

# OracleScene

A UK Oracle User Group publication

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UK ORACLE USER GROUP

## Primavera special

- Primavera P6 Integration with Oracle Project
- Data Flow-An Overview

### Other highlighted articles

- Diving into Server Pools in 11g RAC
- ERP Integration Patterns and Best Practices
- Implementing E-Business Suite? What are the “Golden Rules”



Oracle ACE Director's article:  
Integrating Oracle GoldenGate and Oracle  
Data Integrator for Change Data Capture

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# welcome

Welcome to this final edition of Oracle Scene for 2010, and also to my final edition as editor. I'm pleased to announce that Neil Jarvis, deputy technical editor, is taking over as editor for the next edition, and I wish him and the team well going into the future.

In this edition, we're packed with useful and informative articles on the wide world that is Oracle. We've a special focus on Primavera, with articles by Robin Harris on integration with Oracle Projects and by Andrew Godfrey on data flows between Primavera and other business critical applications. Continuing the management focus we have David Hunt on compliance, whilst Dave Akka tells us about ERP integration patterns and best practices.

For those of you interested in technology, Grant Ronald returns with a look at new graphing and data visualization technologies in Oracle ADF, whilst Bob Mycroft delves into the world of 11g RAC server pools.



**Mark Rittman, Editor**  
[editor@ukoug.org.uk](mailto:editor@ukoug.org.uk)

I'm also pleased to welcome back our regular columnists, and if you're interested in what goes on behind the scenes at the User Group then be sure to check out Debra's Diary. Personally, the first thing I turn to in each new edition of Oracle Scene is Mogens' column, and in this edition we get to hear how Miracle have seen the market for DBAs change over the past few years in favour of applications specialists, and how demand for more basic skills has led them to start a successful "buddy-shopping" business.

As usual, at Oracle Scene we're always on the lookout for new and interesting articles, about anything to do with the world of Oracle. If you have a technical, applications or business and management paper you'd like us to consider for publishing, send it in to Neil Jarvis at [articles@ukoug.org.uk](mailto:articles@ukoug.org.uk) and maybe we'll see it in the next edition!





## Data Flow – An Overview

### *Review of the Data Flow between Project Controls Software (i.e. Oracle Primavera) and other Business Critical Applications*

by Andrew Godfrey, Head of Sales at 1st Milestone Ltd

To achieve and benefit from the next level of efficiency gain, organisations often review the data flow between their project controls software (i.e. Oracle Primavera) and other business critical applications such as Finance, HR systems etc. This article will provide an overview of the options available to support this requirement.

The benefits that an organisation would expect to achieve are as follows:

- Enterprise-Wide Project Transparency
- Streamlined Data Entry To Save Time And Reduce Errors
- Reliable Reporting Of Project Parameters Across Applications
- Reduction Of An Organisation's Total Cost Of Ownership
- Enablement Of "Best Of Breed" Approach For Project & Programme Management

This article is split into two core data transfer options, which are as follows:

- Manual Data Import & Export
- Automated Data Import & Export

### Manual Data Flow

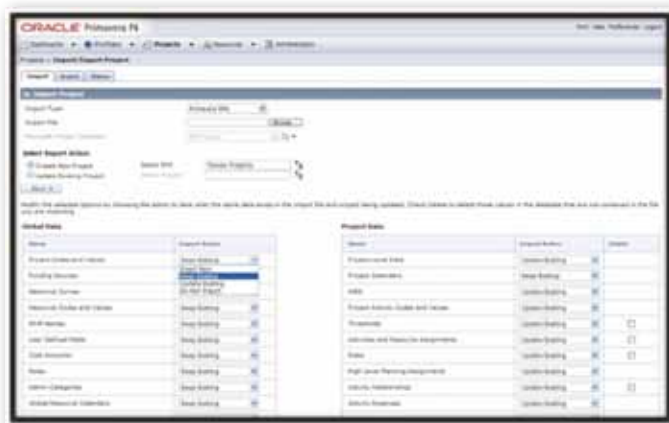
#### Formats

Oracle Primavera has a number of standard supported file formats:-

- Microsoft Excel (XLS)
- Microsoft XML (also available via P6 web)
- MSP (XML 2202/2003 & 2007, MPP & MPX)
- P3
- Primavera XER (Version 5.0 – Current)
- Primavera XML (also available via P6 web)



Import/Export via P6 Client Server



Import/Export via P6 Web



Exporting Reports in ASC File Format

Templates can be generated to ensure that the appropriate data is imported to or exported from Oracle Primavera. The system enables users to export data via the standard reports, shipped with the software. Alternatively, users can customise standard templates or generate new reports via the Report Wizard to ensure that data requirements are supported.



Automated Data Export using Primavera Job Services

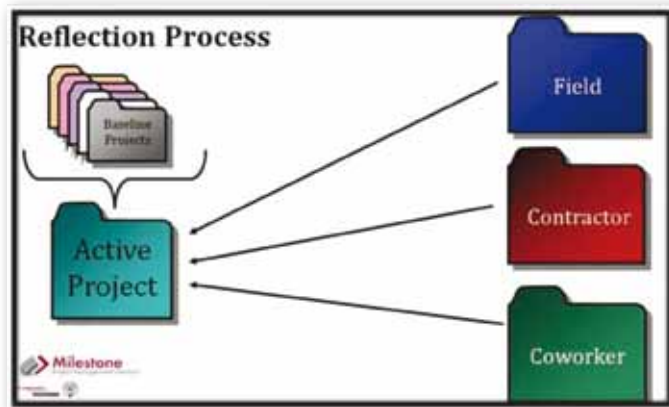


The 'Job Service' function enables users to export or publish a set of reports, which can then be used by other stakeholders to import into third-party tools. These can be scheduled to run at prescribed times.

## Reflection

A large proportion of Oracle Primavera customers use the manual import/export capability to transfer planning data between their customers and contractors alike. One of the tools available using Oracle Primavera is the Reflection Process, which can be used to support a managed update process for schedule based data.

For example, when working on a project, an organisation might receive activity status data from multiple parties. The information may be received in various formats such as verbal updates, email, spreadsheets, and MSP or Primavera files. The person managing this schedule has to manually work through the information and update the main schedule. The Reflection process can be used to manage this process and enable the schedule owner to review and either accept or reject these updates (back into the original plan).



Automated Data Export using Primavera Job Services



P6 Reflection Process for Data Validation

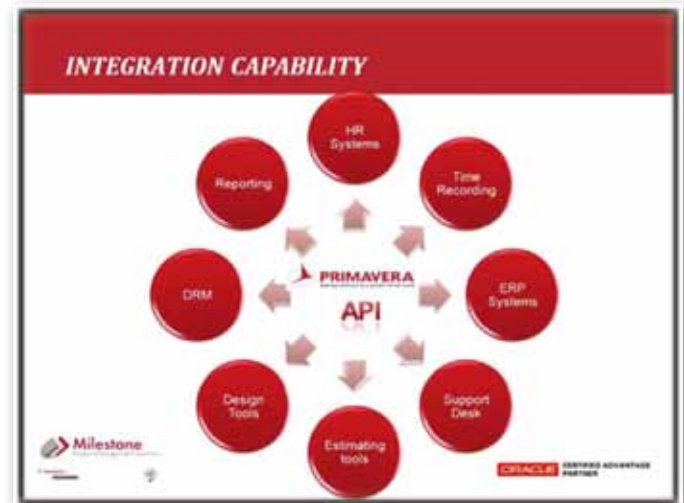
## Automated Data Flow Using Standard Oracle Primavera Capability

### Primavera API

Today, the Internet provides the opportunity for systems to communicate instantly with other systems or individuals. Business processes that were once restricted to intranets and their users are now moving to various

integration technologies, such as RMI and Web Services, to extend their network to include vendors and customers as well as internal information systems.

To address this shift in technology as well as the scalability, performance and security issues often associated with historical integration models – such as direct database connections or ODBC driver access – Oracle exposed the core server and business objects used by the Primavera P6 web application as the Primavera Integration API. Now, deployment of custom solutions that utilise proven Primavera technology is as easy as writing Java code that uses a few Primavera-provided Java classes.



Automated Data Export using Primavera Job Services

The ability to configure the Integration API to run as a stand-alone utility or through an application server makes this robust tool flexible for any technical environment.

The goal of the Primavera Integration API is to provide seamless access to data and functionality between one system and another at an enterprise level.

The integration solution has the following characteristics:

- An Interface That Supports All Critical Business Objects And Functions
- Scalability And Performance To Support Large Enterprise Integration
- Security, Both At The Application Level And At The Network Level

### Primavera Web Services

This is an integration technology that extends P6 functionality and business objects. Web Services is based on a core set of standards, including XML for representing data, Simple Object Access Protocol (SOAP) for data exchange, and Web Services Description Language (WSDL) for a description of the capabilities of web services. The main advantage of Web Services over the integration API is interoperability. Functionality extended through Web Services will operate with any type of technical platform from Java to .Net.

