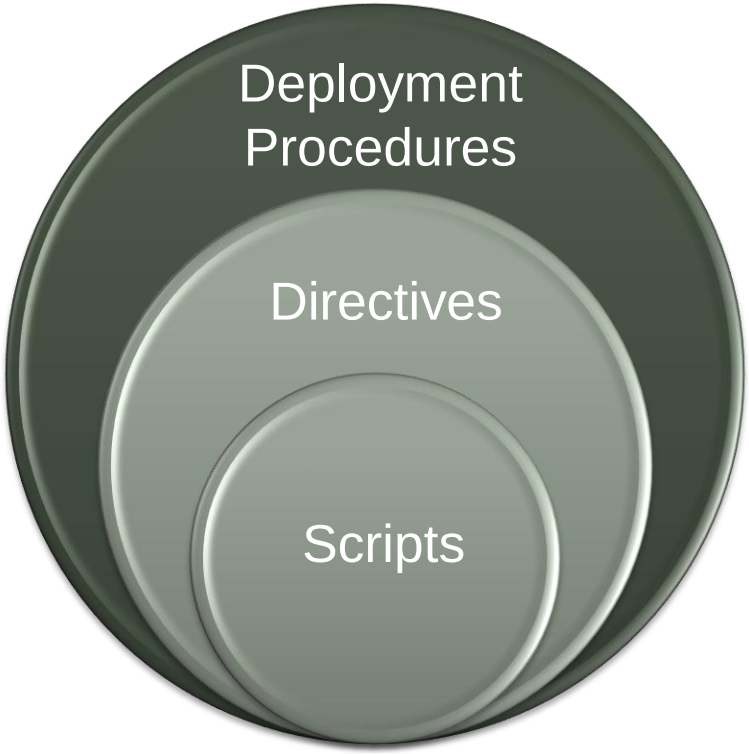


- Once registered and activated, the Directive is available to be used in a Deployment Procedure

Incorporating Custom Cloning Tasks with AMP Clone

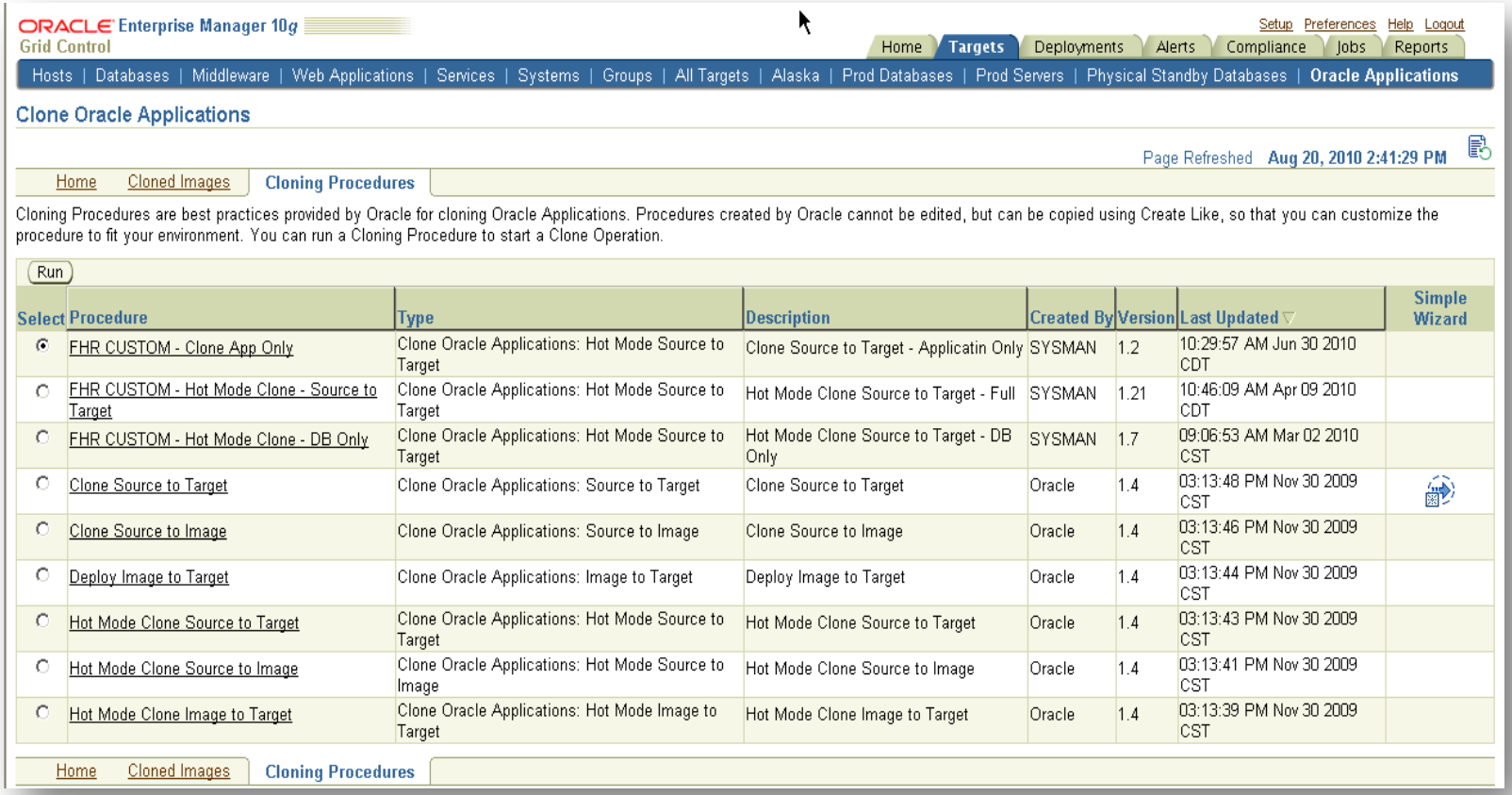
Automating the Cloning Process – Deployment Procedures

