Automated Testing for Oracle E-Business Suite

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Objectives

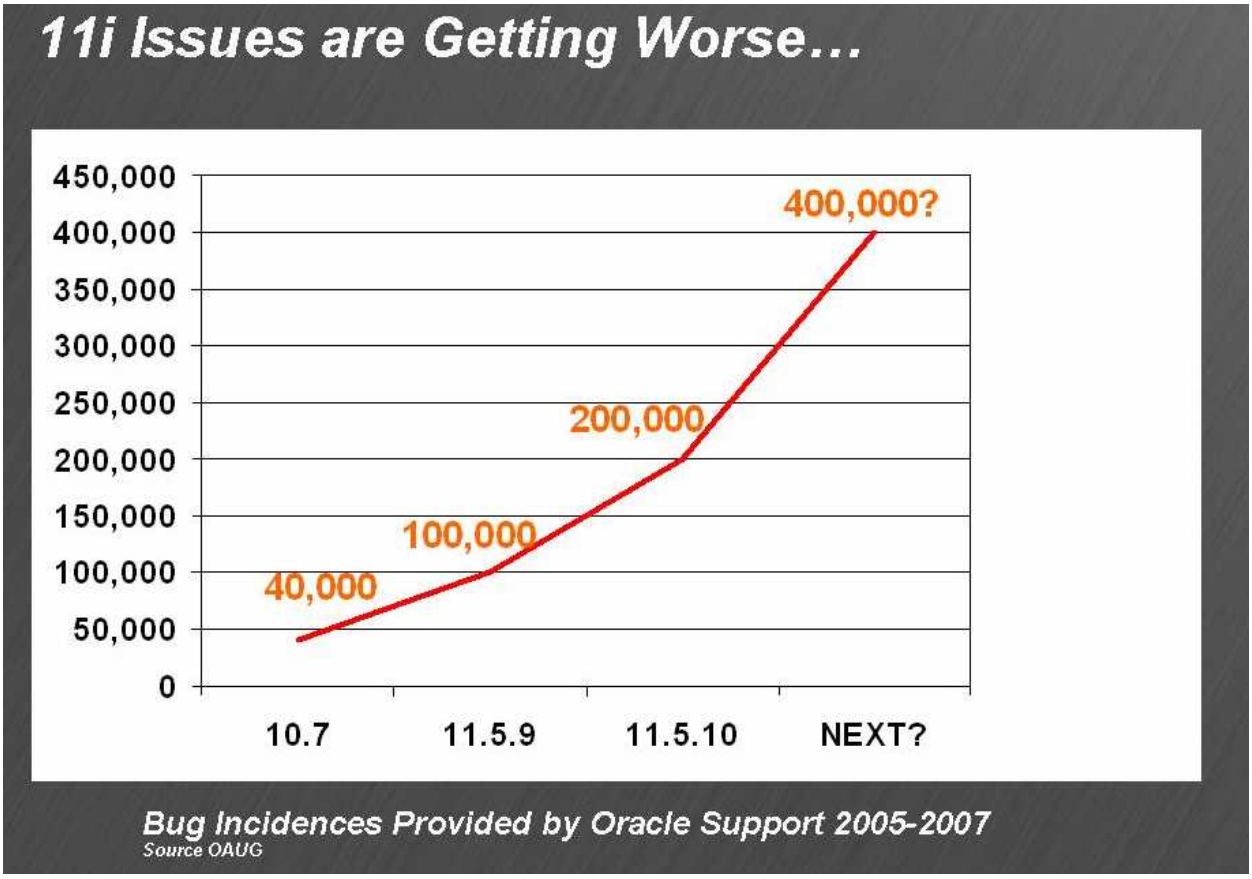
E-Business suite users are constantly planning changes to their environments. Some are looking at upgrades, while others are looking at adding new modules or apply one off patches. Each of these categories has varying degrees of difficultly but there is one thing they all have in common and that is testing. This document will explain how the combination of the Mercury Quality Center and the TurnKey Business Process Testing Accelerator for Oracle E-Business Suite adds automated virtual testers to your testing strategy. You will be able to tackle more changes in a shorter amount of time because the time allotted for testing decreases significantly when this solution is employed.
Objectives include:

- Learn about the concepts of automated testing and class-based framework
- Gain familiarity with the HP Quality Center application and TurnKey Solution tool kit
- Understand the benefits achieved from the solution

Testing is a Major Challenge and Unavoidable

Everybody who works with or supports Oracle Applications understands testing is a substantial and on-going challenge. Whether it is the extensive CRP-style testing of an upgrade or new implementation project or the on-going testing for patches or family packs, testing is time consuming and expensive. Yet, the average company only tests about 17% of the functionality in Oracle that really needs to be tested in order to ensure production readiness. But unfortunately, getting more budget or personnel to increase test coverage is a non-starter for most organizations.