Web Services can be used for traditional integrations and also offers a variety of new capabilities. For example, a complementary technology





like Business Process Execution Language (BPEL) is used to orchestrate web services in automated workflows. Web Services are also used in hybrid applications called mash-ups, to combine the data and functionality of multiple web applications into a single integrated tool. Web Services licensing is handled through a new license type in the User Administration/Licensing tab.

As an example, many companies have chosen to deploy Microsoft SharePoint as their enterprise collaboration and document management platform. Web Services is an ideal integration strategy for extending P6 functionality and data into the SharePoint environment. SharePoint web parts (i.e. Graphical Portlets) can be created for project members, which provide visibility into P6 key performance indicators such as schedule statistics, variances, milestones and risks. In addition to viewing P6 data in SharePoint, interactions like progressing an activity are also possible.

### Oracle Application Integration Architecture (AIA)

Oracle Application Integration Architecture (AIA) is a solution that delivers prebuilt content, templates and methodology for orchestrating agile user-centric business processes across enterprise applications. The integration packs include everything you need to rapidly enable service-oriented applications, from business processes to common objects and services, to SOA Governance, at greatly reduced cost. AIA Process Integration Packs are designed to be easily extended to evolve as your business changes, allowing you to respond to customer and market needs with greater agility and flexibility. Customers can realise increased efficiency in cross application business processes, by using cleansed, consolidated and enriched customer data while achieving lower cost of ownership. Built on Oracle Fusion Middleware's Service-Oriented Architecture (SOA) and BPM products, Oracle AIA transforms rigid IT systems into flexible, integrated environments that can adapt and scale to business needs. Customers can gain comfort in knowing that Oracle provides a complete integration solution that is fully supported, enhanced and maintained by Oracle thus minimizing any risk associated with integration projects.

*Reference Material – Oracle Data Sheet: Oracle Project Portfolio Management Integration Pack For Primavera P6 And JD Edwards EnterpriseOne*

### Product Based Integration Tools

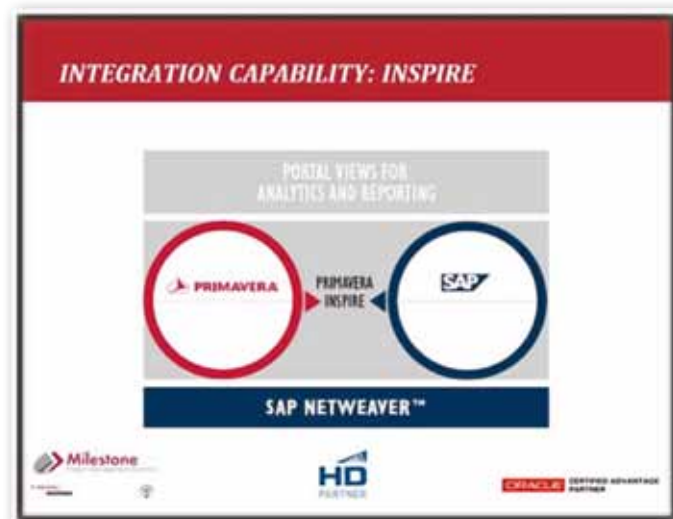
In addition to developing bespoke interface solutions, there is an option to use an 'off-the-shelf' product to support data flow requirements. The following section outlines two options:-

- Primavera Inspire – to support Primavera & SAP
- Third Party Applications– to support dataflow and reporting requirements for multiple systems such as planning tools (Primavera, MSP, Excel etc) and ERP (SAP, Oracle etc)

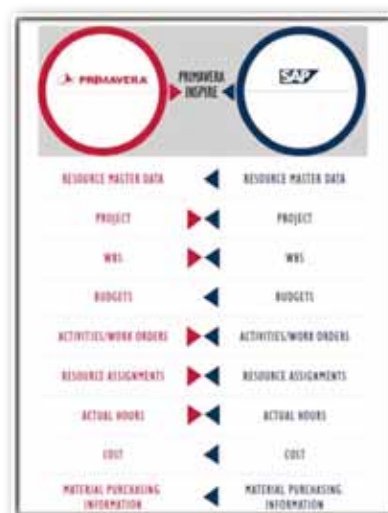
### Primavera Inspire (Oracle Primavera)

Primavera Inspire is a business process integration solution that enables

application standardisation by providing an intuitive and scalable interface between Primavera and SAP. Primavera Inspire is built on SAP's current NetWeaver platform and enables the timely exchange of information between Primavera's core project management software and SAP. Because Primavera Inspire is developed on core SAP and Primavera technology, it's compatible with future base product releases.



Primavera Inspire synchronises and automates the exchange of project data between Primavera and SAP significantly reducing errors and eliminating the need for costly data entry that's often required to keep both systems consistent. By integrating Primavera and SAP, project schedules are kept up to date with actual costs. This enables project managers to make better-informed decisions throughout the project lifecycle, and ensures that all current projects in progress – or in the planning stage – are aligned with the organisation's greater business objectives.



A sample view of the data flow between Primavera and SAP provided through Primavera Inspire is shown above. The graphic assumes both SAP Plant Maintenance and Project System solutions are integrated with Primavera. The bi-directional flow of information indicates that data can be entered into either system, and the other system is updated with the changes or new information.

### Third Party Products (e.g. Saprima)

Saprima is a relatively new product that has been developed by Inteco – the primary Oracle Primavera partner in Germany.

Saprima is a 'back-end engine' that provides a seamless integration between multiple applications, including systems, project planning and

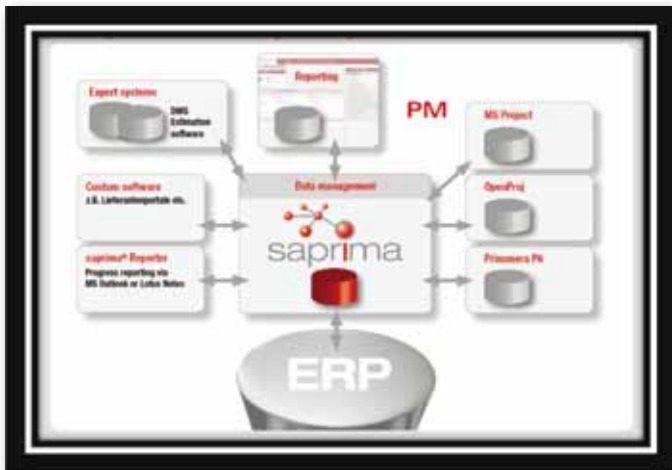


scheduling tools, visualisation models, etc, to allow the dissemination of vital information throughout the organisation. Systems are integrated via a series of two-way connections, allowing output to report generators, MS Outlook and/or Lotus Notes.

The development of Saprma was built on the concept of "Project Intelligence Modelling", which combines Business Intelligence methodology and the functions of Middleware, extending the integration concept to include project management industry-specific tools to provide a fuller, more specific package.

Saprma is an especially good fit for organisations that embrace multiple instances of similar or various ERP systems (e.g. Oracle, SAP,) and project management systems (e.g. Primavera, MS Project, Open Project, etc). For example, an organisation may have separate Oracle Financials in one location and SAP in another, or will have localised Primavera databases with some MS Project data alongside. Combining this valuable data for corporate management and decision support is often a time-consuming business, and frequently is deemed unachievable, to the detriment of management. Equally, resources will have no central assignment function with this disbursed data, so the links to MS Outlook or Lotus Notes will add value to productivity.

Typical candidates for Saprma will include organisations with geographically distributed businesses or branches; those with variable business functions but an overall need for a level of control; Joint Venture operations with individual corporate standards; and organisations evolving from mergers or acquisitions with a need to consolidate disparate information quickly to enable smoother transition into a unified operation.



### 1st Milestone Ltd Experience

We are one of the largest international distributors for Oracle Primavera and have been trading since 1994. We are an Oracle Platinum Partner, specialising in Primavera applications. A primary reason for our success has been the recognition of our ability to provide quality solutions to Enterprise-wide project and programme management needs utilising the Oracle Primavera product suite. Our clients span many industries and are highly referenceable.

Examples of our enterprise wide implementations include: GMPTE, InCommunities, NHS, NAG, several Capita and Atkins sites, Central Science Laboratory (CSL), Health & Safety Laboratory (HSL), London Underground, Tube Lines, and a number of sites for the Government, among many others. Some of these installations involved interfacing to existing or planned applications, including Oracle Projects/HR, SAP, and Cedar Financials ERP systems, and other in-house applications as required.