- ✓ 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

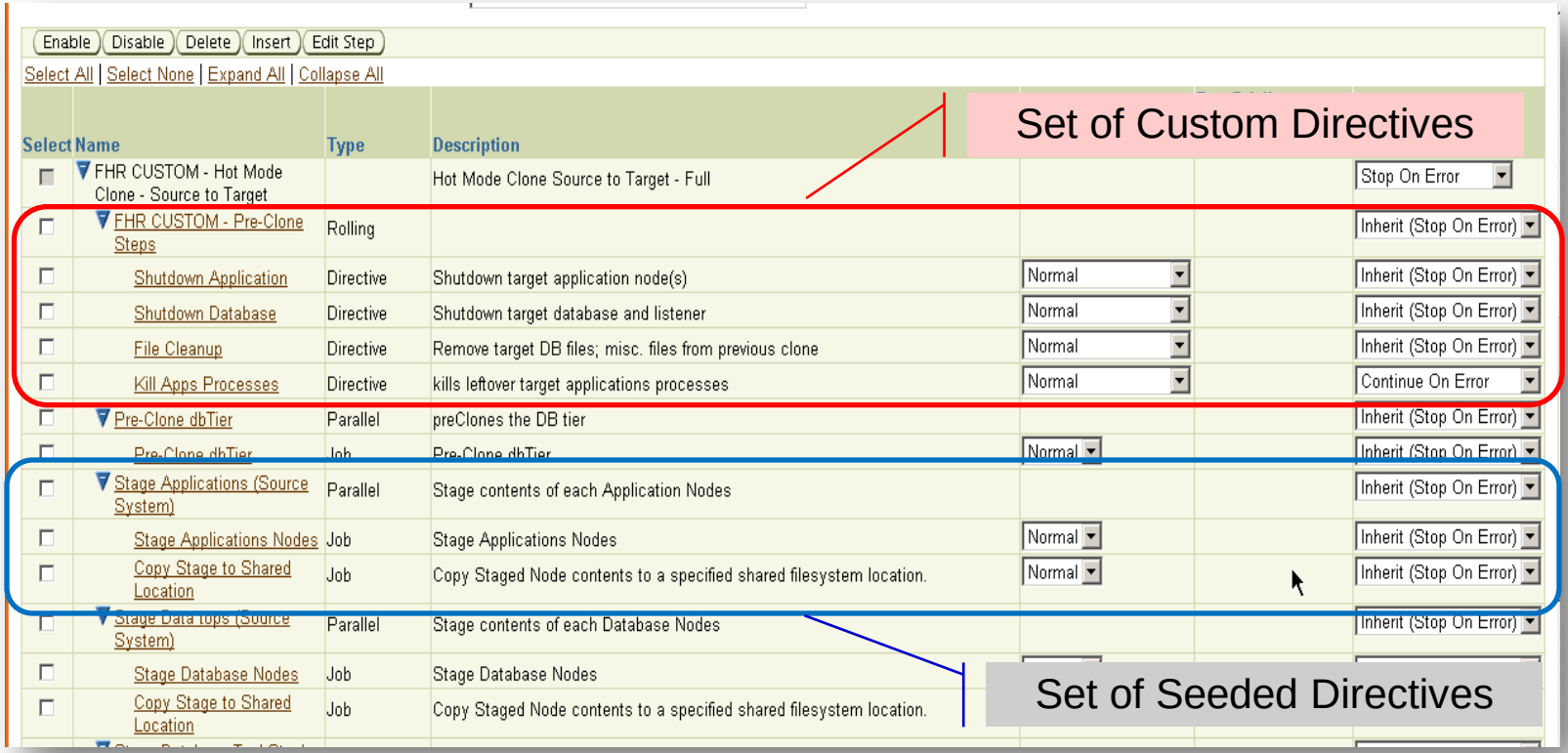


Select	Procedure	Type	Description	Created By	Version	Last Updated	Simple Wizard
◉	FHR CUSTOM - Clone App Only	Clone Oracle Applications: Hot Mode Source to Target	Clone Source to Target - Applicatin Only	SYSMAN	1.2	10:29:57 AM Jun 30 2010 CDT	
○	FHR CUSTOM - Hot Mode Clone - Source to Target	Clone Oracle Applications: Hot Mode Source to Target	Hot Mode Clone Source to Target - Full	SYSMAN	1.21	10:46:09 AM Apr 09 2010 CDT	
○	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	
○	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	
○	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	
○	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	
○	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	
○	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	
○	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	

- 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

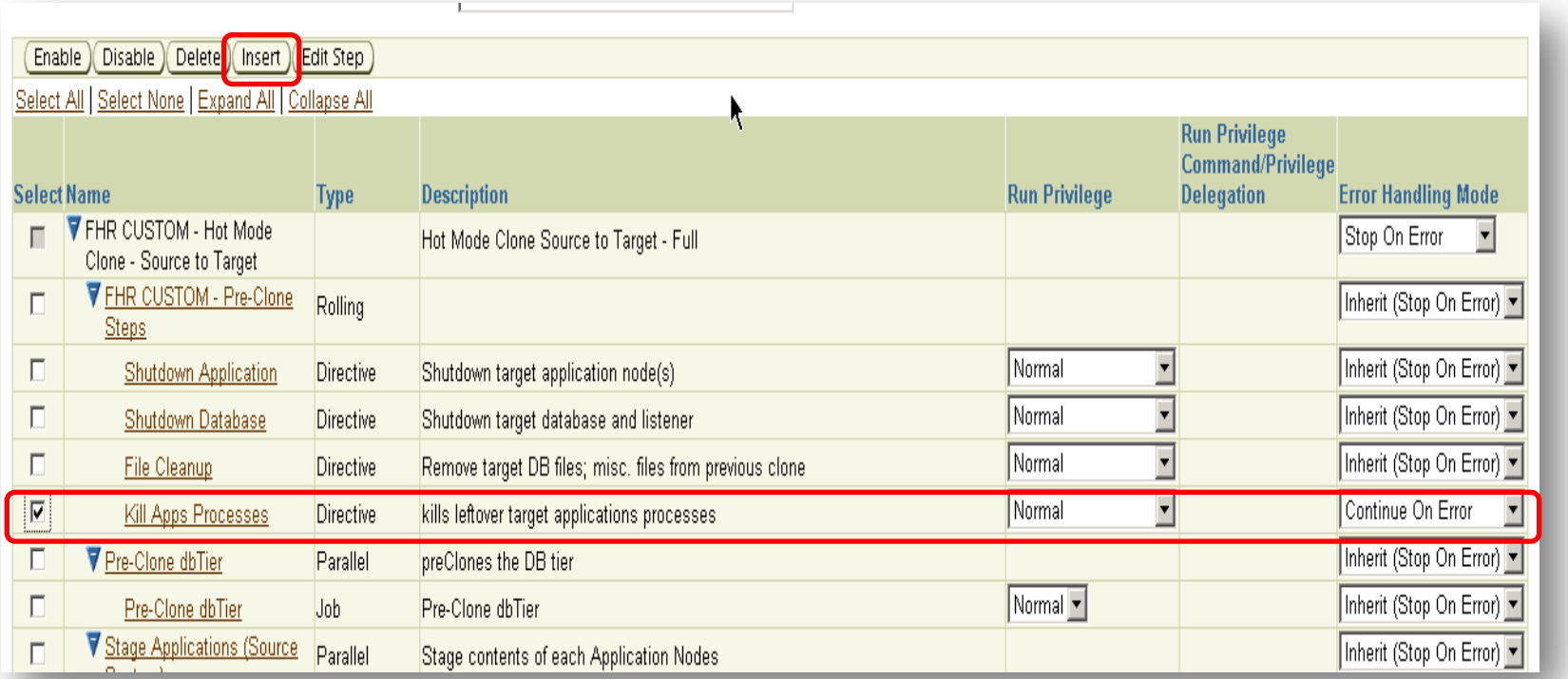
Automating the Cloning Process – Deployment Procedures