The number of issues affecting production quality for companies running Oracle E-Business Suite is increasing. The graph below shows the actual number of accepted bug incidences as reported by Oracle Support in April of 2005. As of that date, there were 40,000 accepted bug incidences for version 10.7, 100,000 on version 11.5.9, and, Oracle was planning for, budgeting for, and hiring for an expected 200,000 bug incidences for 11.5.10 by the end of December of ‘05. Oracle actually finished 2005 at approximately 235,000, driving home the point that not only is the number of production-level bugs increasing, but the rate of growth of production issues is increasing as well as newer versions of E-Business Suite are released. We can only speculate about the level of bug incidences for R12, but we can clearly see that this problem is getting worse, with no expectation that it will be getting better anytime soon.



Class-Based Framework and Automated Testing Overview

Qualities of a Class-Based Framework

- Aspects of the framework are broken up into manageable portions
- Reusability is a key benefit from this structure
- The layers of the framework act as building blocks that are easily associated to each other

Qualities of a Automated Testing

- Reusable test scripts can be executed at each stage of testing
- Complex testing scenarios crossing multiple Oracle applications can be automated
- A reduction in the amount of man-hours needed to perform testing
- A reduction in the amount of errors seen in production

Combining a Class-Based Framework and Automated Testing

Automated testing is not a new concept. There are many tools that will record steps as you click through the process. This style of test script will produce a single test script that can only be run individually for that particular set of data. There are also tools for developers to write code that will create intricate test scripts that can then be run by functional users. In this case it requires the involvement of both the technical and functional teams. Maintaining either of these types of tests adds a level of overhead which eventually leads the scripts to be shelfware.

The concept of the class-based framework literally breaks a test script up into granular 'classes' that can be reused. The Quality Center application stores the test script in three 'classes' or levels: keywords, components, test cases and test sets. Each level will be described at in detail later in this document. The benefits of this situation are that functional users can create and use the levels to build test scripts as they see fit. It puts the power of the test script generation directly in the hands of the people who know the business and understand what needs to be tested.