### Integration Requirement Discovery Process

As outlined above, there are a number of mechanisms that can be used to support data flow requirements. They vary in terms of complexity and associated level of effort to implement. Milestone's team of in-house consultants are available to support customers in relation to their Oracle Primavera implementation, as well as to manage the dataflow requirements.

Our approach is to understand the high level data flow requirement in relation to the organisation's current/future business processes. This enables us to recommend the integration options available, as well as the associated costs and benefits. In general, the requirement and associated solution is dependent upon a number of criteria which include:-

- Current status of Business Process
- Type of Data Flow – One Way, Two Way, etc
- Volume of Data Transfer
- Concurrency of Data Transfer – immediate, daily, weekly, monthly, etc
- Extent to which the organisation uses the Applications

In summary, we believe that the integration of Primavera applications, along with other key solutions, ensures you streamline business processes, reduces errors, and eliminates the need for costly and duplicate data entry that is required to keep both systems consistent. Best of all, it makes forecasting schedules, costs, materials, and resource usage easy for all members of the project team. The result is better project, portfolio, and resource management enterprise wide. Because project schedules are kept up to date with actual costs, project managers are able to make better-informed decisions, ensuring that an organisation's projects remain constantly aligned with its business objectives.

## About the Author

Andrew Godfrey is Head of Sales at 1st Milestone Ltd, where he has worked for over eight years. He is also involved with the Best Practice User Group (BPUG), working as a Director – which provides valuable insight into the challenges faced by organisations when trying to implement best practice, especially in relation to the use of technology.





# Primavera P6 integration with Oracle Projects and the E-Business Suite – Technical Installation Summary

by Robin Harris, Projected Consulting

Projected Consulting have installed and tested Oracle's Application Integration Architecture and the Project Portfolio Management Integration Pack for Primavera P6 and Oracle E-Business Suite 2.5.

This article section summaries the technical installation process.

## Software versions

The tech stack and pre-requisites required to run AIA are quite large and take quite some time to install. Details below are for just the AIA section of the integration i.e. do not detail E-Business Suite or P6 installs:

- Oracle Database Enterprise Edition – This needs to be 10.2.0.2 or higher for certification with SOA. We used 10.2.0.4.
- Oracle Service Orientated Architecture Suite (SOA) – 10.1.3.4 + MLR#8 or later. We used 10.1.3.5.
- Oracle Application Server (OAS) 10g Release 3 – required for a OC4J install
- Oracle Service Registry (OSR) 10.3.0 (Optional)
- Oracle Application Integration Architecture (AIA) 2.5
- Oracle Project Portfolio Management: Primavera P6-EBS Projects PIP 2.5

## Hardware

Various options are available for the running of AIA, however in generating our proof of concept we decided to run the installation was on a virtual machine (VMware) which was allocated 2 virtual CPU's, 2G of memory and 50G of disk space. This virtual machine is running on top of 64-bit AMD hardware.

## OS Install

It was decided to use Oracle Enterprise Linux 5.4 64-bit and then where available 64-bit versions of the other software. The install was standard, however SELinux needs to be disabled for the database software, this can be done during installation or switched off after.

### Database Install

The installation of SOA will require a database of 10.2.0.2 or higher, so it was decided to stay with 10g but use the latest release which is 10.2.0.4. This gives a reasonable balance of support lifetime and stability. As we are on 64-bit hardware, we decided to fully utilize this and install the 64-bit version of the software.

All pre-requisites can be found in the installation guide and should be checked for the relevant platform.

A standard install was performed, and a normal empty database was created during the installation. We called our database AIA.

To install 10.2.0.4 it is necessary to install 10.2.0.1 and then apply 10.2.0.4 patchset. You will then need to upgrade the database

created during installation to 10.2.0.4 with dbua.

### SOA Install

The first step of installing SOA is to create the necessary schema's in the database created in the previous step. This is done by running the `irca.sh` script which is found on the installation media under `Disk1/soa_schemas/irca`.

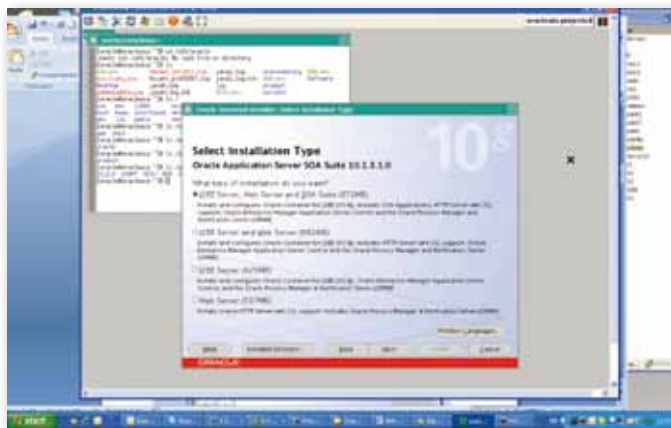
Before running the installer various pre-requisite patches are required. These enable the installer to run. Check the documentation for the latest patches needed.

As the SOA suite is 32-bit software I ran the installer in a 32-bit shell by issuing the `'linux32 bash'` command.

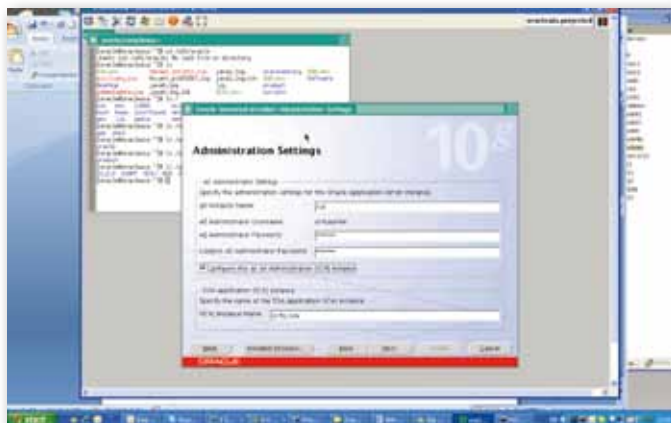
To run the installer use `runInstaller` along with parameters that are detailed in the pre-requisite patches. E.g.:

```
./runInstaller PREREQ_CONFIG_LOCATION=/home/oracle/  
Software/1031 SOA/6339508/prereq -paramFile /home/oracle/  
Software/1031 SOA/6339508/oraparam.ini
```

Perform an advanced installation and select J2EE Server, Web Server and SOA Suite:



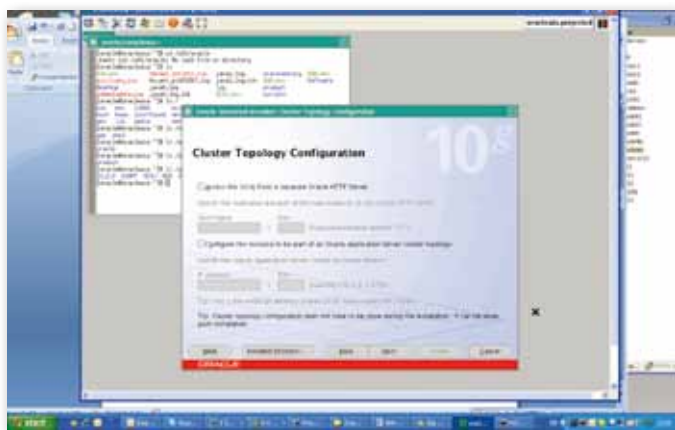
Make the OC4J instance an Administration instance (on Administration Settings page):







and do not select 'Access this OC4J Instance from a separate Oracle HTTP Server' on the Cluster Topology screen.



Once the installer completes SOA 10.1.3.1 will have been installed.

## Upgrade SOA to 10.1.3.5

In order to get SOA to the latest available version patchset 10.1.3.5 was applied. This involves running scripts to upgrade the bpel and esb schema's, bouncing the database and then running the installer. Again a 32-bit bash shell was used for this.

## Install OC4J instance

Oracle Service Registry is optional in this technology stack, but if it is being installed a separate OC4J instance is required for this (Oracle AquaLogic Service Registry can be used instead – this has to be installed into Oracle WebLogic Server rather than an iAS OC4J instance).

The media for this is the same as for the SOA install, again run in a 32-bit bash shell and use the parameters to runInstaller supplied in the pre-requisite patches.

This time just install a standalone OC4J instance (into a separate Oracle Home to SOA).

## Install Oracle Service Registry

One of the pre-requisites for OSR is an install of JDK. The version of this affects how well the installer runs. I found the JDK installed with the database worked fine (JDK 1.4.2\_14), so set your environment to use this.