- 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

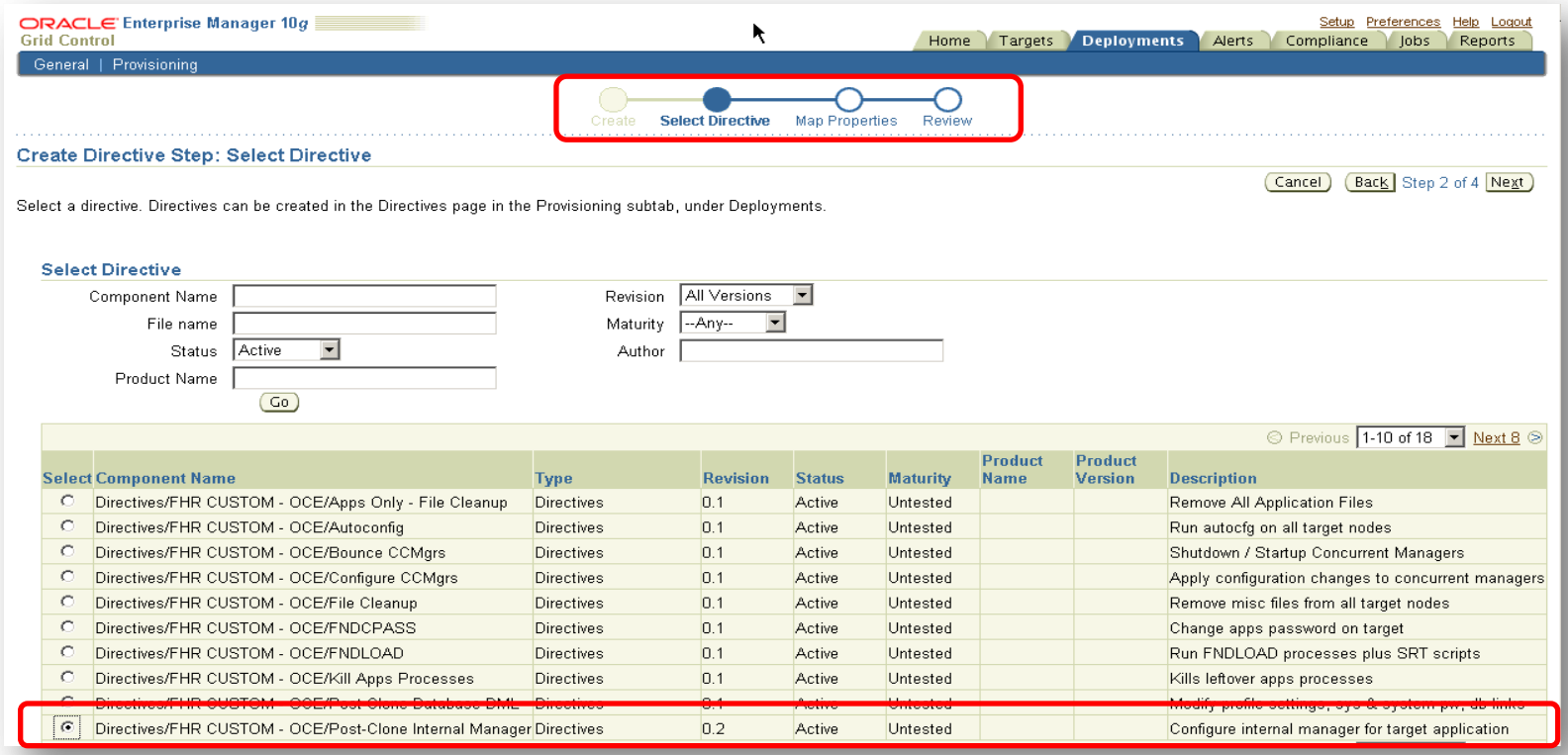


Select	Name	Type	Description	Run Privilege	Run Privilege Command/Privilege Delegation	Error Handling Mode
☐	FHR CUSTOM - Hot Mode Clone - Source to Target		Hot Mode Clone Source to Target - Full			Stop On Error
☐	FHR CUSTOM - Pre-Clone Steps	Rolling				Inherit (Stop On Error)
☐	Shutdown Application	Directive	Shutdown target application node(s)	Normal		Inherit (Stop On Error)
☐	Shutdown Database	Directive	Shutdown target database and listener	Normal		Inherit (Stop On Error)
☐	File Cleanup	Directive	Remove target DB files; misc. files from previous clone	Normal		Inherit (Stop On Error)
☑	Kill Apps Processes	Directive	kills leftover target applications processes	Normal		Continue On Error
☐	Pre-Clone dbTier	Parallel	preClones the DB tier			Inherit (Stop On Error)
☐	Pre-Clone dbTier	Job	Pre-Clone dbTier	Normal		Inherit (Stop On Error)
☐	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

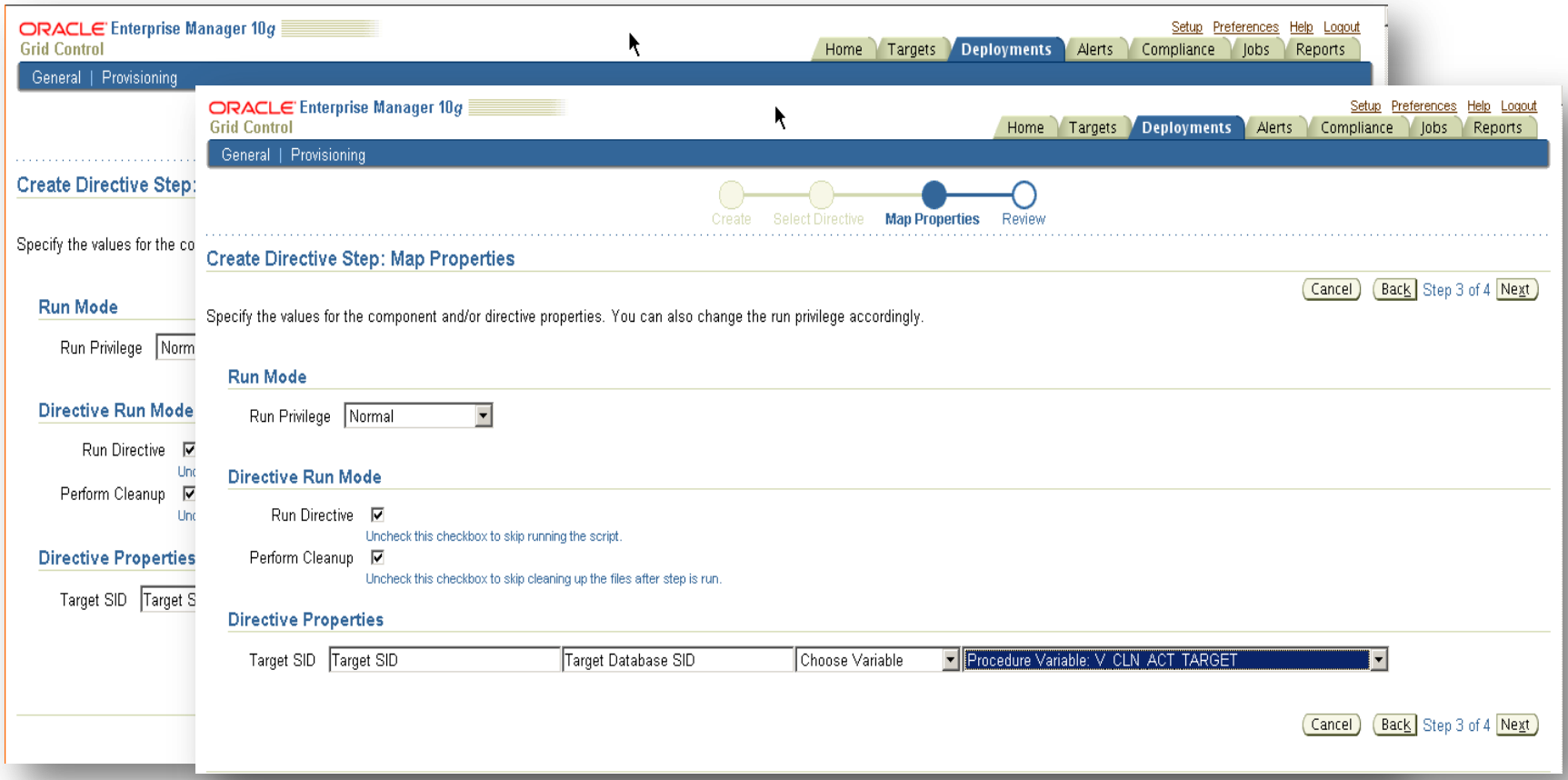
Automating the Cloning Process – Deployment Procedures