Quality Center Manages Automated Testing

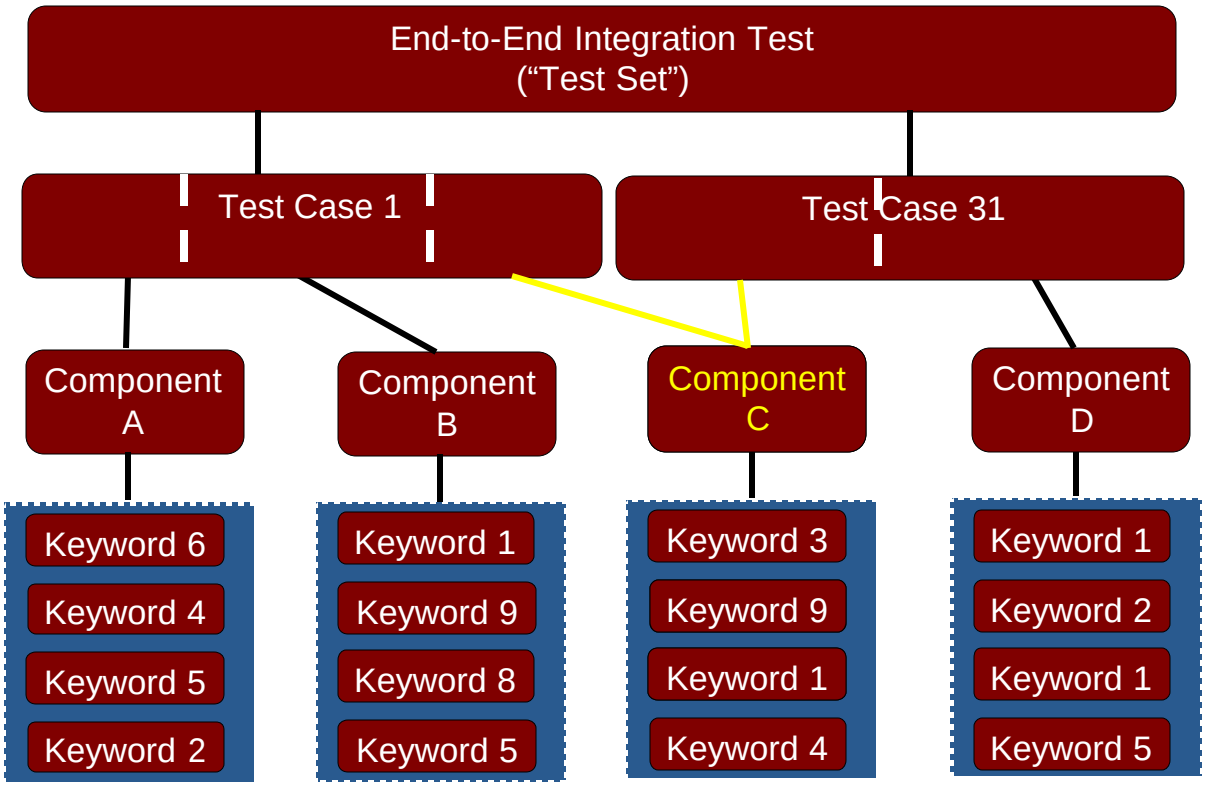
Qualities of Quality Center

- Reduce application deployment risk
- Standardize and manage the entire quality process
- Make go-live decisions with confidence
- Store and maintain automated test scripts created using the class-based framework

The Quality Center application was originally developed by Mercury Interactive. Mercury has since been purchased by Hewlett Packard, hence the Quality Center is now known as HP Quality Center. Quality Center provides functional end users a web-based front-end to store requirements, develop test scripts and track the association and between each. For the purpose of this document the focus will remain on developing and executing test scripts.

Developing Automated Test Scripts

As mentioned above, Quality Center stores the test script information in levels: keywords, components, test cases and test sets. The keywords will be discussed at a later point in this document. The components are building blocks to create test cases. And the test cases are building blocks to create test sets.



Test Script example:

1. **Test Set -** Create a Sales Order with one line
    a. **Test Case -** Enter Sales Order header info
        i. **Component -** Enter Customer Number
        ii. **Component -** Select Order Type
        iii. **Component -** Enter Purchase Order #
        iv. **Component -** etc.
    b. **Test Case -** Enter Sales Order line info
        i. **Component -** Enter item description
        ii. **Component -** Enter quantity
        iii. **Component –** etc.

Better, Faster, Cheaper Automated Testing

By using the test script described above the same test scripts can be executed in each stage of testing. This reduces the probability of end users executing steps differently or not at all. The test script is meant to be kicked off on a dedicated machine, not requiring any user intervention.

Users previously having to put their day-to-day responsibilities aside to do testing can now stay focused on their daily activities while these test are executed. The results can be emailed to interested parties to review and act on if necessary. The results will document any errors with screenshots and all the steps leading up to the error. These documents can be used to provide Oracle Support with information to explain errors and the steps causing these errors. Successful test results can be stored and made available to auditors or management. The automated tests can be split up between testing computers and executed sequentially to reduce the amount of time to complete all the testing.

TurnKey Solution's Business Process Testing Accelerator for Oracle E-Business Applications