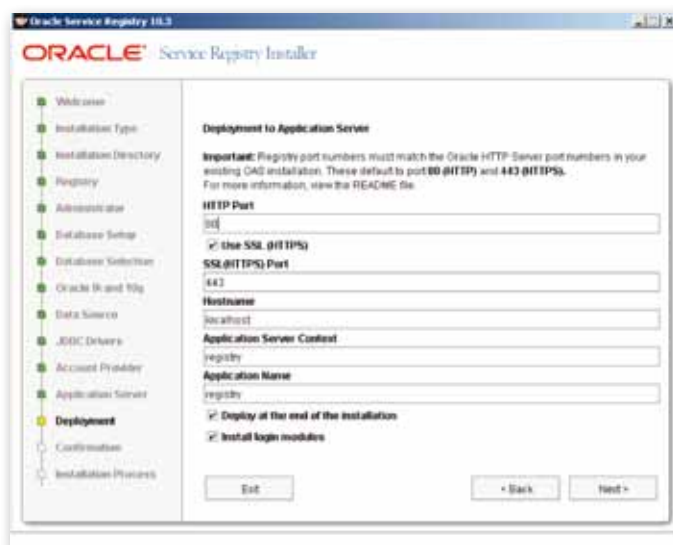
Also required are a database – use the one installed earlier, and an application server – use the OC4J install as detailed above.

Once again perform the install in a 32-bit bash shell. To run the installer, use the supplied jar file Oracle-service-registry-10.3.jar (requires an x windows session so have DISPLAY set suitably).

The installer will ask for various connections details etc, be very careful when entering these as a slight error (eg wrong case) can cause the install to fail.

When I tried to deploy the app through the installer it kept failing, so I opted to deploy manually after installation (untick the checkbox

on the application server details page). To manually install login to Enterprise Manager (OC4J instance), select the OC4J jvm and applications deploy. The OSR installation will have created the necessary ear file for you to use to deploy.



## Install AIA Foundation Pack

Before installing the AIA Foundation Pack, various pre-requisites need to be met (details can be found in the installation guide):

- Configure Fusion Middleware memory Settings
- Configure java transaction API transaction timeout value
- Enabling Directory Browsing in the Apache Server
- Download and install JDK 1.5\_16 or above
- grant sysdba to system

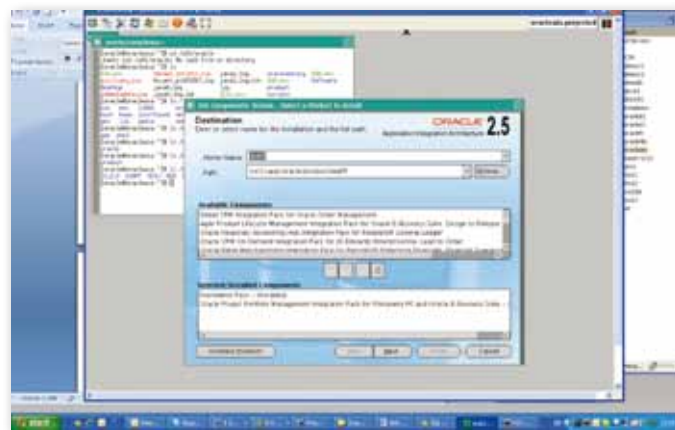
The last of the pre-requisites is because the installer needs a database login with sysdba privilege. Do not create a new user called AIA to fulfil this requirement as the installer tries to create a new user with this name and will fail if the user already exists. Revoke this after the installation.

The installation guide provides a check list of required information needed during the installation. I would recommend using this to acquire the information before hand.

Run the installer pointing the inventory location to the oralnst.loc file in the SOA Oracle HOME:

```
./runInstaller -invPtrLoc <SOA_HOME>/oralnst.loc
```

On the first screen select the Foundation Pack to install and set the Oracle Home to a suitable value.



If the installer fails for any reason that install needs to be completely cleared out before re-attempting the installation. Please see Oracle note 876044.1 for details of the procedure to do this.

### Install Project Portfolio Management: Primavera P6-EBS PIP

The final stage of this tech stack build was to install the product specific AIA PIP.

In order to avoid timeout errors during installation set the following timeout limits (reset after install):

Update the transaction-timeout="3000" value in the

```
<ORACLEHOME>\j2ee\oc4j_soa\config\transaction-manager.xml
```

Change the syncMaxTime in the

```
<ORACLE_HOME>\bpel\domains\default\config\domain.xml to 300.
```

The following pre-requisites are required in the E-Business suite install:

- EBS 11.5.10 CU2
- Patch 5644830 for Oracle Projects Rollup Patch 4 for Oracle Projects Family Pack M (11i.PJ\_PFM)
- Patch 3485155 for 11i.PJ\_PFM
- Patch 8979063 for 11i.MRUP4 : Projects AIA Third Party Application Integration Cumulative Checkin

To actually install the PIP use the AIA installer as per the Foundation Pack install but select the PIP to install.

### Summary of Tips to avoid issues

Details of the following are contained in this article.

1. If installing on 64-bit OS use a 32-bit shell if the software is 32-bit
2. Disable SELinux during OS install
3. Be very careful when entering connection details in OSR, AIA and PIP install otherwise install will fail
4. Deploy the OSR application manually after installation
5. Do not create a database user called AIA before the AIA Foundation Pack install
6. Alter timeout values before PIP installation
7. AIA Foundation Pack and PIP install guide has sections to record the information that will be required during installation – use it!
8. Be careful which java version is in use when installing OSR

Projected Consulting now have a Proof of Concept (POC) allowing end users access to a stand alone server with full applications and integration install. Best practice business flows, test scripts, training, consulting and remote support are all included in the fixed price POC. Please visit [www.projectedconsulting.com](http://www.projectedconsulting.com) for further details.



# Enterprise Resource Planning (ERP) Integration Patterns and Best Practices

by David Akka Managing Director UK, Eire & Nordics Magic Software

Enterprise Resource Planning (ERP) integration can be defined as the process of designing, testing and deploying automated business processes by orchestrating connections between the sub-processes of an enterprise resource planning system and the sub-processes of other enterprise software applications, web applications, content tools, email/communication systems, social media and human workflow. ERP integration enables users of systems such as SAP, JD Edwards, PeopleSoft, Oracle, Infor, Lawson, Sage and Dynamics to better connect their core back-office business software with other employee and customer facing systems.

When one applies the principles of ERP integration to a specific ERP system it may become known as SAP Integration, JD Edwards Integration, Peoplesoft Integration, Oracle eBusiness Suite (EBS) Integration, Lawson Integration, Dynamics Integration, Sage Integration, etc.

## Towards Best Practices and Integration Patterns When Implementing ERP Systems

**Platform Agnostic.** ERP Systems are tied to a specific application platform or environment such as J2EE or .NET and you also run them on a specific operating system. Your enterprise application integration (EAI) and business process management (BPM) solution must be able to work with all major computing environments and operating systems including Windows, Linux, UNIX and IBM i. A good ERP integration solution will even be able to support IBM i integration patterns and mainframe integration patterns for those organizations that run applications in these environments.

**Integrated Modeling and Execution.** Too often business analysts are forced to model high level business processes using one tool and execute them using completely different solutions including manual programming, packaged java components, or poorly conceived EAI and BPM solutions. IT managers need to be very careful here. Just because the same brand name, such as IBM

WebSphere or Oracle Fusion Middleware, is applied to a myriad of different products used for modeling and integration by those vendors does not mean that they are tightly integrated and designed to work together. Both of these brands are notorious for having used an acquisition strategy rather than a unified development strategy to go-to-market. As a result, their application integration and business process management offerings are disjointed, confusing, overlapping and frustrating to understand – much less use.

Business level decision makers should be extremely wary of recommendations that tie their ERP integration to these disjointed and fractured big brand integration solutions. They require numerous software license purchases and an army of developers and implementers to accomplish integration. Do not fall into the “honey trap” sales method of these vendors who convince you that you need only one of the many separate software tools that fall under these brands and then pursue a strategy to sell you more and more disparate and disjointed products that are grouped under the same brand in order to try to cobble together a working solution.

**Parallel Monitoring and Design.** When the integration monitor uses the same visual interface as the integration design studio, it is much easier for your IT managers to monitor the execution of your business processes. Parallel monitoring and design means that the flowchart that you created to design your integration is the same flowchart that you use to monitor its execution. In the design studio you can drill down on any component to see its configuration. In the monitoring environment you can drill down on any component in the flowchart to monitor its execution.

**No Manual Programming.** There are a number of application integration solutions that make the claim they are code-free, or that no manual programming is required. This is only useful if the solution takes you far enough towards your end goal. A free taxi

ride that leaves you twenty miles from your destination has no value. An EAI solution that is code-free but can not adapt itself to the myriad of technologies in use today is similarly of very limited purpose. Some vendors can show a slick demo of integration between JD Edwards EnterpriseOne and Salesforce.com, for example. But do they have the lower level adapters necessary to integrate JD Edwards World? Can they integrate with legacy applications? Message queues? Unstructured text sources? Can they operate using multi-dimensional arrays? Do they have a complete range of logical operations within their expression editors?