- Select the Directive that was created earlier

Incorporating Custom Cloning Tasks with AMP Clone

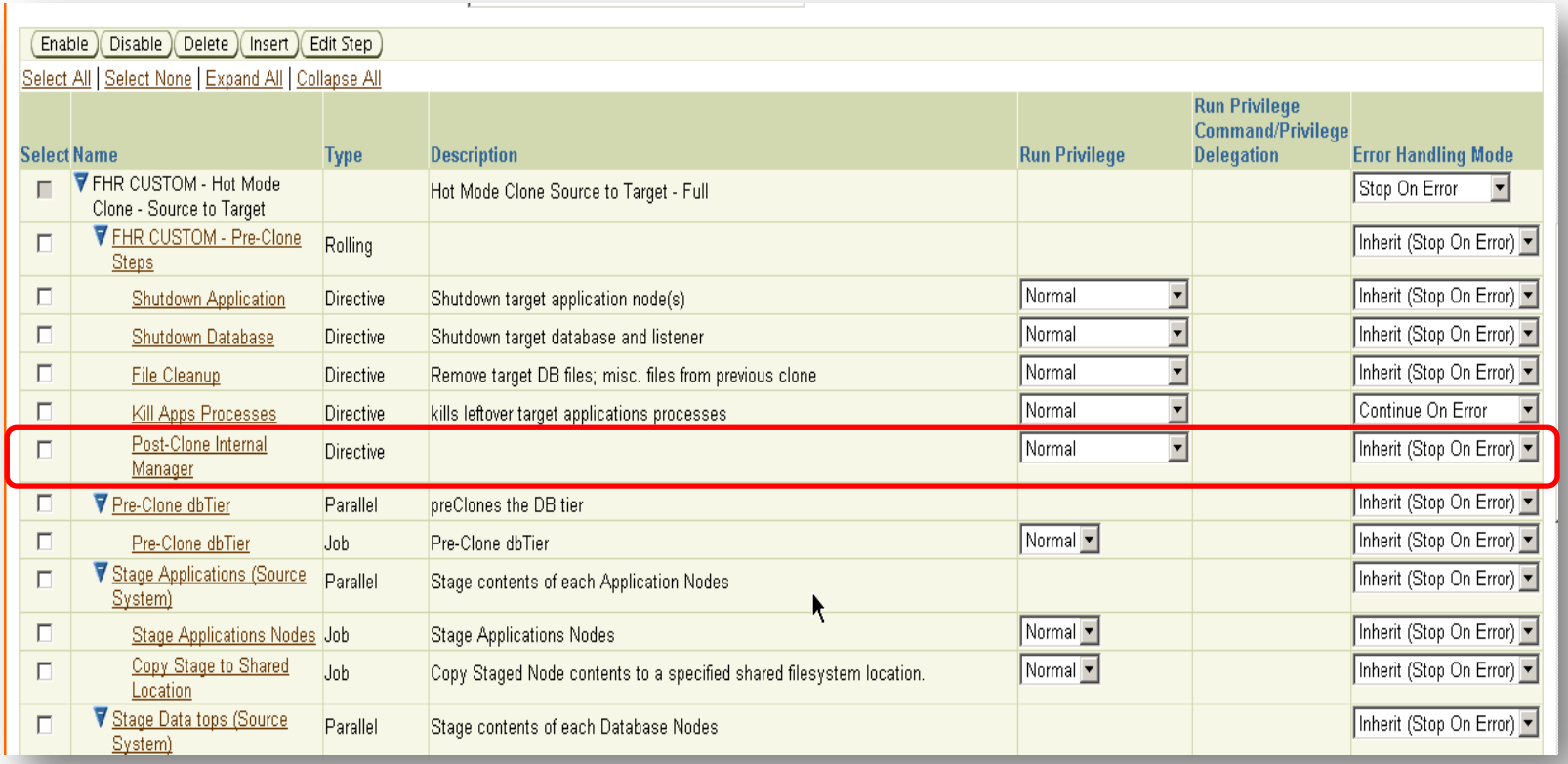
Automating the Cloning Process – Deployment Procedures



