

Monitoring the Real User Experience of Oracle E-Business Suite Users

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INTRODUCTION

The Oracle E-Business Suite (EBS) architectures allow organizations to automate complex business processes where high levels of application performance are crucial. However, there are significant challenges in the management of these solutions.

To help maximize the value of this mission-critical application, and to achieve a Superior Ownership Experience in application manageability and quality, Oracle provides a set of tools that facilitates top-down application management and cover the entire application lifecycle.

This whitepaper is focused on the Oracle Real User Experience Insight accelerator for Oracle E-Business Suite that enables out-of-the-box monitoring of Oracle E-Business Suite applications from a real-user perspective. The monitoring of the real-user experience of Oracle E-Business Suite users allows for user-session tracking, and the discovery of end-user performance application issues when using Oracle E-Business Suite including Oracle Forms.

ORACLE REAL USER EXPERIENCE INSIGHT

Oracle Real User Experience Insight moves service delivery monitoring from the Data Center's perspective to the end-users' perspective. Its ability to see what the end-users experience, together with its powerful reporting facilities, enables direct insight into every component of even the most complex infrastructures, and delivers an information foundation that services both IT and business. Moreover, the session diagnostics facility supports you in performing root-cause analysis of operational problems. It enables you to both assess the impact of the problem on your Web site's visitors, and obtain direct insight into possible causes.

Oracle Real User Experience Insight provides you with powerful analysis of your network and business infrastructure. You can monitor the real-user experience, set Key Performance Indicators (KPIs), and automatically trigger alert notifications for incidents that violate them. Oracle Real User Experience Insight comes with a library of powerful reports that provide both business-orientated and technical-oriented users with the information they need to make effective decisions.

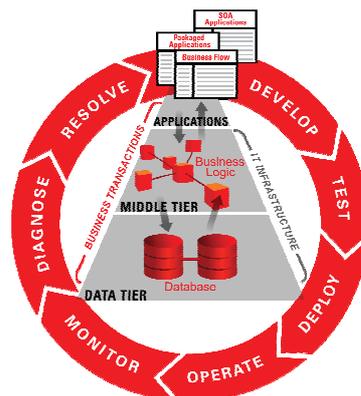
ORACLE E-BUSINESS SUITE ACCELERATOR

Oracle Real User Experience Insight Accelerator for Oracle E-Business Suite provides an *out-of-the-box* real-user monitoring solution for Oracle E-Business Suite applications that automatically discovers all used Oracle E-Business Suite applications, and translates network objects into business functions.

This ability enables the measurement and monitoring of real-user transactions - from clicks to actions into business transactions. Each individual user action is matched to the correct Form/Responsibility/Framework and Action to provide contextual analyses. Oracle Real User Experience Insight Accelerator for Oracle E-Business Suite captures and reports all functional errors, and discovers end-user performance and application issues. Finally, application managers can setup KPIs and report views of interest on their mission-critical applications.

TOP-DOWN APPLICATION MANAGEMENT

Typically, traditional system management tools adopt a silo approach to management - handling each component individually, and then trying to piece together information about the health of the application environment from the bottom up.



Oracle Enterprise Manager goes beyond the bottom-up approach by providing a top-down perspective. This delivers a business-centric view of the application environment, helps you manage your Oracle E-Business Suite applications according to their business requirements, and allows drill down from the real end-user performance issues into the underlying application and infrastructure for further information and resolution.

This top-down approach starts with Oracle Real User Experience Insight, which extends Oracle Enterprise Manager to manage Oracle E-Business Suite applications. Oracle Real User Experience Insight accelerator for Oracle E-Business Suite is complemented by other products such as Oracle Application Management Pack for Oracle E-Business Suite, Oracle Application Testing Suite for Oracle E-Business Suite, Application Deployment Manager, Oracle Database Management Packs, Oracle Middleware Management Packs, Oracle Provisioning Pack and System Monitoring Plug-ins for third-party technologies to provide management coverage for your entire system environment, and support for each phase of the application lifecycle.