**Balance Between Fine-Grained and Coarse-Grained Adapters.** It is impossible for any one ERP integration solution to have pre-built adapters for every other application that you could possibly want to integrate with. That is why it is very important that your selected ERP integration solution have the technology adapters needed to accomplish the job. This means much more than having support for databases and Web services. Look closely to see if the system selected has support for communication protocols, file systems, encryption/decryption, networking and other lower-level more finely grained technology that will allow you to assemble the needed integration without resorting to programming interfaces yourself for those technologies. Any business analyst who has experienced the satisfaction of truly configuring an integration solution rather than programming it will understand this point very clearly.

**Composite applications:** These are applications that are assembled using both components from multiple existing applications and added functionality developed specifically as services such as read customer order, validate customer status, calculate customer discount,” or apply discount to order. The component parts of a composite application are created independently of each other, without knowledge or consideration of the different information models being used. In fact, they





are platform-agnostic, meaning that the component providing the service may reside on any platform capable of providing the service. When ERP integration allows your ERP system to provide services as part of a composite application, you gain far greater value from your ERP investment and begin to see the payoff promised by ERP vendors at the outset.

**Loosely Coupled Architecture:** Your ERP integration pattern should incorporate loosely coupled architecture with tight integration to the ERP system itself. Tightly coupled architectures are dependent on each other. Thus, changes to any one component may (and frequently does) require changes to many other components. Loosely coupled architectures, in contrast, leverage independent components that can operate independently. A loosely coupled architecture lets you replace or modify components without having to make reflective changes to the other components. Developers can pick and choose the right enabling technology for the job without having to concern themselves with technical dependencies. In ERP integration, you will want to be certain that you maintain ERP sources and 3rd party destinations separately (and vice-versa).

**Stateless Components:** ERP systems are normally capable of multiple simultaneous transactions. This is essential for scalability of the architecture. When a component allows for more than one instance of the component to be in use simultaneously and with separate states, then it is considered to be a stateless component. This has the advantage of scalability and is vital to a robust implementation of service-oriented architecture and scalable ERP integration.

**Dynamic Components:** While it is advantageous to have components that are stateless in terms of the data of each instance of execution, it is also advantageous to be able to flexibly configure components for your environment. Suppose you are setting up Microsoft Dynamics CRM integration to Oracle JD Edwards EnterpriseOne. A system that uses dynamic components will allow you to refresh the configuration of the component to reflect any custom fields or tables in use in the target environments. ERP integration design

is greatly simplified when the components used can be passed an XML packet that configures that instance of the execution. An ERP system that combines stateless and dynamic components will have great advantages at both design and runtime.

**Web Services:** ERP Integration that uses Web Services can become incredibly programming intensive. Manually programmed Web Services are also difficult to maintain. With Web Services we are talking about the use of standard protocols (such as WSDL, SOAP, and UDDI) to “wrap” SOA services so that they can be shared with other applications across the Web. This term is often used synonymously with “SOA,” although Web Services is really an enabling mechanism for SOA. But just because these technologies are being used, this does not mean that you should resort to programming them. A good integration solution will completely avoid the need to program connections to your ERP system and the other applications, communication systems, and Web services in your environment.

**Enterprise Service Bus:** An enterprise service bus is an event driven XML-based distributed messaging engine - it is one type of service-oriented architecture implementation. It is better suited to Wintel server farm environments than it is to midrange computing environments, although a midrange system can certainly act as a node in an enterprise service bus implementation.

Without careful planning and selection of an agile event-driven business process integration solution, ERP Integration will be costly, prolonged and unstable. While many companies seek to avoid risk by committing to big-brand solutions for integration, they are instead exposing themselves to greater risk and only avoiding blame. It is the failure of these big iron solutions for integration that inspired Magic Software to introduce the iBOLT integration solution. iBOLT's user-friendly wizards, drag-and-drop options, and tables let you create seamless connections with enterprise applications deployed on any hardware, operating system, or database technology. The result is a flexible and scalable architecture that will let you make new connections, implement changes, and quickly adapt to the ever-present need for change in your business.

## About the Author

Mr David Akka M.Sc, MBA, is the Managing Director of Magic Software Enterprises (UK) Ltd. Mr Akka has been with Magic Software since 1998 and is considered one of the organisation's foremost authorities on Cloud computing and SOA methodologies. Prior to working with Magic Software, David held the position of CTO, Service Delivery Manager and worked in several Management Consulting roles.

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In his 5 years as Managing Director of Magic Software UK, Mr Akka has transformed the sales subsidiary into a highly performing business unit within the global group. His visionary management style and practical strategies have helped both the organisation and its UK based partners and customers to go from strength to strength.





# Implementing E-Business Suite?

## What are the “Golden Rules”?

by Marcus Rogers, DSP Managed Services

“The users are revolting!”

OK, so it's an old joke. But it's certainly no joke after you've spent hundreds of thousands, potentially millions, of pounds on a new system and all that goes with it only to find six months after go-live that your users still prefer the old system!

In 2009 I ran a series of light hearted talks with a very serious message on this very subject. The underlying premise being that you have probably lost your users before you even start. All too often E-Business Suite (EBS) projects are run using non-application specific methodologies and by very experienced sponsors and project managers but with little if any experience of EBS. The point being, EBS is simply different. This realisation hit Oracle a good 15 years ago with the launch of AIM.

Rings any bells? Feeling nervous? If you are currently planning an EBS implementation, or more probably an upgrade to Rel 12 hoping to address, amongst other things, the very issue of user satisfaction, what should you be looking out for?

### 1 WHY ARE YOU DOING IT?

It may seem an obvious point, but so often the Business Case is missing or based on assumptions that are simply wrong; such as the new version will replace all your customisations or that the project will take 3 months. Get this right! It drives expectations and, moreover, it drives the funding request. Spend money, if you have to, on gaining the best guidance possible. How often do projects either end up jettisoning scope as the deadline approaches or start curtailing testing and training in order to meet some semblance of budget damage limitation? Who ultimately suffers (other than the health of the project team)? The users.

### 2 THERE IS NO PANACEA

Whatever your reasons for implementing or upgrading, let's get something quite clear. There is no “Cure All”. All too often users are told that come the revolution all the reports they require will be there, or the performance problems they have faced will go away, or usability will be intuitive and clearly documented.

Even the best run projects are subject to a temporary backwards step in some if not all of these areas for many user communities. That's fine, we'll talk about UAT and post go-live support later, so these impacts can be minimised. But the point here is about expectation setting.

And remember that most users and their managers have never experienced the implementation of a new system or upgrade before. Ludicrous as it sounds to the hardened Oracle Scene reader, these people actually expect the new system to work!

### 3 KEEP IT SIMPLE, STUPID

Or “KISS”. It's an acronym coined by the Lockheed lead engineer, Kelly Johnson, during WW II. It's not disrespectful to engineers, in fact the opposite. The design challenge he laid down was to present a limited number of basic tools to his team and then ask them to design a jet aircraft which could be repaired using only these tools, by an average engineer, potentially out in the field under combat conditions. How many DBAs love that analogy!

All too often EBS projects run long over their design estimate while complex solutions to seemingly essential business processes are sought. I cringe when I hear users saying “I can't believe Oracle can't do this”. I despair when I hear consultants use the words “with Oracle the answer is always ‘yes’”. Perhaps they deserve each other! It takes a strong consultant and Project Manager to successfully drive out the users' ability to deeply question their existing processes. Users must appreciate the benefits of a pragmatic, simple approach while making the best of the inherent functionality on offer.

More importantly it takes an experienced sponsor, sometimes battle scarred from previous implementations, to force the business to challenge the status quo and to utilise the transformation opportunity, not fight it.

### 4 TESTING, TESTING, TESTING

Treble the testing plans. No, quadruple them. Allowed enough time between testing and go-live? Double it. Working with 3rd parties on data exchange interfaces? Put a zero on the end of that one.

I know; I live in an ivory tower. But I have heard of the fall out of rushed, incomplete, badly scoped, badly planned testing and User Acceptance Testing (UAT) too many times.

Let's start with the basics: UAT is not the requirement gathering phase. Don't laugh, we've all witnessed it. Tragically sometimes it's not just weak control. A user who should have been key to the design phase is finally invited (or has finally freed their calendar?) to participate and throws in a complete show stopper.