- 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
☐	FHR CUSTOM - Hot Mode Clone - Source to Target		Hot Mode Clone Source to Target - Full			Stop On Error
☐	FHR CUSTOM - Pre-Clone Steps	Rolling				Inherit (Stop On Error)
☐	Shutdown Application	Directive	Shutdown target application node(s)	Normal		Inherit (Stop On Error)
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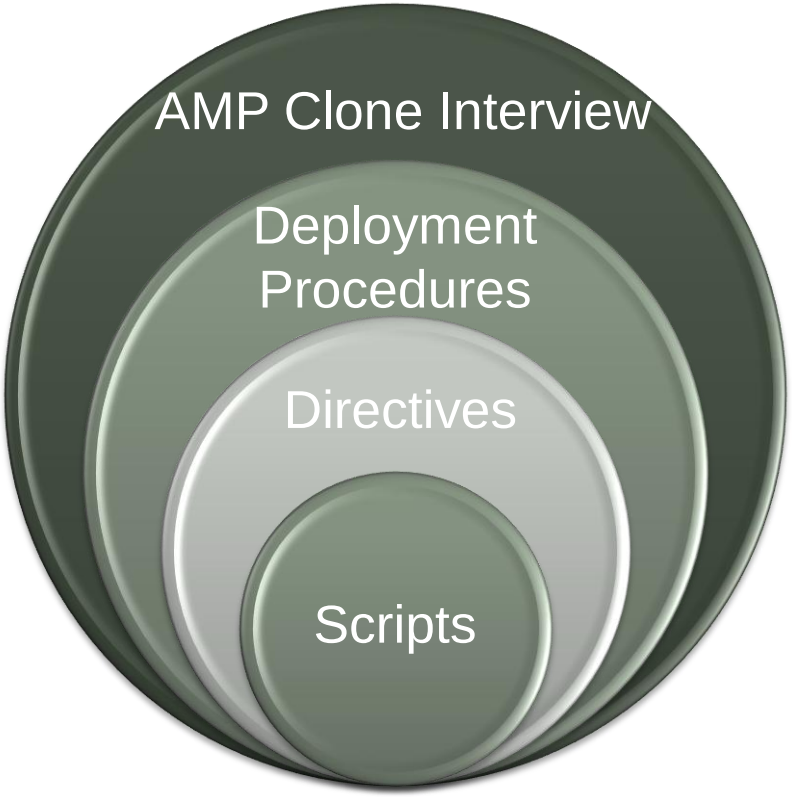
☐	File Cleanup	Directive	Remove target DB files; misc. files from previous clone	Normal		Inherit (Stop On Error)
☐	Kill Apps Processes	Directive	kills leftover target applications processes	Normal		Continue On Error
☐	Post-Clone Internal Manager	Directive		Normal		Inherit (Stop On Error)
☐	Pre-Clone dbTier	Parallel	preClones the DB tier			Inherit (Stop On Error)
☐	Pre-Clone dbTier	Job	Pre-Clone dbTier	Normal		Inherit (Stop On Error)
☐	Stage Applications (Source System)	Parallel	Stage contents of each Application Nodes			Inherit (Stop On Error)
☐	Stage Applications Nodes	Job	Stage Applications Nodes	Normal		Inherit (Stop On Error)
☐	Copy Stage to Shared Location	Job	Copy Staged Node contents to a specified shared filesystem location.	Normal		Inherit (Stop On Error)
☐	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

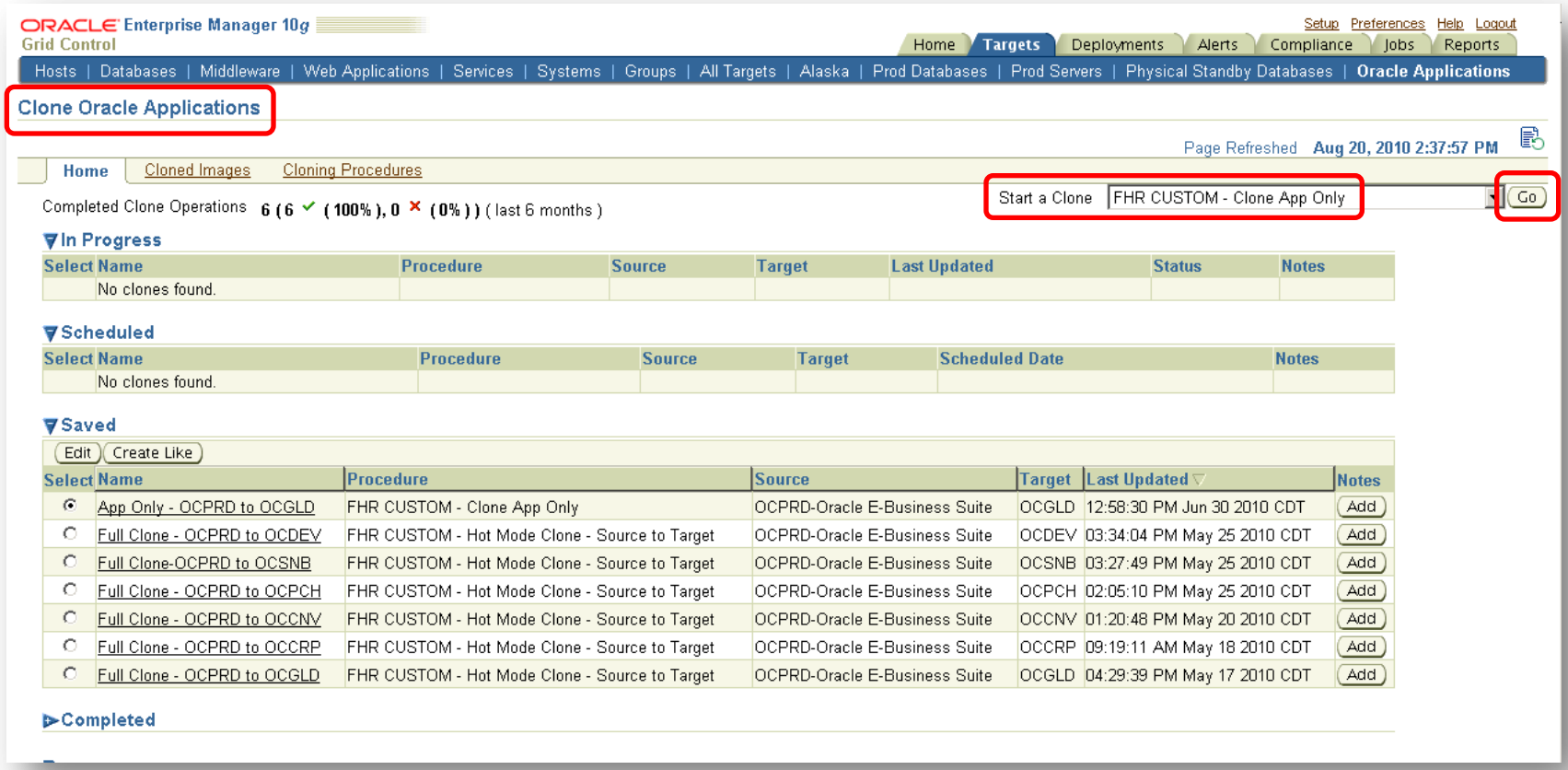
Automating the Cloning Process – AMP Clone Interview