THE CHALLENGE

Oracle's EBS provides a fully integrated suite of applications and reporting tools capable of managing operations across the globe. It provides a single data model capturing information once, and sharing the record across multiple applications. As an example, a single employee record can be used not only in Human Resources applications, but in Finance applications to pay expenses, to assign resources to Projects, and raise requisitions in Procurement. The use of a single instance makes records available to all users, irrespective of geographical location, with a capability to support many languages.

Oracle EBS comprises of over 250 applications. These can be grouped into package families such as financials, projects, and procurement, each comprising of individual applications. The selection of the applications required by an organization defines the scope of implementation, maintenance, support, and upgrading.

These core-business processes often represent a major investment for an organization. However, successful implementation of these processes is only possible when end-users can utilize them in an optimal manner. This optimization has two parts: end-users must be able to use them effectively in their daily work, and the processes themselves must be facilitated through a reliable and user-friendly interface.

This whitepaper highlights the challenges faced by organizations using these architectures, and shows how Oracle Real User Experience Insight can be used to monitor every user of your Oracle E-Business Suite environment, track their experience, and improve the performance of these business-critical environments.

Challenge # 1 – Proactive Monitoring of the Complete Application Environment

A solution proactively monitoring the whole application environment is critical to capture the actual end-user experience of all users, at all locations, at all times, across the entire application. Proactive management of business-critical applications requires direct insight into the end-users' experience (not the Data Center's view of the world). Only when this information is available can significant performance problems be quickly resolved.

Oracle Forms-based Web traffic is difficult to monitor. This is largely because of the highly flexible way in which the Oracle Forms protocol can be altered through customization. In addition, the framework supports communication with different parts in the framework through the same HTTP layer.

Oracle Real User Experience insight offers optional packages for each supported Oracle architecture. Upon installation, these allow Oracle Real User Experience Insight to automatically ‘see’ every EBS page. Oracle Real User Experience Insight’s self-discovery capabilities allow it to monitor applications regardless of the level of customization, installed components, or size.

In addition, because Oracle Real User Experience Insight uses EBS -specific templates to selectively record the significant user events that will produce actionable insight, the quality of the reported monitoring is maximized.

Using this monitoring capability:

- You have full customizable dashboards focused at performance and usage of your Oracle E-Business Suite environment create unprecedented insight into the experiences of your end-users
- You can determine if any issue is isolated to a single user or small user group, the majority of users and/or certain geographical locations. You are aware of both technical and business impact.
- Service Desk personnel can review the entire users’ interaction with a monitored application. Understanding the problem of customers because you ‘see’ what they were experiencing is half the route to resolution.
- It is easy to isolate functional areas of the application or components of the infrastructure that are responsible for the performance problems and take action before customers call your support desk.

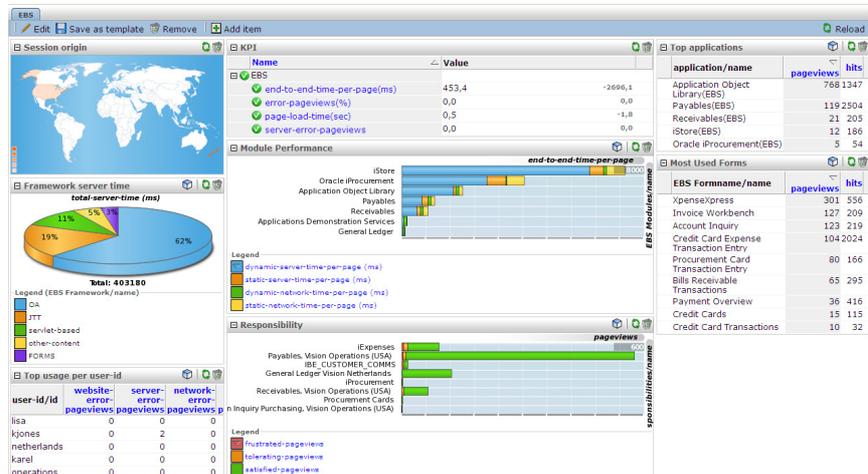


Figure 1: example of an Oracle E-Business Suite oriented dashboard

Challenge # 2 – Provide Real-Time Service Level Information

Oracle Real User Experience Insight allows you to define the Key Performance Indicators (KPIs) and Service Level Agreements (SLAs) that specify the required level of service. These can be reviewed in dashboards and reports. KPIs are grouped into categories, which can be customized to contain related performance indicators. Separate report categories can be defined for business and IT-related issues, such as transaction completion, visitor traffic, website availability, and so on.

