

We're Off To See The Wizard! Eliminate Unnecessary Patch Testing With Oracle's Patch Wizard!

Mello-Dee Simmons

JEA

Liza Klosterman

JEA

Patch testing - the bane of Oracle e-Business Suite users; especially if your business uses Oracle Payroll. Do your users constantly complain when yet another Payroll patch must be tested, especially when it seems unrelated to the modules they use? Cheer up! The Patch Wizard is here! In this presentation, you will learn how Oracle's Patch Wizard can analyze patches before they are applied to determine specifically which modules are impacted by the patches; eliminating the requirement to test unaffected modules.

Introduction

JEA owns, operates and manages the electric system established by the City of Jacksonville, Florida in 1895; and also owns, operates and manages the water and sewer system for the city's customers. Today, JEA is the largest community-owned utility in Florida and the eighth largest in the United States. We are committed to our purpose—to improve the quality of life in the communities we serve, with a spirit that has united our business for more than 100 years. The JEA electric system currently serves more than 360,000 customers in Jacksonville and parts of three adjacent counties. JEA's water system serves more than 240,000 water customers and 186,000 sewer customers, or more than 80 percent of all water and sewer utility customers in our service area.

JEA currently utilizes Oracle's E-Business Suite for Financials, Human Resources and Supply Chain Management; in total, 17 modules. While patching is an accepted way of life for any company that utilizes any large software system, our users were being inundated with testing requirements for patches. Specifically, the Payroll patches. With the mandatory quarterly and year-end updates, our users were required to perform complete application testing a minimum of seven times a year! At between 195 and 250 user hours required each time to test all modules, we were beginning to hear rumors of a lynch mob forming. With the IT staff resorting to slinking down dark hallways and hiding in closets whenever users were near, it was time to find a solution to our testing problem.

First, we tried using the patch Readme file to determine which modules needed to test; but the Readme file just didn't contain the depth of information necessary to make an informed testing decision. Next, we turned to the patch log file. Big mistake. The average log file for a Payroll Year-End patch is about 50 pages long. After a great deal of time and effort spent analyzing the log file, we realized that we were no closer to a solution than when we started. The problem was that the log file showed numerous AOL and FND objects, along with countless java files that had been affected by the patches. These file types touch almost every module of the Oracle Applications; therefore, every module would still have to be tested. At this point, we turned to Oracle Support for assistance.

To be perfectly honest, I cannot remember just how many Oracle Service Engineers, Reps, Duty Managers, Senior Managers and Division Managers we went through. We spent months trying to find a solution to our problem. What appeared to be the death blow was delivered in a Service Request we had open at the time for this problem:

“There is no other information or help that can be afforded this customer for this issue at this time.”

It seemed that even Oracle was ready to throw in the towel. However; considering the mood our users were in, we were not yet ready to face them with the news that we had failed. We insisted that they continue working with us to find an acceptable method of reducing our testing. Finally, a few months later, our perseverance paid off – apparently, Oracle has a tool, the Oracle Patch Wizard, hiding right in plain sight; available as a standard feature of the E-Business Suite!

The Oracle Patch Wizard

The Oracle Patch Wizard is a tool in the Oracle Applications Manager that seems to be fairly well-know and used by dba’s; but a well kept secret among Applications administrators. The key features of the Patch Wizard are:

- Recommend patches for the current code level
- Recommend patches that bring the system to a new code level
- Check if a particular patch has already been applied to the system
- Find un-applied pre-requisite patches for recommended patches
- Perform Impact Analysis for all recommended patches
- Aggregate Impact Analysis for top-level patches and their un-applied pre-requisite patches
- Download and merge patches

For the purpose of this paper, we are only going to explore the ability of the Patch Wizard to perform Impact Analysis; for this is where the secret to reducing testing lies.

Setup and execution of the Oracle Patch Wizard Tool

To navigate to the Patch Wizard:

***** Important Note *****

To use the Patch Wizard, you must have System Administrator privileges and a Metalink account.

[System Administrator] Oracle Applications Manager -> Patching and Utilities

From the Patching Utilities page, select “Patch Wizard” from the “Select Feature” drop-down box

ORACLE Applications Manager

Support Cart Setup Home Logout Help

Applications Dashboard | Site Map

Applications System FIQA >

Applied Patches : FIQA Select Feature Patch Wizard Go

Last Updated : 25-04-2007 16:05:29

Simple Search

At least one field must be completed. Advanced Search

Querying for a specific patch will return all patches that include the specified patch.