- ✓ 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

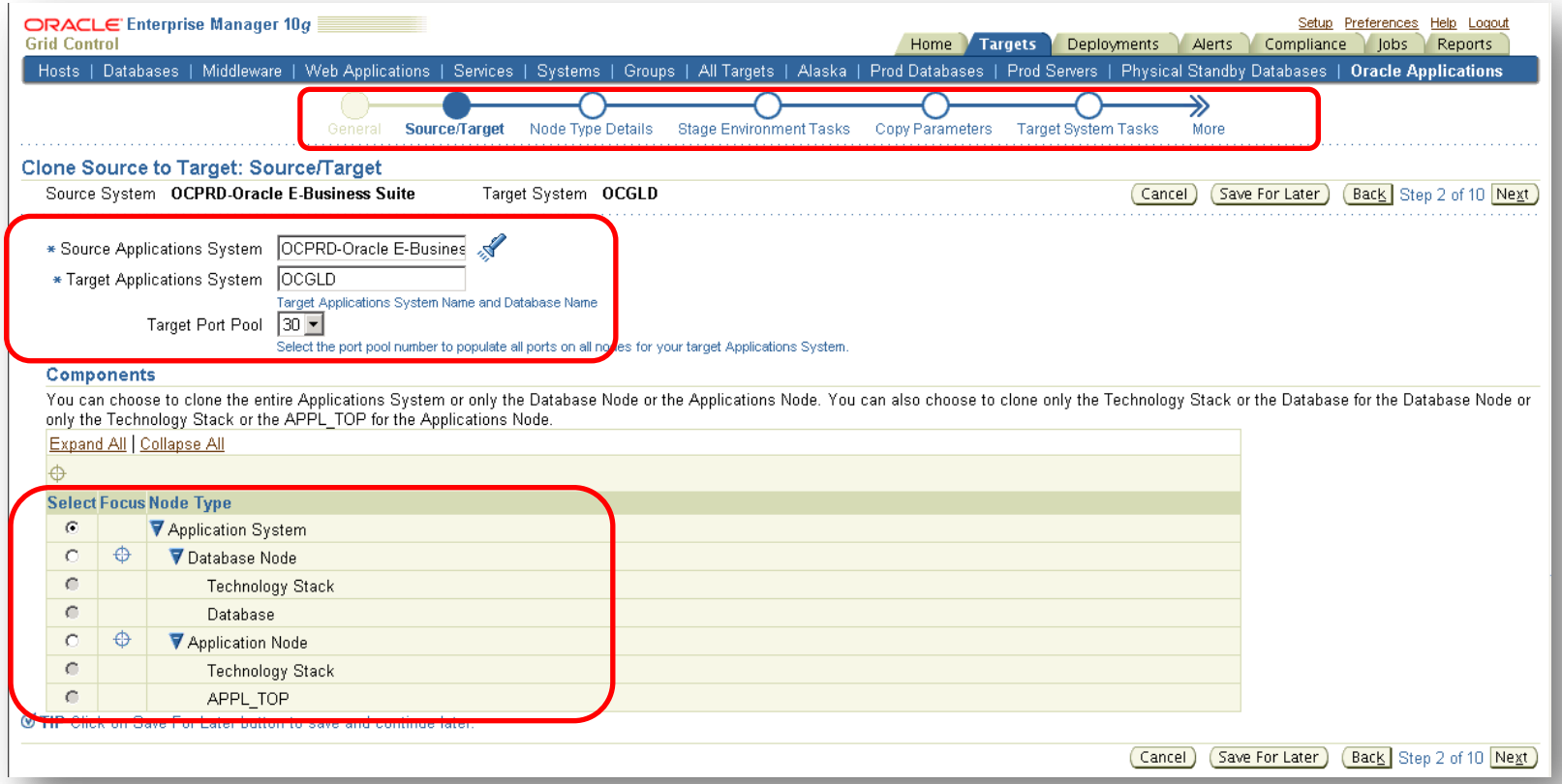
Automating the Cloning Process – AMP Clone Interview



- 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

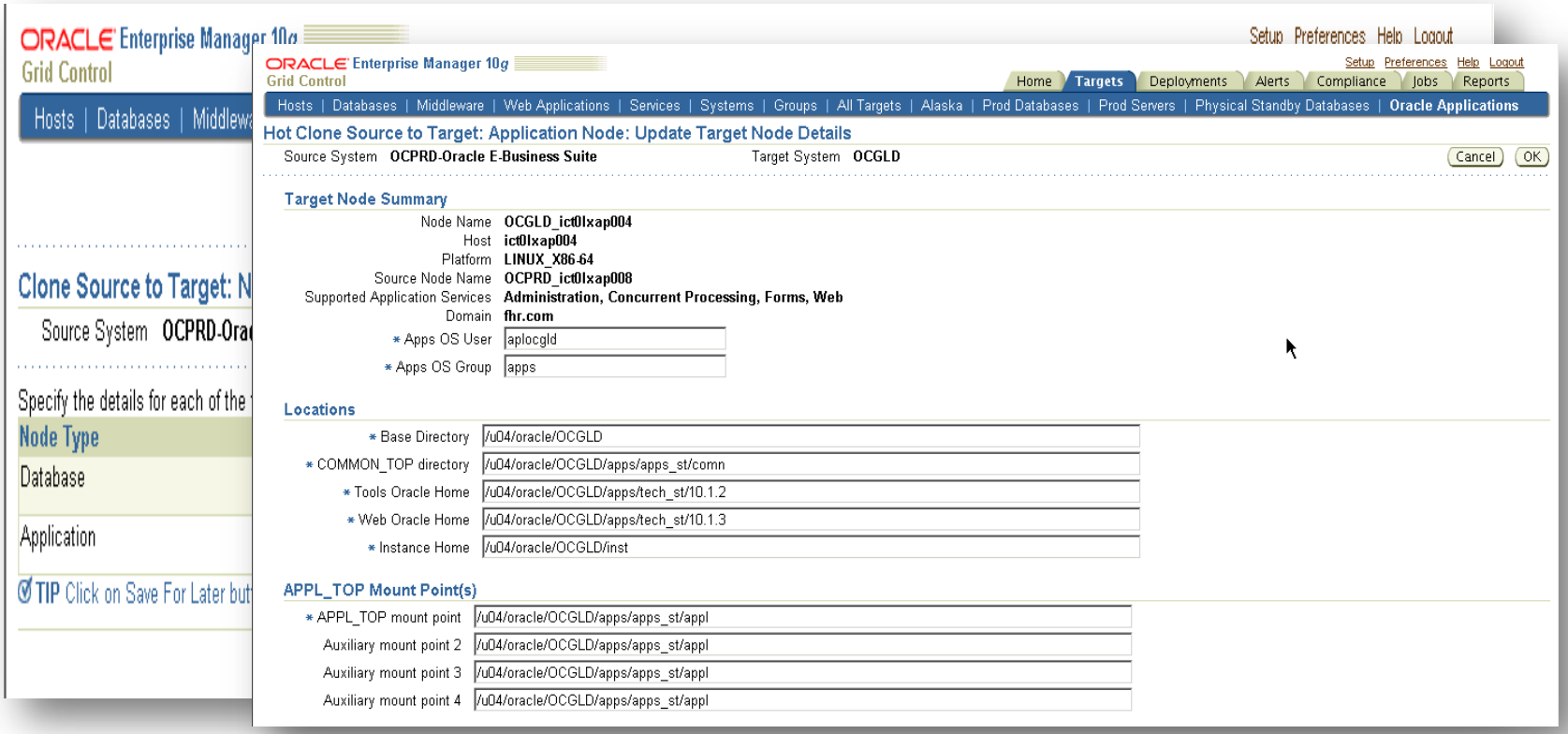
Automating the Cloning Process – AMP Clone Interview