Trend Analysis

Historical data is stored in a repository that enables you to perform trend analysis. Compare current data with information from last year, month, or week, yesterday, or even five minutes ago. You gain increased understanding of your application behavior as you compare performance on an ongoing basis. Use this information to evaluate your environment, and take a proactive approach to scalability issues.



Figure 2: Selection of specific KPIs for your Oracle E-Business Suite applications

Challenge # 3 – Provide Insights into Application User’s Behavior

End-user proficiency and adoption cannot be improved without insight into how end-users actually interact with and experience your business-critical processes. Paradoxically, it was this need for insight that was the driving force behind investment in many Oracle E-Business Suite applications in the first place. Oracle Real User Experience Insight enables you to take complete control of your business-critical processes.

Oracle Real User Experience Insight is a state-of-the-art solution that records every user session, and translates complex Web data into meaningful and understandable statistics that can then be the basis of effective business and operational decisions.

Page name	Load time (sec)	Loading satisfaction	Timestamp	Objects
EBS.fnd » FNDRSRUN » Activated:Button 00908	0,3	Satisfied loading time	18:38:21	2
EBS.fnd » FNDRSRUN » unidentified action	0,1	Satisfied loading time	18:38:24	1
EBS.fnd » FNDRSRUN » Pressed:Button 13	0,2	Satisfied loading time	18:38:24	1
EBS.fnd » fnd » help » Submitting a Request - Oracle Tutor 11i	8,8	Tolerated loading time	18:38:26	2
EBS.fnd » fnd » help » View Topic	0,2	Satisfied loading time	18:38:34	1
EBS.fnd » fnd » @FNDRSRUN_WORK_ORDER » Submitting a Request - Oracle Tutor 11i	1,5	Satisfied loading time	18:38:34	18
EBS.fnd » fnd » View Topic - Oracle Help for the Web	0,3	Satisfied loading time	18:38:43	1
EBS.fnd » fnd » View Topic	0,2	Satisfied loading time	18:38:43	1
EBS.fnd » fnd » @o_usingsrs,rerunreq,o_defrs,p_setuse,o_runs,o_vrform,rerunreq	1,2	Satisfied loading time	18:38:43	14
EBS.fnd » fnd » state » Search - Oracle Help for the Web	1,3	Satisfied loading time	18:38:46	12
EBS.fnd » fnd » state » Search - Oracle Help for the Web	1	Satisfied loading time	18:38:48	11
EBS.fnd » fnd » state » Search: Results for "t" - Oracle Help for the Web	54,1	Frustrated loading time	18:38:50	2
EBS.fnd » FNDRSRUN » Pressed:Button 00916	0,6	Satisfied loading time	18:39:31	2
EBS.fnd » FNDRSRUN » Activated:Button 23	0,1	Satisfied loading time	18:39:33	1
EBS.fnd » FNDRSRUN » Pressed:Button 23	0,3	Satisfied loading time	18:39:33	1
EBS.fnd » FNDRSRUN » Activated:TextField 00913	0,4	Satisfied loading time	18:39:35	2
EBS.fnd » FNDRSRUN » Activated:Button 14	0,1	Satisfied loading time	18:39:36	1

Figure 3: Identify user bottlenecks and correlate to performance data

Challenge # 4 – Identifying Production Problems Quickly

Oracle Real User Experience Insight helps you determine: which parts of your application are creating performance issues; discover how long an entire business transaction takes; how long it takes to search, select, and pay for a product; and analyze each page, object, and argument to see how different components are contributing to the overall response time.

Server

Oracle Real User Experience Insight helps you measure your server response times and identify how the number of hits influences end-user experience. It reports the load levels at which your Web servers are producing response times that may jeopardize customer satisfaction. It also shows which application components are most frequently requested, and how they contribute to your total server time.

Network

Oracle Real User Experience Insight helps you determine network roundtrip times for your user groups. You learn where your customers are coming from, and can evaluate how country of origin and network providers affects your global customers' experience of your Oracle E-Business Suite applications. You can also view how performance differs on your internal network, and use this information to fine-tune your network configuration.