Patch ID

Applied From Date To Date
(dd-MM-yyyy) (dd-MM-yyyy)

Language

Patch Name	Merged Patches	APPL_TOP Name	Language	Completion Date	Details
No search conducted					

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Trusted sites

Before you can use the Patch Wizard the first time, you need to set the Patch Wizard Preferences. Click on the "Patch Wizard Preferences" Task icon

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Applications Dashboard | Site Map

Applications System: FIQA >

Patch Wizard : FIQA

Last Updated : 25-04-2007 16:07:52

Select Feature Patch Wizard [Go]

Patch Wizard Tasks

Task Name	Description	Tasks	Job Status
Patch Wizard Preferences	Set download, merge, and stage area preferences		
Define Patch Filters	Create custom patch filters		
Recommend/Analyze Patches	Submit requests for patch advice or analysis		
Download Patches	Submit requests to download patches		

Filter Criteria

Filter Name contains []

Completion Date is [] (dd-MM-yyyy)

[Go]

Results

If the Patch Filter Name/Patch List that you submitted does not appear on this page, review the Request Log from the Job Status icon for more information. If needed, make corrections and resubmit the request.

Filter Name/Patch List	Request	Request Set	Recommended	New Code Level	Requested By	Completion Date	Details
	13794472	13794470	1	0	SIMMMA	04-04-2007 09:16:09	
	13814320	13814318	1	0	SIMMMA	23-04-2007 15:47:34	
	13815561	13815559	1	0	SIMMMA	24-04-2007 11:23:51	
4428068, 4665141, 4949895, 4583274	13815768	13815766	4	0	SIMMMA	24-04-2007 15:25:40	
5468797	13816451	13816449	1	0	WALTTM	25-04-2007 11:44:10	

Trusted sites

Designate a staging directory and your Metalink credentials

ORACLE Applications Manager

Applications Dashboard | Site Map

Applications System: FIQA > Patch Wizard >

Patch Wizard Preferences : FIQA

Last Updated : 24-04-2007 14:02:16

Oracle MetaLink User ID **simmma@jea.com** [OK] [Cancel]

Staging Directory

* Staging Directory /tmp (Example: /user01/appmgr/stage)

Merge Option Defaults

To download patches, you must setup your **MetaLink Credentials page** in OAM Site Map.

Automatically merge downloaded patches

* Merging Strategy

One merged patch: US and non-US

Two merged patches: US, non-US

Multiple merged patches: US, language1, language2,...

[Merge Option Defaults]

Language and Platform Defaults

Select default Languages and Platform for downloading patches.

Available Languages

- Albanian
- Arabic
- Brazilian Portuguese
- Canadian French
- Croatian
- Czech
- Danish
- Dutch
- Finnish
- French

[Move] [Move All] [Remove] [Remove All]

Selected Languages

[]

Linux Intel

Trusted sites

The staging directory must be a **server** directory that you have write access to; you'll need to coordinate this with your dba. The Patch Wizard needs a directory to download the patch to for analysis; we use a temporary directory to allow our dba to clean up old patches and reduce unnecessary clutter on the server.

Enter your Metalink userid, password and email address.

It is important that you remove the default information from the Web Proxy Setup section

The screenshot shows the Oracle Applications Manager interface. The left sidebar contains navigation links: Dashboard Setup, Metalink Credentials (highlighted), Business Flows, Knowledge Base, and Signon Audit Setup. The main content area is titled 'Update Metalink Credentials' and includes an 'Update' button. Below this is the 'Oracle Metalink' section with three input fields: Metalink Userid (simmma@jea.com), Metalink Password (masked with dots), and Email (simmma@jea.com). A note states: 'This email address will be used for querying Metalink.' The 'Web Proxy Setup' section follows, with a note: 'Please enter the following information if your Applications instance uses a Proxy Server to connect to the internet. Enter proxy username and password only if the proxy server requires authentication.' This section contains five input fields: Proxy Server Host Name, Proxy Server Port, Proxy Bypass Domains, Proxy Username, and Proxy Password. A second 'Update' button is located at the bottom right of the form area. The footer includes copyright information and navigation links: Support Cart | Setup | Home | Logout | Help.

Click on the Update button when complete.

You only need to set your Patch Wizard preferences one time; thereafter, you can proceed directly to the Patch Analysis.