- 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

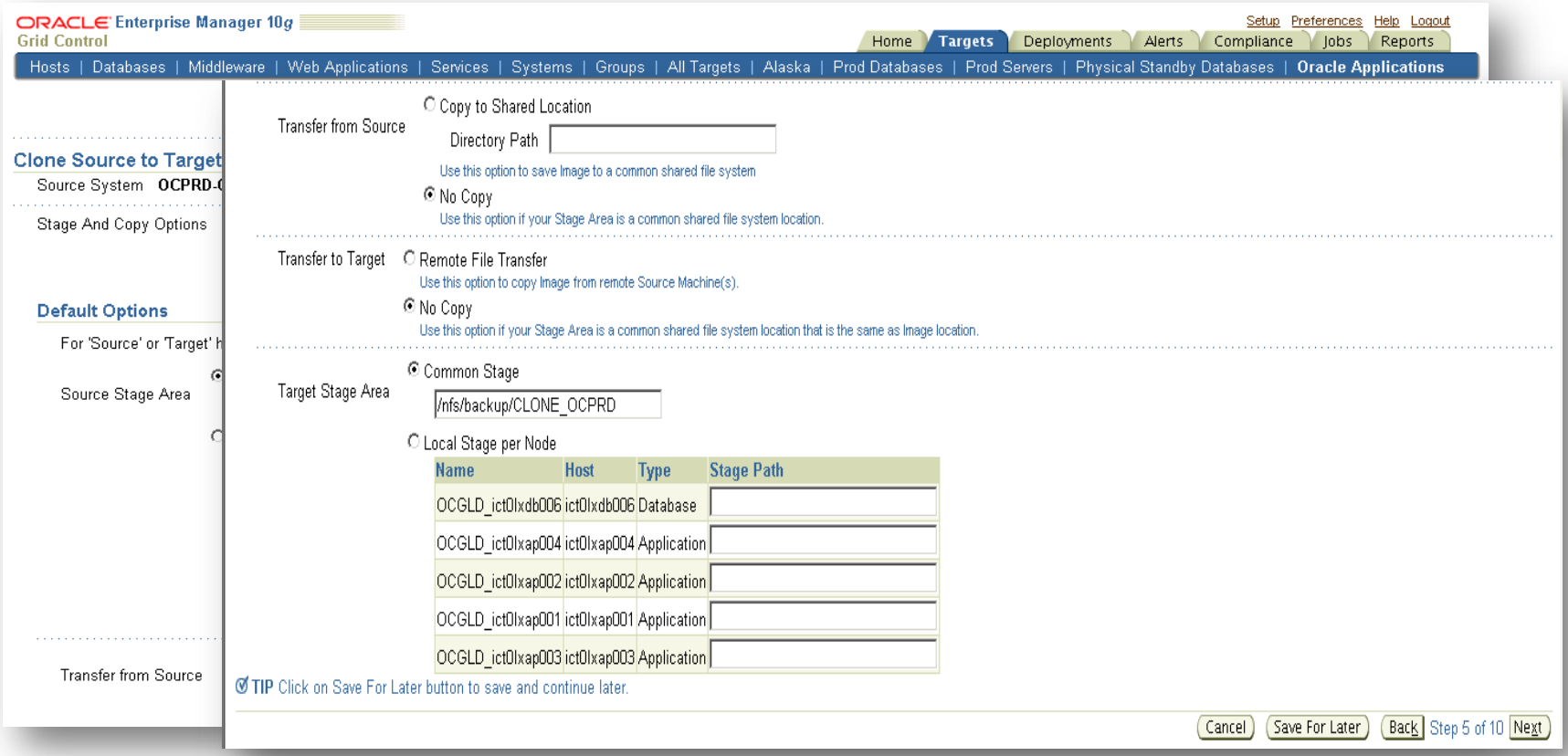
Automating the Cloning Process – AMP Clone Interview



- 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

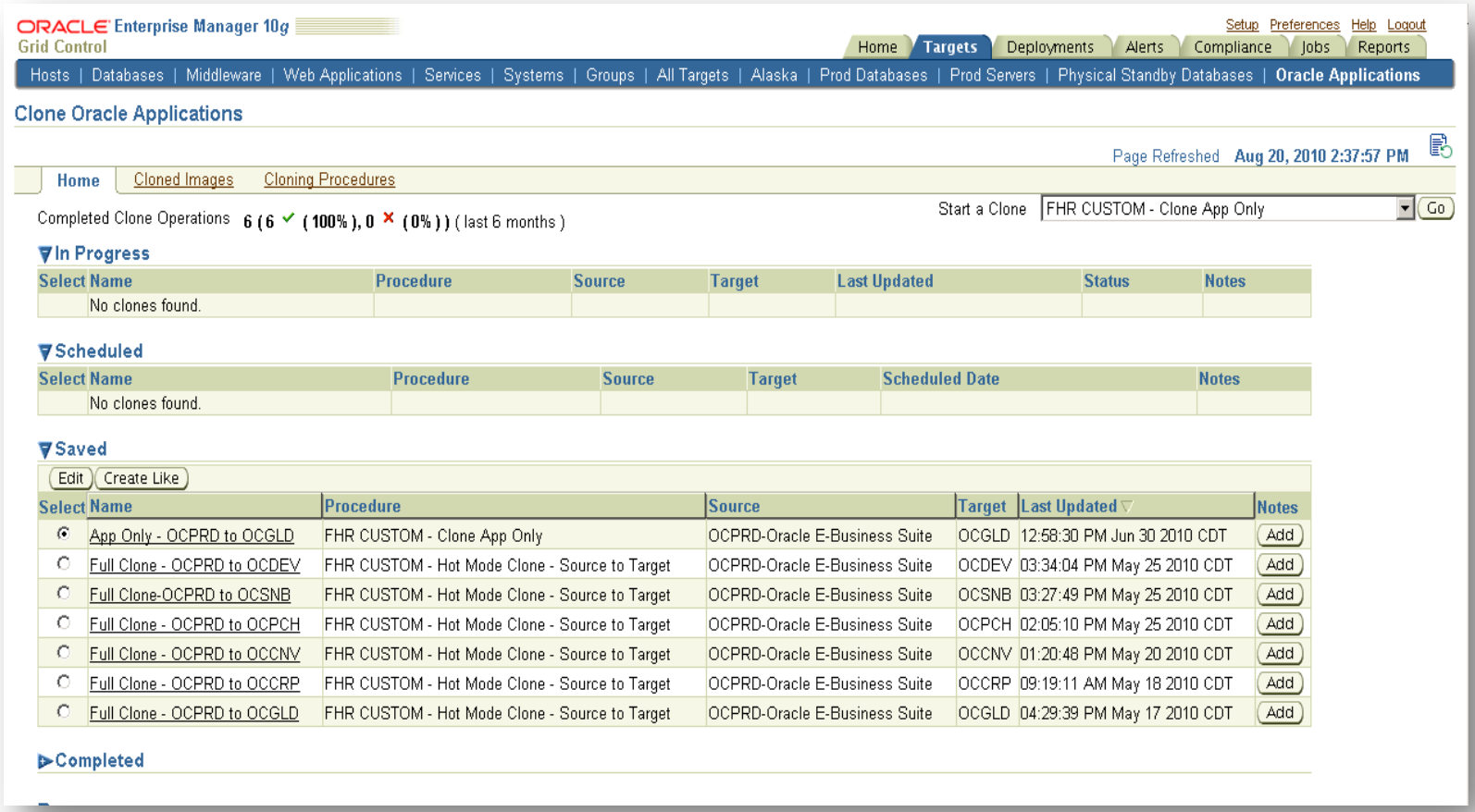
Automating the Cloning Process – AMP Clone Interview