Oracle Real User Experience Insight continuously logs all error messages at server, network, and application level. You can also implement checks on page content, site errors (pre-setup for Oracle E-Business Suite applications), and the functional requirements of your transactions. This creates a rich information source you can use for correlation against server diagnostics data in Enterprise Manager.

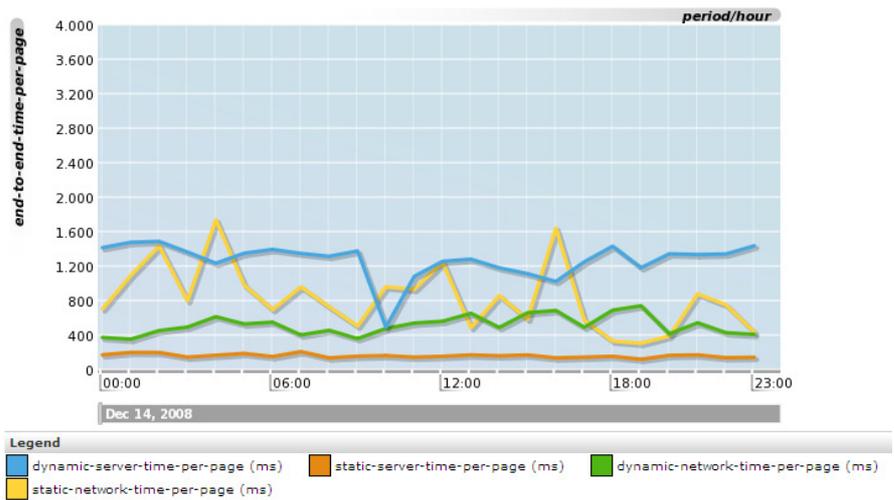


Figure 4: Trend report for a single day with a compare of counters

Challenge # 5 – Validate User-Specific Performance Issues

“It takes up to six calls from support and other resources to find the ‘problem owner’ and cause for any customer issue in an organization”. (source: Forrester, Peter O’Neill, 2007)

Oracle Real User Experience Insight shortens the time needed to identify and fix problems because you are able to quickly exclude insignificant problem areas, and zoom-in on the critical ones. A powerful tool in the hands of your support staff, it helps them retrace specific user sessions and verify any user problem, simplifying problem reproduction.

Review complete user sessions based on user ID to a specified timeframe. You can easily identify any user session and review all interaction the user had with your application, from functionality or object perspective, while the Session Diagnostics facility allows you to review the complete session as your Oracle E-Business Suite user experienced it.

Replay performance issues

Oracle Real User Experience Insight provides the capability to track exactly which Oracle E-Business Suite error messages visitors receive, and when. With the ability to replay application failures, you can accurately and immediately identify problems encountered in Oracle E-Business Suite pages.

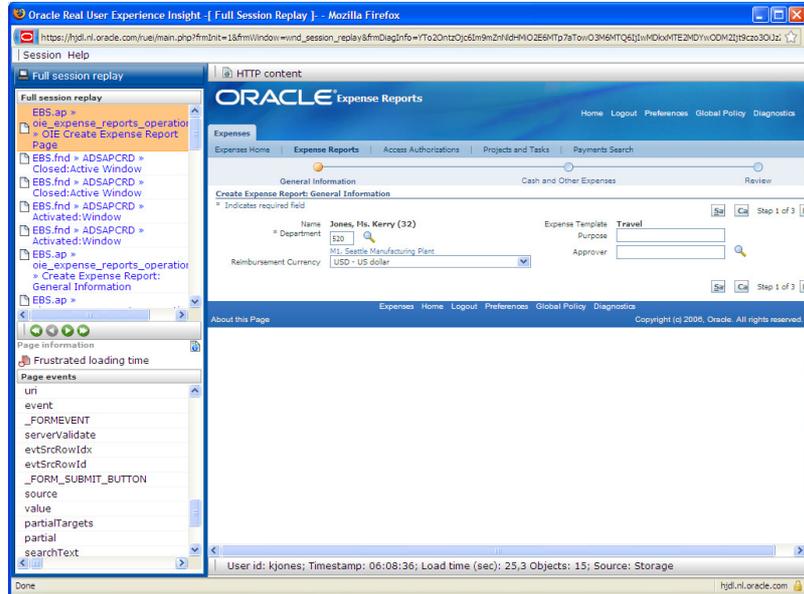


Figure 5: Session diagnostics allow you to replay entire user sessions and find errors