From the main Patch Wizard screen, click on "Recommend/Analyze Patches" Task icon

ORACLE Applications Manager

Applications Dashboard | Site Map

Applications System FIQA > Patch Wizard : FIQA

Last Updated : 25-04-2007 16:07:52

Select Feature Patch Wizard Go

Patch Wizard Tasks

Task Name	Description	Tasks	Job Status
Patch Wizard Preferences	Set download, merge, and stage area preferences		
Define Patch Filters	Create custom patch filters		
Recommend/Analyze Patches	Submit requests for patch advice or analysis		
Download Patches	Submit requests to download patches		

Filter Criteria

Filter Name contains []

Completion Date is [] (dd-MM-yyyy)

Go

Results

If the Patch Filter Name/Patch List that you submitted does not appear on this page, review the Request Log from the Job Status icon for more information. If needed, make corrections and resubmit the request.

Filter Name/Patch List	Request	Request Set	Recommended	New Code Level	Requested By	Completion Date	Details
5917868	13794472	13794470	1	0	SIMMMA	04-04-2007 09:16:09	
4428068	13814320	13814318	1	0	SIMMMA	23-04-2007 15:47:34	
4428068	13815561	13815559	1	0	SIMMMA	24-04-2007 11:23:51	
4428068, 4665141, 4949895, 4583274	13815768	13815766	4	0	SIMMMA	24-04-2007 15:25:40	
5468797	13816451	13816449	1	0	WALTTM	25-04-2007 11:44:10	

Enter patch number(s) of patch(es) to be analyzed (multiple patches can be entered, separated by commas)

ORACLE Applications Manager

Applications Dashboard | Site Map

Applications System FIQA > Patch Wizard > Recommend Patches : FIQA

Last Updated : 25-04-2007 16:38:30

Staging Directory /tmp

Oracle MetaLink User ID simmma@jea.com

Options

Patch Wizard automatically downloads patches or the InfoBundle from MetaLink before using them for analysis or recommendations. If it is unable to download files from MetaLink, it will try to use existing files in the staging directory.

Select

Create Recommendation

Using Patch Filter []

Upload patch information bundle before analyzing patches.

The Patch Information Bundle has not been uploaded yet.

Analyze Specific Patches

* Patches [4428068, 4665141, 4949895, 4583274] (Enter Patch numbers, separated by commas)

Upload patch information bundle (no analysis)

The Patch Information Bundle has not been uploaded yet.

Schedule

If no date or an earlier date is specified, the request will be scheduled to run immediately.

Date 25-04-2007 (dd-MM-yyyy)

Time 00:00

You can check the status of the analysis by clicking on the "Job Status" icon on the main Patch Wizard screen. Once the analysis is complete, the patch number(s) should show up in the list at the bottom of the Patch Wizard screen – click on "Details" to view the patch analysis.

ORACLE Applications Manager

Applications Dashboard | Site Map

Applications System:FIQA >

Patch Wizard : FIQA

Select Feature Patch Wizard Go

Last Updated : 25-04-2007 16:07:52

Patch Wizard Tasks

Task Name	Description	Tasks	Job Status
Patch Wizard Preferences	Set download, merge, and stage area preferences		
Define Patch Filters	Create custom patch filters		
Recommend/Analyze Patches	Submit requests for patch advice or analysis		
Download Patches	Submit requests to download patches		

Filter Criteria

Filter Name contains []

Completion Date is [] (dd-MM-yyyy)

Go

Results

! If the Patch Filter Name/Patch List that you submitted does not appear on this page, review the Request Log from the Job Status icon for more information. If needed, make corrections and resubmit the request.

Filter Name/Patch List	Request	Request Set	Recommended	New Code Level	Requested By	Completion Date	Details
5917868	13794472	13794470	1	0	SIMMMA	04-04-2007 09:16:09	
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5468797	13816451	13816449	1	0	WALTTM	25-04-2007 11:44:10	

If the patch that you submitted does not appear in the Results section; there may be errors with the request, or the patches may already be applied. Click the "Job Status" icon and review the request log for more information. If there are errors, make corrections and resubmit the request.

Interpretation and utilization of the patch analysis output

The Patch Analysis Summary screen displays summary statistics about the impact of a patch to the system. All non-zero numbers are links you can drill into for more detailed information. There are two types of impact analysis performed:

- Direct Impact - Files directly impacted by the patch
- Indirect Impact - Files, Menu Navigation Paths and Diagnostics Tests that are affected by the patch

ORACLE Applications Manager

Applications Dashboard | Site Map

Applications System:FIPS > Patch Wizard > Recommended Patches Results >

Patch Impact Analysis for 6372555: FIPS

Patch Description **111 PAY: AFTER RUP 2 PRENOTE IN THE PERSONAL PAYMENT METHOD ERROR APP-PAY-07207**

Patch Readme

Total Files in Patch **124**

Files to install **124** (100.00%)