Here are my Top Ten rules to a successful UAT:

1. Ensure the build is complete first and the unit testing is decent
2. Ensure interfaces are working and sample data sources are available
3. Ensure reports are ready
4. Ensure correct users are identified
5. Ensure users are hand held to devise their test scripts
6. Ensure users are trained sufficiently in system usage prior to testing
7. Ensure users are allocated the time to perform UAT and are supported throughout



8. Ensure agreement is reached on issue prioritisation, resolution, timeline and ownership
9. Ensure there is ample time allowed to respond to issue findings
10. Ensure users see the resolutions

Sticking to this is not cheap, is not easy and will constitute a sizable proportion of the project roadmap. As such it can be hard to convince investors of its significance at the start of the project and hence tough to secure the required budget and timeline.

However any poor user experience during the period directly after the go-live and lasting months, potentially years, can often be linked back to poor planning or last minute savings on testing.

Underestimate this at your peril.

### **5 CLEANSE YOURSELF**

You'll feel better afterwards.

How many Customer databases do you have? When were your Assets last checked and tagged? What are you going to do with all those uncollected pennies dating back to the '90s? Please don't tell me you plan to migrate them to the new system?

Rubbish in, rubbish out, we always say. And if the same supplier is held on the new system 15 times with 15 different spellings then no new system is going to cut through the problems that this will present to quality input and meaningful reporting.

Ensure you cleanse your data before it makes it anywhere near

the new system. Ensure you have data management standards, processes and owners in place to protect this data moving forward.

### **6 TRAIN YOUR USERS**

And equally important, leave a legacy behind to ensure they remain trained.

Decent Training Needs Analysis (TNA) is often first in line for a budget cut. But it is critical to appreciate, and hence plan for, the different user communities and their varying needs. Casual users who may only need to raise a requisition once a year or enter an expense claim once a month will have very different needs to the users who are logged on 8 hours a day. OK – so maybe this difference is reflected in the new, Rel 12, look and feel distinction. But let's agree that the solution does not end there.

The timing of the training is also important, as is the scope. "Just In Time Training", "Just Enough Training" etc. It all needs to be managed effectively.

Oracle's relatively new and excellent User Productivity Kit (UPK) is an example of a tool which can not only assist with site specific training but also it can support the whole implementation process and, moreover, leave a legacy for new users long after go-live.

### **7 KEEP THE COMMUNICATIONS UP**

We all like to know what's going on. This is true whether we are expecting a parcel, waiting at a train station, leaving our car at the garage. Even more we like to know when something is going wrong



and, preferably, what the implications are.

It is an easy mistake in EBS implementations to only communicate when there is good news. Bad news, or even just no news, is met with lacklustre communication desires. Resist this temptation. It will bite you.

As the go-live approaches the communications need to increase in frequency and scope. It is vital that all impacted communities are targeted. It is not just the core users who need to know that the carpet is about to be whipped out from under them. The outage, and the subsequent tentative catch up process, needs to be shared with anyone potentially affected. Give plenty of notice for last dates for expense claim requests. Ensure buyers know that there will be an outage in the ability to create a PO. How will critical logistic processes be maintained during the transition? The micro-planning of these impacts, and their effective communication, are critical to the wider user community view of the successful project.

## 8 GO-LIVE IS SIMPLY HAIR RAISING

OK – so we're at the "Go – No Go" point and the call is made. This is the pre penalty shoot out moment when the legs are tired and the brain is fried. But the real pressure is about to start.

In a business environment the process of Change is virtually top of the list of stress instigators. Add to that the lack of funding (has your budget run out yet?), long hours (sorry – it's a fact at this point), conflict (users versus project team, project managers versus project sponsors, suppliers versus clients, etc) not to mention the fact often passed by that implementing EBS is simply a very hard thing to do and you have a potentially explosive situation.

Do not underestimate the impact this has on everyone.

The only way to mitigate this is as follows:

1. Ensure you've covered all the points above so that everyone knows what's happening and that everything should work
2. Ensure all resources are available and are sufficient and that back-fill has been arranged where needed

3. Ensure the transition is micro-planned at all levels

And remember our users again. Remember that this is a new experience for them, that they expect it to work, that elements of it almost certainly won't work and that they still have their "day jobs" to be doing.

Has the revolt started?

## 9 NOW THE HARD WORK STARTS!

An Oracle EBS implementation is not just a piece of technology that can be delivered and left. If your users are struggling now, just you wait.

It is essential that the system and the processes are fully maintained moving forward and this means not only the need for a decent technical and functional support service but much else to boot.

Clear system and data ownership is required as is the aforementioned process to keep the data up to date and cleansed.

Patching and cloning is required and that does not simply mean that you need access to a decent DBA service. You need a policy to adhere to and a testing process and, potentially, a regression testing tool, like ATS, to allow for the release of the necessary patches. Have you thought about data archiving?

Reporting is an on-going need and it is vital to have not only the right reporting and Business Intelligence systems in place but also to have the ability to evolve these systems constantly and quickly as your business changes.

Finally the user community should lead from the front. While the above support services are crucial, so too is the users' acceptance that the system is theirs and that it is an enabler to efficiencies, not an obstructer to the daily grind.

Super Users are needed to be the first port of call to assist in usage issues. Super Users are often chosen at the start of a project by their managers and are almost always incorrectly identified! Those who see the new system as an exciting opportunity not only for the business but also for themselves are few and far between. But these folk should be encouraged and given the time to fulfil the role.

Finally Process Owners are needed to understand core system usage and to enforce adherence to these processes company-wide.

If you can deliver a project against these principles and if you can leave a legacy behind which ensures that users are supported, have the reports they need, the performance they need, the functionality they need and that they know how to use the system, then you've done well. More importantly the users should be happy and able to do their jobs using technology as an enabler not as a hindrance. Then and only then will you avoid the mutiny. Not so revolting after all!

## About the Author

Marcus Rogers is an Oracle Applications specialist with 20 years' experience of e-Business Suite implementations and upgrades. He is a regular speaker at the UKOUG and SIGs. Marcus is the EBS Practice Head at DSP Managed Services and can be contacted at: [Marcus.Rogers@DSPManagedServices.co.uk](mailto:Marcus.Rogers@DSPManagedServices.co.uk).



# Understanding R12 Cash Management

by Dennis Maynard, iTrain

## Introduction

With Oracle's Premier Support for EBS 11.5.10 officially ending this November, there has been a noticeable push in the market of organisations moving to Oracle R12 EBS. For many clients, the move to R12 has become particularly crucial as those who choose to stay on release 11.5.10 are being offered limited Extended Support service with the likelihood of additional maintenance fees.

The iTrain Financials team has been particularly busy this year consulting, training, and implementing Oracle EBS R12 services and solutions for many of our clients and customers. One of my main areas of expertise lies within Cash Management, so for those of you looking to gain a better understanding of some of the key Oracle R12 Financials features and benefits; I will outline them for you in this article.

## Bank Account Balances and Interest Calculations:

In prior releases, bank account balances were only available as a part of the bank account statement. The bank account interest calculation was only available for bank accounts set up in Treasury. In Release 12, the functionality to keep track of the multiple bank account balance types and calculate accrued interest is available to all internal bank accounts set up in the centralized bank account model.

Not only can you enter the balances manually, but also you can import them automatically at the same time when the bank statement is imported. In addition to the actual historic balances, you can keep track of the projected balances. Such balances can be entered manually or copied over from the Cash Position. You can then create reports that will compare the actual balances versus projected, and you can accomplish it in either an onscreen report or via XML Publisher. Finally, to simplify the bank account interest calculation, you can create reusable interest rate schedules that will contain the interest rates and other interest calculation parameters. Interest

calculation features will work not only for stand-alone bank accounts but also for the notional cash pools as well.

## Bank Account Balances and Interest Calculations - Benefits:

The new bank account model allows you to view bank account balances independent of the bank statement, calculate accumulated interest on the fly, and create customized balance reports.

## Bank Account Balances and Interest Calculations Maintenance:

Once you have defined your bank accounts in the centralized bank account model, query them in the bank account balance page and manage historical or projected amounts.

## Bank Account Balances and Interest Calculations Setup:

To obtain a balance report, create a report layout or a view and generate a report based on that. To calculate interest on the bank account balance, create the interest rate schedules, tie them to the bank accounts and use the interest calculator page to view the accumulated interest.

## Bank Account Transfers:

In Release 12, you are able to create bank account transfers in Cash Management. The transfers can be initiated, approved, settled and accounted for. The settlement is done through the Payments application, while the accounting is done through the Subledger Accounting engine.