Challenge #6 – Correlate End-User Problems to System Issues

Oracle Real User Experience Insight Accelerator for Oracle E-Business Suite is complemented by other products, such as Application Management Pack for Oracle E-Business Suite, Oracle Application Testing Suite, Oracle E-Business Suite Application Deployment Manager, Oracle Database Management Packs, Oracle Middleware Management Packs, Oracle Provisioning Pack and System Monitoring Plug-ins for third-party technologies to provide management coverage for your entire system environment, and support for each phase of the application lifecycle.

Any of the user analyses and bottleneck identification performed within Oracle Real User Experience Insight can easily be investigated down to application server or database level. The specific Data Center transactions and timeframe are already selected and the same query can be performed via the Enterprise Manager management console for Oracle E-Business Suite, resulting in a break-down of results per tier.

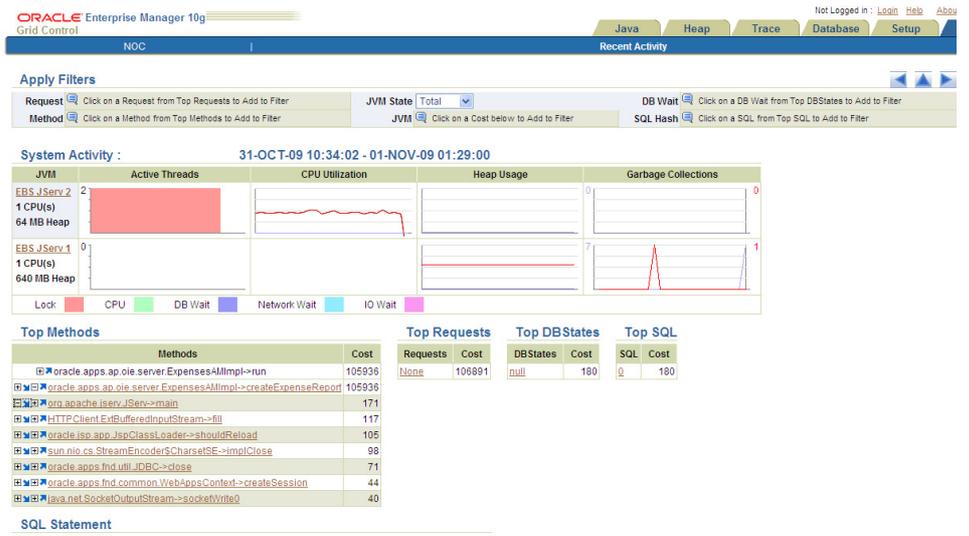


Figure 6: Integration with Enterprise Manager Application Dependency & Performance

ROI on Oracle E-Business Suite Through Real-User Experience

Oracle E-Business Suite often represents a significant investment for an organization. This consists not only of the initial implementation, but also the ongoing support and maintenance of the current operational system, ongoing development to meet business change, expansion of the application's footprint, and upgrading to new releases/versions.

The initial investment in Oracle E-Business Suite applications is high. Typically, software-licensing costs can range from \$1,000 to \$2,800 per end-user. Implementation services are 2-3 times the software costs, and investment in the back-end infrastructure is also required. In addition, ongoing costs are also high. Software maintenance averages 20% annually. Gartner reports that 60% of ongoing costs of a typical deployment are for support staff.

Organizations that can monitor accurately how end-users experience their mission-critical application deployments are better positioned to be able to proactively manage the resolution of application and infrastructure issues, significantly reduce their application support costs, and maximize the investment they have made in their Oracle E-Business Suite applications.

CONCLUSION

Adoption and effective use by end-users are key factors to realizing return on the significant investment Oracle E-Business Suite applications represent. Oracle Real User Experience Insight Accelerator for Oracle E-Business Suite provides dedicated out-of-the-box support for the monitoring of the end-user experience on this architecture.



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