Prerequisite Patches **0**

Direct Impact Summary	Indirect Impact Summary
Applications Patched 3	Unchanged Files Affected 0 JSPs
File Types Installed 7	Menu Navigation Trees Affected 6 Responsibilities, 8 Paths
New Files Introduced 124	Diagnostics Tests to Re-Run 0 Test(s)
Existing Files Changed 0	
Existing Files Unchanged 0	

TIP Analysis on Unchanged Files Affected only available for JSPs

TIP Click on the Prerequisite Patches link to toggle between Aggregate and Individual Impact Analysis

TIP Aggregate Impact Analysis only for patches with metadata uploaded from InfoBundle.zip

TIP Click on Patch ID in the Aggregate Impact Analysis Table to view individual Impact Analysis for Pre-reqs

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“Applications Patched” displays Applications that have files directly impacted by the patch.

Applications Dashboard | Site Map
 Applications System: FIPS > Patch Wizard > Recommended Patches Results > Patch Impact Analysis >
Patch Impact Applications Patched for 6372555: FIPS
 Patch Description **11i PAY: AFTER RUP 2 PRENOTE IN THE PERSONAL PAYMENT METHOD ERROR APP-PAY-07207**

Application	Directory	Installed Files	New File	Changed File
[FF] FastFormula	1	1	1	0
[PAY] Payroll	3	5	5	0
[PER] Human Resources	3	118	118	0

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“File Types Installed” displays the File Types that are directly impacted by the patch.

Applications Dashboard | Site Map
 Applications System: FIPS > Patch Wizard > Recommended Patches Results > Patch Impact Analysis >
Patch Impact File Types Installed for 6372555: FIPS
 Patch Description **11i PAY: AFTER RUP 2 PRENOTE IN THE PERSONAL PAYMENT METHOD ERROR APP-PAY-07207**

File Type	Unchanged Files	Changed Files	New Files
drv	0	0	100
fmb	0	0	19
ildt	0	0	1
pkb	0	0	1
pkh	0	0	1
pll	0	0	1
sql	0	0	1

“New Files Introduced” displays new files included with this patch. You can use the various filters to pinpoint files of interest.

Applications Dashboard | Site Map
 Applications System: FIPS > Patch Wizard > Recommended Patches Results > Patch Impact Analysis >
Patch Impact File Details for 6372555: FIPS Apply Filter

Patch Description **11i PAY: AFTER RUP 2 PRENOTE IN THE PERSONAL PAYMENT METHOD ERROR APP-PAY-07207**

App Short Name: Directory:
 Impact Type: File Name:
 Object Type:

Previous 1-15 of 124 Next 15

Application	Directory	File Name	Impact Type	Version in APPL_TOP	Version in Patch	Objects Affected
[FF] FastFormula	admin/driver	ffcommon.drv	New File	<None>	115.4	N/A
[PAY] Payroll	forms/US	PAYWSEPM.fmb	New File	<None>	115.66	8
[PAY] Payroll	patch/115/sql	pyppmapi.pkb	New File	<None>	115.25	N/A
[PAY] Payroll	patch/115/sql	pyppmapi.pkh	New File	<None>	115.13	N/A
[PAY] Payroll	patch/115/rep/patch/115/sql	pyppmapi_pkh.ildt	New File	<None>	115.13	N/A
[PAY] Payroll	patch/115/sql	pyppmasd.sql	New File	<None>	115.7	N/A
[PER] Human Resources	resource	HRAMER.pll	New File	<None>	115.76	N/A
[PER] Human Resources	forms/US	PERAEOBJ.fmb	New File	<None>	115.32	N/A
[PER] Human Resources	forms/US	PERBEOBJ.fmb	New File	<None>	115.11	N/A
[PER] Human Resources	forms/US	PERDEOBJ.fmb	New File	<None>	115.18	N/A
[PER] Human Resources	forms/US	PERDKOBJ.fmb	New File	<None>	115.0	N/A
[PER] Human Resources	forms/US	PERESOBJ.fmb	New File	<None>	115.9	N/A
[PER] Human Resources	forms/US	PERFIOBJ.fmb	New File	<None>	115.0	N/A
[PER] Human Resources	forms/US	PERFROBJ.fmb	New File	<None>	115.16	N/A
[PER] Human Resources	forms/US	PERGBOBJ.fmb	New File	<None>	115.0	N/A

“Existing Files Changed” displays files included in the patch that are a newer version than current existing files in the database.

“Existing Files Unchanged” displays files included in the patch that will not be applied to the database because their patched version would be older than what currently exists.

“Unchanged Files Affected” displays files in the system that are not directly changed but have dependencies on files that would change.