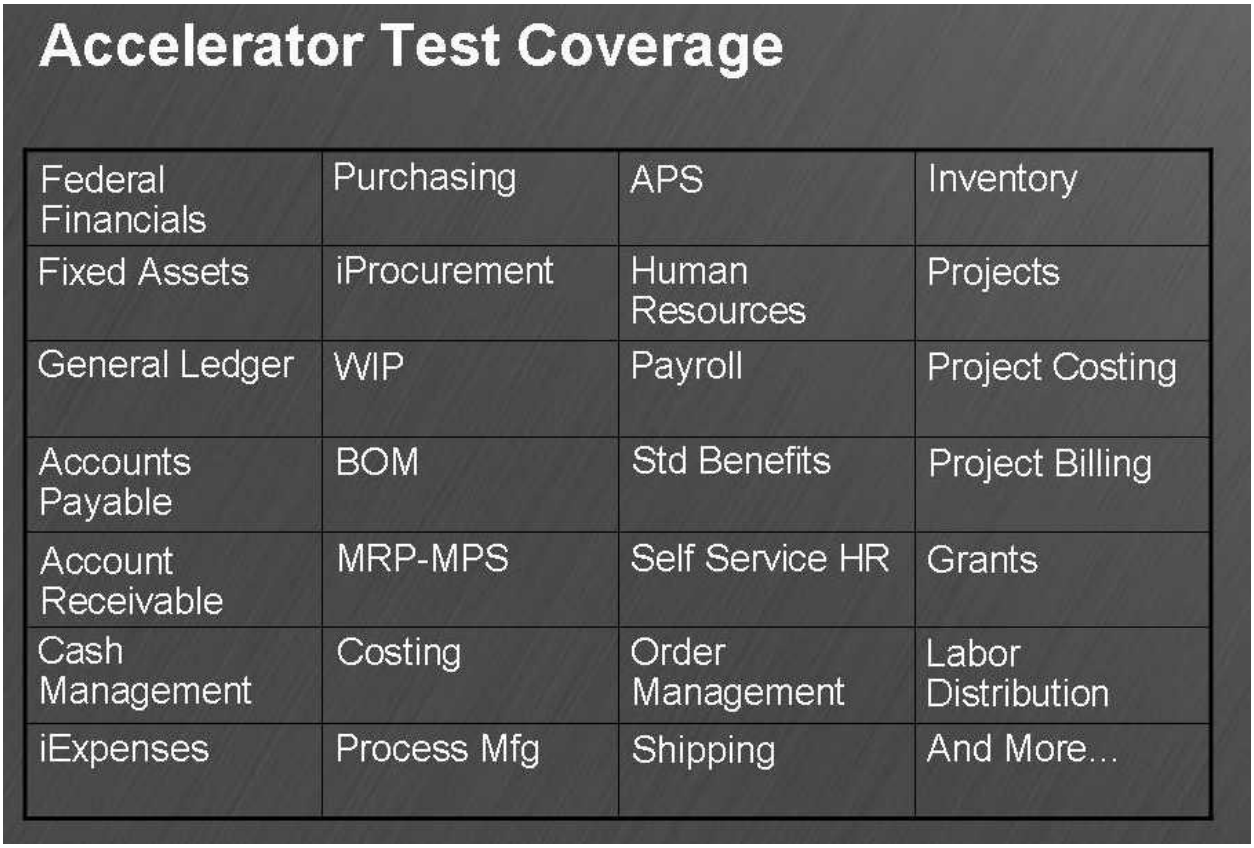
Qualities of the Oracle Accelerator tool kit

- Pre-built testing package
- Instant testing coverage for upgrades, implementations or patches
- Document testing results
- Eliminate the to pull in resources from their daily activities to perfom testing

This pre-built testing package includes automated end-to-end tests, integrated data management and accurate change identification and control to provide a comprehensive, fully automated solution for Oracle E-Business suite patches, upgrade and new implementation testing. Now for the first time, non-technical analysts can use the Oracle Accelerator to execute comprehensive functional tests across their entire E-Business suite for even the smallest of patches. TurnKey Solution's Oracle E-Business Accelerators significantly impact traditional project time and expense by reducing extensive personnel and time commitments and eliminating testing headaches.

The BPT Accelerator is installed in Quality Center. It exploits the concepts of the class-based framework by supplying pre-built test cases, components and keywords. Functional users now need only review the pre-built scripts to organize them into test sets applicable to their companies needs.

The Accelerator offers coverage for 26 of the major Oracle modules in use today and the breadth of this coverage is increasing each quarter. Accelerator test coverage includes module families such as Financials, Order Management, Projects, Discrete and Process Manufacturing, HR, Order Fulfillment, Public Sector, and more.



Customers have realized a quick benefit by running automated testing. For example if you may have 100 manual test scripts that need to be executed for a one-off patch that affects a single Oracle application. By using the Quality Center

Summary

The benefits of TurnKey Oracle Accelerator tool kit can be realized in a very short amount of time. Companies can quickly integrate the toolkit into weekly validation testing of bug fixes. Oracle supplies the Critical Patch Updates every quarter; these too need to be thoroughly tested. Having the tool kit makes this quickly possible. The tool kit can be incorporated into any Oracle project at any stage to provide continued support during and after the project. Choosing to implement the Accelerator for the Oracle E-Business Suite positions you to tap into benefits of introducing higher quality, lower testing costs and decreased time of implementation.

References

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http://turnkeysolutions.com

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