## Bank Account Transfers Description:

Bank Account Transfers can be created manually by the user in the system. In addition, if there are any physical cash pools defined in the system, the transfers can be created automatically when the cash leveling process is run or when a bank statement with ZBA sweep lines is processed. With manual transfers, you have the option of creating and using a payment template. The template will default the transfer information, such as the source and destination bank accounts,

currency, and payment method, and can be

used in the same fashion as a repetitive or semi-repetitive wire template created by your bank. In cases when the settlement of the bank account transfer does not have to be initiated by the system (for example, for ZBA bank account transfers that the bank processes on its own), there is an option to exclude such a transfer from the settlement process and only create the accounting entries.

Finally, the UMX security model lets you define who can create bank account transfers for which legal entities. The settlement authorization function is also separate from the transfer creation, so you can implement the separation of duties for bank account transfer management.

## Bank Account Transfers - Benefits:


The bank account transfer functionality enriches the Cash Management functionality so that you could take action on the projected closing balances calculated by the system. The seamless integration with the Payments application allows you to send payment instructions to the bank in a variety of payment formats and the integration with the Subledger Accounting allows you to use flexible journal creation rules.

## Bank Account Transfers Process:

- Responsibility: Cash Management
- Navigation: Cash Management > Bank Account Transfers

Once the setup is in place, you can start creating the bank account transfer. If the system parameter requires authorization, the bank account transfer must be authorized





before it is available for settlement or journal creation. Otherwise, you can proceed to settle or journalize the bank account transfer immediately after creation and validation.

The Payments application formats your payment request and sends it to the bank. Any exceptions in the payment process are communicated back in the form of an error status. If settlement of the bank account transfer errors out, you can see the reason so that the cause of the error can be rectified and the bank account transfer recreated. If the payment is processed without any exception, you see a successful payment status returned.

The subledger accounting process creates journal entries according to your setup and you can drill down to view these journal entries.

### Bank Account Transfers – Dependencies and Interactions:

The bank account transfer feature depends on Payments application in cases where the settlement of the bank account transfers is required. There is also a dependency on the Intercompany setup when funds are transferred between different legal entities. Finally, all of the accounting activity for bank account transfers happens in the Subledger Accounting framework.

### Bank Account Transfers Setup:

- Responsibility: Cash Management
- Navigation: Setup>System Parameters > Cash Management Transactions

If you are using the cash leveling or ZBA features, the setup starts with the new system profile. Then, optionally, you can set up Transaction Subtypes and Payment Templates for bank account transfers. The Payment Templates are required if you intend to send the payment instructions to the bank to process the bank account transfer. The Transaction Subtypes are optional and can be used for reporting purposes.

### Bank Account Transfers Setup – Set System Profile:

The new system profile option CE: Bank Account Transfers defines where the cash transfers will be created as a result of the cash pool activity. If you choose Cash Management, then the cash transfers created by the cash leveling or ZBA sweep activity are created in Cash Management using the Bank Account Transfer framework. If you choose Treasury, then these cash transfers are created in Treasury using Inter-Account Transfers (if both bank accounts belong to the same legal entity) or Intercompany Funding transactions (if bank accounts belong to different legal entities). Before Release 12, Bank Account Transfers could only be created in Treasury. This functionality is preserved but now you have a choice.

### Subledger Accounting:

Subledger Accounting provides a common flexible framework for creating journal entries for Bank Account Transfers and Bank Statement Cash Flows in Cash Management. Prior to Release 12, Cash Management produced journal entries for bank statement activity based on simple rules and sent them to the General Ledger interface. In Release 12, in addition to the bank statement activity, a new source of accounting entries is available – bank account transfers – and the rules for journal entry creation are more flexible and sophisticated. Finally, you can now view all the journal entries produced by Cash Management events in Cash Management.

### Subledger Accounting for Cash Management:

In Cash Management Release 12, bank account transfers and bank statement cash flows are the two objects that can produce accounting events. Once the events are created and the accounting program is run, the journal entry setup and the accounting configurations are referenced to produce journal entries. The journal entries are then transferred to GL. GL has visibility into the source transactions and Cash Management users can drill down from the transaction level to the journal entry details.

### Subledger Accounting - Benefits:

The Subledger Accounting feature allows multiple accounting representations for a single business event, resolving conflicts between corporate and local fiscal accounting requirements. In addition, with subledger accounting you retain the most granular level of detail in the journal entries, with different summarization options in the General Ledger, allowing full audit and reconciliation.

### Subledger Accounting Key Concepts :

Here are some key subledger accounting concepts:

- Event model is defined in SLA for each subledger represents the transaction/document types and the lifecycle of each transaction:
  - Event class classifies transaction types
  - Event type defines possible actions on each event class with possible accounting significance.

The journal creation rules are defined per event class/event type. In Cash Management, there are two event classes: Bank Account Transfer and Bank Statement Cash Flow. An accounting event for a Bank Account Transfer, for example, would be the creation or cancellation of a bank account transfer. So, any time a bank account transfer is created, an accounting event is created as well. Based on the rule setup, there may or may not be a resulting journal entry. You may set up rules to generate journal entries for some events, but not for others.

Transaction object and sources are the data model for each subledger that contains the transaction attributes/information made available to be used during journal rule setup and journal entry generation.

### Bank Statement Reconciliation – Description:

In Release 12, Bank Transaction Codes can be linked to multiple sources. Previously each bank transaction code had to be linked to a single source, such as Accounts Payable. This could create an issue if the bank was using the same transaction code to report back a payment that was initiated from an





application other than Accounts Payable. In Release 12, you can link bank transaction code to as many sources as you would like and also assign a priority number used in the auto reconciliation for sequencing.

Reconciliation tolerances in Release 12 are moved from the system level to the bank account level. This means that each bank account can have a unique set of reconciliation tolerances. Moreover, there is now a distinction between tolerances for manual and auto reconciliation. Furthermore, auto reconciliation tolerances can be unique for each source – Accounts Payable, Accounts Receivable, Cash Management and Open Interface. Finally, since now it is possible to use the same bank account, created in the centralized model, in multiple organizations, the bank statement reconciliation is also done across Operating Units.

### Bank Statement Reconciliation - Benefits:

The enhancements for the Bank Statement Reconciliation process allows you to improve efficiency. By having granular level reconciliation tolerances and the ability to cross operating units, you will increase straight-through processing success rate of the auto reconciliation.

### Setup:

- Now part of bank setup
- Transaction Codes
  - Assign a transaction code to multiple transaction sources
- Account Controls
  - Reconciliation control parameters

### Multi-Org Access Control and Security:

- Provides bank account maintenance security.
  - Privilege to create and update bank accounts that belong to the legal entities that the user can access
- Provides bank account access security.
  - Bank Account Access Cash Management Security Profile: Which organizations the user can access. Sets:
  - Bank Account use
  - Treasury security

- MOAC security
- Payroll security

### Benefits:

- Reduced Costs: Enable shared services centers and cut down processing time.
- Improved Efficiency: Easily access data from different operating units.
- Improved Security Control: Explicitly grant access to specific users for specific purposes

### Cash Pooling:

Cash leveling or Cash Pooling is a cash management technique aimed at optimizing the balances of the internal bank accounts held at one or several banks. It is usually performed on a daily basis and can be done by transaction or by total net end-of-day balances. To perform cash leveling, you need to define a cash pool and assign internal bank accounts setup in Oracle Treasury to the cash pool.

### Creating Cash Pools:

- Notional Cash Pools:
  - Consist of one concentration account and multiple sub accounts
  - Are used for cash leveling similar to zero balancing without the actual funds movement

- Physical Cash Pools:
  - Consist of one or two concentration accounts and multiple sub-accounts with funds transfer rules specified
  - Are used for cash leveling wherein you can initiate fund transfers or mirror outsourced cash pools

### In Conclusion:

Overall most many modules remain similar across Oracle R12; some key upgrades in functionality, however, make life for the Financials end user much easier. For those companies not currently using R12 now is a good time to start thinking – as you can see from what I have outlined in Cash Management alone there are a lot of benefits and for the most part the product is stable.