“Menu Navigation Trees Affected” Summary and Detail screens display the applications, responsibilities and the number of active users whose menu navigation trees would be affected because JSPs and Forms are patched. The Detail screen shows the exact menu navigation paths to the patched JSPs and Forms.

The screenshot shows the Oracle Applications Manager interface. The breadcrumb trail is: Applications System:FIPS > Patch Wizard > Recommended Patches Results > Patch Impact Analysis > Patch Impact Menu Navigation Trees Affected Summary for 6372555: FIPS. The patch description is "11i PAY: AFTER RUP 2 PRENOTE IN THE PERSONAL PAYMENT METHOD ERROR APP.PAY.07207". A table lists the following data:

Application	Responsibilities Affected	Menu Paths Affected
[AZ] Application Implementation	1	2
[BEN] Advanced Benefits	1	1
[GHR] US Federal Human Resources	1	1
[PER] Human Resources	2	2
[POCUST] PO Customization	1	2

Below the table, there are filter options: TIP Use (%) as wildcard in filters and TIP Use Application Short Name in filter.

“Diagnostics Tests to Re-Run” Summary and Detail screens display the diagnostics tests that could be re-run after the patch has been applied to verify bug fixes or to make sure there is no regression introduced.

Tips and Tricks

One of our biggest concerns when first testing the Patch Wizard was the differences that kept showing up between the patch log and the Wizard. The log file would show a much higher number of changed files than the Wizard analysis. Luckily, we had finally found someone at Oracle Support who not only knew the Patch Wizard existed, but actually knew how it worked. He explained the difference in the file counts:

- AD tables are modified as being used by adpatch itself, so this will have no impact.
- There are objects, such as the FND_CP_GSM_OPP_AQ object, that are recompiled and used for advanced queuing, and not modified by the patch.
- The number of packages modified is a bit higher in the patch log than the number of changed pls objects shown in the patch analysis, but this is because of dependencies. A dependent package will show in the log as changed, due to recompilation because of the dependency; but the contents will not change, and therefore will not be listed in the patch analysis.

The “Indirect Impact Summary” analysis area will list any impact to objects from changed dependent objects, libraries, etc.

The Patch Wizard does not have the ability to analyze non-Applications patches, such as CPU security patches and other database patches. To our knowledge, the Patch Wizard also cannot analyze a patch that is password protected.

Occasionally, you may submit a patch for analysis that you know should show an impact, the analysis appears to complete without errors, but the patch analysis comes back empty.

Applications System:FIPS > Patch Wizard >

Recommended Patches Results : 6116000 : FIPS

Patch Filter/Patch ID: 6116000 Requested By: WALTMM Completion Date: 16-10-2007 10:03:45

Show Hidden Patches (with the check mark in the Hide Patch column) [Redisplay Data](#)

ⓘ If the Show Hidden Patches checkbox is not checked, the number of patches displayed may be less than the number listed on the Patch Wizard page. Only patches selected on the current page can be downloaded.

Recommended Patches for Current Code Level

Select Patch	Product Family	Product Patch Description	Reason Recommended	Total Pre-Hide Reqs	Hide Patch Impact
The above criteria resulted in no rows					

Patches that introduce New Code Levels

Select Patch	Product Family	Product Patch Description	Reason Recommended	Total Pre-Hide Reqs	Hide Patch Impact
The above criteria resulted in no rows					

If you dig through the log files, you will probably see the following error:
 No Global View APPL_TOP found

The fix for this is to have your dba run adadmin as follows:

- Run "adadmin"
- Choose Option 2 : Maintain Applications Files Menu
- Choose Option 5 : Maintain snapshot information
- Choose Option 2 : Update current view snapshot

Once the program successfully completes, run the Patch Wizard again and analyze patches.

We have discovered that the above process will fix a number of odd or unexplained errors received when analyzing a patch. Because this is a very simple and quick process; if it has not been done recently, consider updating the snapshot and re-running the patch analysis before filing an SR with Oracle Support.

Conclusion

Oracle's Patch Wizard is probably one of the best-kept secrets of the Oracle Applications; there are even Oracle Engineers that are not aware of its existence. It is also one of the best tools available to Oracle System Administrators and support personnel for planning and executing patch application.

Since implementing the use of the Patch Wizard for patch analysis, only those users who have modules directly affected by the patches being applied are required to test. Our users no longer spend 195 to 250 hours, seven times each year testing their applications. Now, only 40 to 60 user hours are required for Payroll patch testing, a reduction of **80%**!

If your users are tired of testing modules seemingly unrelated to patches being applied, take advantage of the Patch Wizard. Not only will you be able to eliminate unnecessary testing; but you can also show the users that do have to test, just exactly what and why they need to test.