- 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

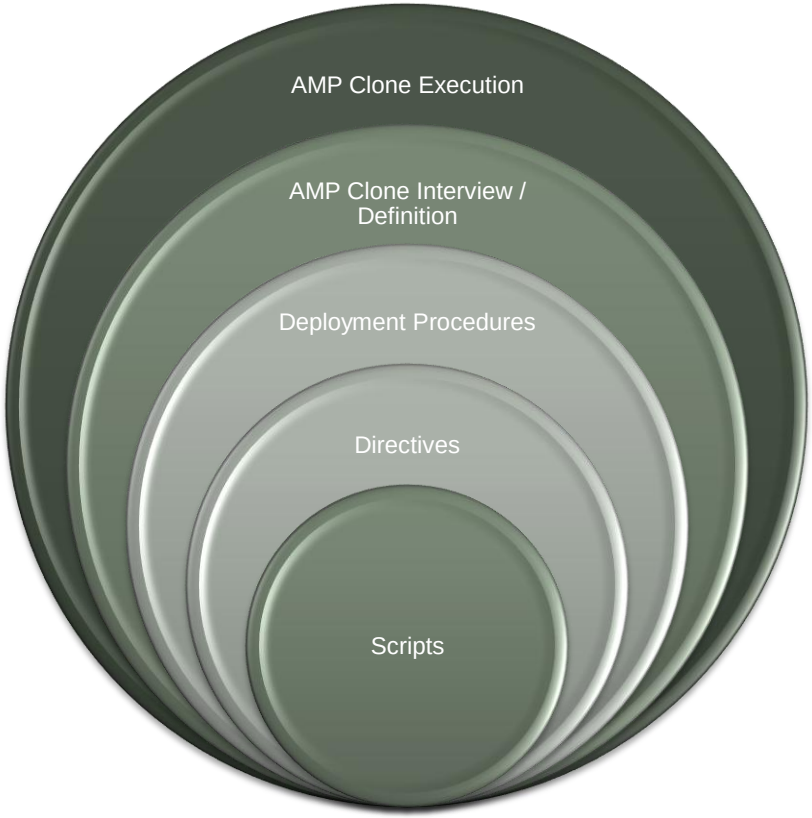


- Once the Cloning run has been defined/created, it is eligible to be executed multiple times.

Incorporating Custom Cloning Tasks with AMP Clone

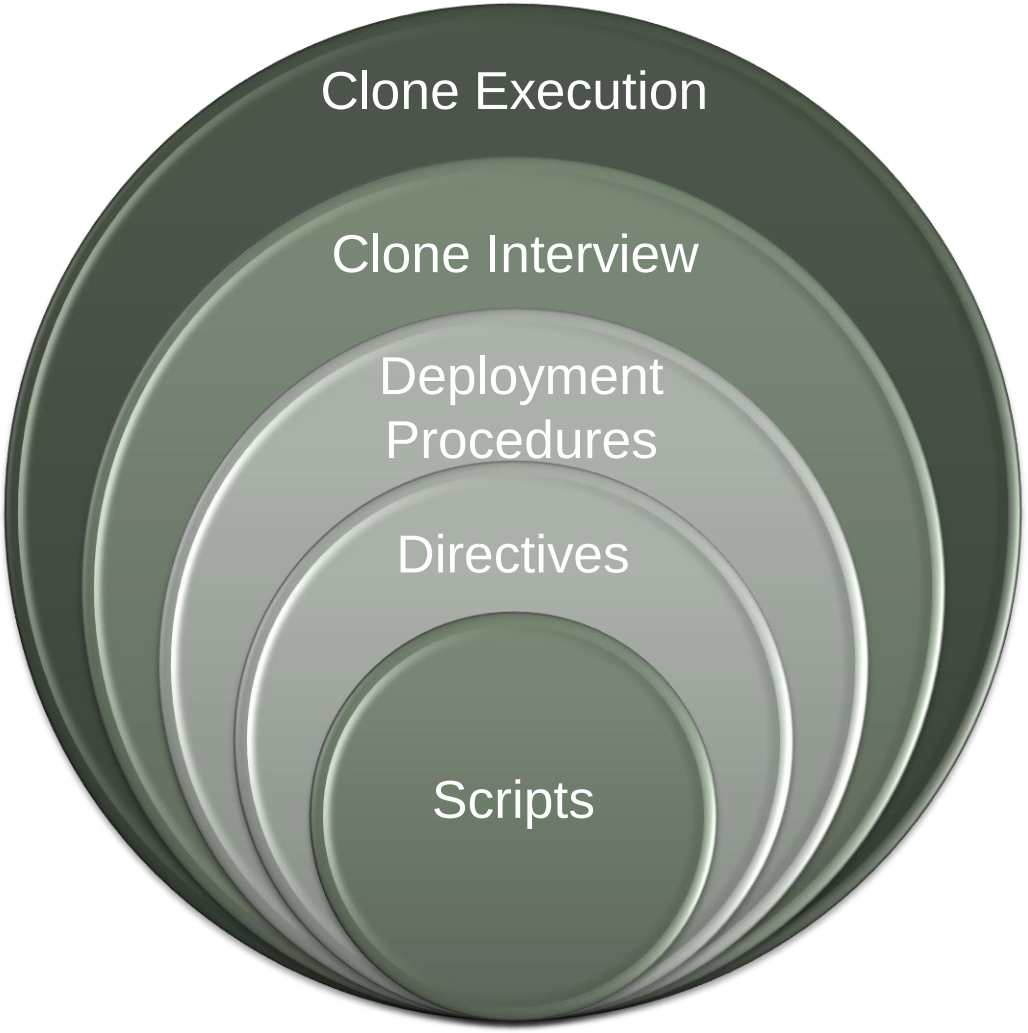
Automating the Cloning Process – AMP Clone Execution

- ✓ 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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