The most important thing I have found in helping clients prior to starting an R12 Upgrade is to build support for the project internally with key stakeholders. Knowledge of R12 Financials features and benefits often helps get key decision makers on board with the change. Whatever the drivers of why your business needs an upgrade you may find the decision will take time, so be patient and learn as much as you can

## About the Author



**Dennis Maynard** is a consultant with extensive experience in the Implementation of Cash Management with over 20 years accounting and IT experience using SAP & Oracle financial systems. A logical thinker with strong leadership and presentation skills, Dennis comes from a local authority background and is partially qualified accountant. Dennis also specializes in cash receipting systems and has broad functional experience across many financial modules such as GL, AR, AP, & Payroll.

iTrain is a specialist independent ERP change and transition management integration service provider. Throughout the UK market, iTrain delivers a variety of consulting and training ranging from Oracle Release 12 to 11 i eBusiness suite, SAP, Java, Peoplesoft, to technical services across the complete ERP functional scope (Finance, HR & Payroll, Supply Chain, CRM). iTrain's highly skilled consultants and trainers also have the flexibility to assist you with any large or small projects your company wants to implement from an email integration to a full systems update. To learn more about iTrain's services please contact [info@itrainconsulting.co.uk](mailto:info@itrainconsulting.co.uk)



# Chivas Achieves a New Level of Product Traceability by Enhancing Oracle's JD Edwards EnterpriseOne with Real-Time Data Collection

by Drew Jenks, Data Systems International



"The key to the new system's success is how quickly we can have information. Information has to be available fast or else people won't use the system"

Chivas Brothers, the Scotch whisky and premium gin business of Pernod Ricard (the world's co-leader in wines and spirits) has been a long time user of Oracle's JD Edwards EnterpriseOne. To maximise the value and reliability of EnterpriseOne, the company decided to improve product traceability and reduce the time lag between when goods were moved in its UK bottling plants to when the movements were recorded in the enterprise system, both issues that led to inventory inaccuracies. By enhancing its EnterpriseOne foundation with software to support wireless computing and bar code data entry on the production floor, the information fed into the system became more timely and accurate and, as a result, Chivas Brothers was able to improve inventory accuracy, reduce shipping errors, meet its product documentation requirements and achieve a new level of

product traceability.

The activity and inventory on the floor at Chivas Brothers' UK bottling plants did not always match the records in the company's EnterpriseOne system. EnterpriseOne held production records, customer orders and essential back-office information, whilst production information, such as the status and location of finished goods inventory, was collected and processed with a combination of mobile computers with integrated bar code readers, manual processes and an old warehouse management system that updated EnterpriseOne periodically throughout the day.

Because product movements were not recorded into EnterpriseOne as they happened, inventory availability and location reporting was not reliable in the system. Chivas Brothers wanted to improve product traceability and increase visibility

into operations without having to change the flexible and efficient work processes developed over many years. To achieve that, Chivas needed to implement a solution that could provide accurate, timely information from production and inventory operations.

"The key to the new system's success is how quickly we can have information. Information has to be available fast or else people won't use the system," said Marc André, Chivas Brothers MIS Applications Manager. "Our users told us to keep it extremely simple."

There are productivity and performance risks any time organizations change processes, especially when changes to enterprise systems are involved. Chivas Brothers' bottling facilities are primarily production facilities rather than warehouses and the very specialized processes at these plants added to the challenge of updating and improving systems. Most ERP warehouse management and inventory control applications strictly direct the flow of goods, which is inconsistent with the work processes Chivas Brothers has carefully developed over the years to maximize workers' picking and putaway flexibility.

## Pilot Project Provides Insight

Chivas Brothers chose to pilot EnterpriseOne's Warehouse Management (WMS). WMS supports wave picking, specialized storage zones, directed picking and putaway, replenishment, cross docking and other sophisticated features. Chivas Brothers, which wanted its new warehouse system primarily to provide stock traceability and support flexible putaway, felt the EnterpriseOne WMS features were not a 100 percent match to its needs.

"Oracle's JD Edwards EnterpriseOne Warehouse Management satisfied our integration concerns, but the pilot revealed the solution was too rigid," said André. Chivas Brothers concluded it needed a solution somewhere between WMS, which imposed restrictive work process controls,

and a custom solution, which provided process flexibility but also introduced integration concerns.

## Solution


Chivas Brothers found the flexibility and EnterpriseOne compatibility it needed without taking on the risk of custom software development. The company decided to implement DSI's dcLINK® solution for EnterpriseOne, which gives organisations the flexibility to create automated workflows to support their preferred business processes. This solution was chosen because it provides validated integration to the enterprise system, it makes it easy to create flexible work processes and offers pre-built, standard transactions for EnterpriseOne including inventory, warehouse, sales order, manufacturing and shipping.

EnterpriseOne and dcLINK work together in real time. Chivas Brothers' EnterpriseOne executes a Work Order Completion transaction to signify the end of a production process. The dcLINK automated process takes then production batch and other information from the enterprise system, formats it into a pallet ID label that includes a Serial Shipping Container Code (SSCC) EAN 128 bar code, creates a unique serial number for the pallet and finally directs an Intermec printer to create a bar code label which identifies the pallet of finished goods.

From that point on, all product movements from inventory putaway to final shipment to the customer are recorded on Motorola MC9090 wireless handheld computers. The automated process records each bar code scanning transaction and suggests the next operation, which workers can override if they think they can do the job faster another way. Once a transaction is confirmed, it is updated in EnterpriseOne in real time over the wireless network. Should the network fail or EnterpriseOne be unavailable, transactions will be processed asynchronously, kept on the handheld devices, queued and then transferred to EnterpriseOne.

## Real-Time Data From Mobile Operations Creates Advantages

Before the implementation of the new solution, EnterpriseOne was updated only at intervals during the day. Products were often moved again before the original move was recorded, which led to missing goods, product searches and inventory inaccuracy. These problems are now in the past because EnterpriseOne is updated by dcLINK in real time.

 "Having all the information about an order available on a single record is an added benefit for traceability purposes and HM Revenue & Customs requirements"

"Now there is one version of the truth," said André. "There is no outdated information. There is only one version of inventory status. What a worker in the warehouse sees on the mobile device is the same a business user sees on a PC."

All product movements are recorded by bar code scanning. As picked products are assembled into pallets for shipping, the product transaction history is married with the customer sales order. As a result, Chivas Brothers has complete visibility for each pallet and can provide a history of when the product moved, where it was stored and who handled it, from production to delivery.

"Now all the information about a pallet is available on a single inquiry, which is very helpful for traceability," said Chivas Brothers MIS Business Analyst Danny Ferry. "All departments in the company have visibility into stock and can get the information they need."

"Having all the information about an order available on a single record is an added benefit for traceability purposes and HM Revenue & Customs requirements," added André. "Our products are highly regulated and we need to maintain complete documentation."

## Results

"There has been a dramatic improvement in the number of loads dispatched properly. We jumped from 92 percent shipment accuracy to 99 percent weekly," said André. "The solution is also more consistent. Our shipments have been 100 percent accurate since the end of September, 2009. Before, these percentages could fluctuate between 70 percent one week and 95 the next."

Chivas Brothers used to average 13 inaccurate shipments per week and now averages about one. Improving accuracy has saved time and money. It takes an average of 20 minutes to correct a faulty load, according to André. By improving from 13 wrong shipments to one, Chivas Brothers saves about four hours per week on problem resolution. The company has also improved the accuracy of the electronic data interchange (EDI) transmissions that accompany its shipments.

Chivas Brothers hasn't sacrificed speed to improve accuracy. In fact, Chivas Brothers workers are now much more productive than they were with the old systems. "With the new solution in place, we shipped 300 more loads from July to December 2009 compared to the same period in 2008. That is a 7 percent increase that we can attribute to dcLINK and our improved business processes," said André.

Chivas Brothers has always distilled smooth, quality products and now it has the inventory tracking and real-time enterprise systems to match.

## About the Author

Drew Jenks is Business Development Manager for Data Systems International (DSI) in Reading. DSI ([www.dsionline.com](http://www.dsionline.com)) provides mobility software that enables business to happen anywhere, providing access to any data on any device and is an Oracle Platinum Partner. DSI's dcLINK software provides validated interfaces and prebuilt, automated processes for Oracle's JD Edwards World, EnterpriseOne and E-Business Suite enterprise systems.





# Integrating Oracle GoldenGate and Oracle Data Integrator for Change Data Capture



By Mark Rittman, Oracle ACE Director

If you have an interest in data warehousing, data replication or data migration, you may well have heard about Oracle's recent acquisition of GoldenGate Software, a California-based software vendor that sold cross-platform data replication and change data capture software. The products produced by GoldenGate has recently been chosen by Oracle as their strategic data replication technology, and are managed within Oracle by the same team that develops Oracle Data Integrator and Oracle Warehouse Builder.

In this article, we will look at how the Oracle GoldenGate data replication product can be used in conjunction with Oracle Data Integrator to provide continuous change data capture between Oracle databases, following the release of an Oracle Data Integrator patch that provides out-of-the-box integration between the tools. Due to the space constraints of this article, I will assume a basic working knowledge of Oracle Golden Gate and Oracle Data Integrator, and will instead focus on an example of how the two tools can be used together. If you are new to either Oracle Golden Gate or Oracle Data Integrator, please take a look on the Oracle Technology Network website for software downloads, installation instructions and tutorials on basic functionality, at <http://otn.oracle.com>.

To demonstrate how this integration works, we will be using Oracle GoldenGate and Oracle Data Integrator to capture the changes to a table in one database, and then apply these changes, along with some lookup data, to a table in another database. Oracle GoldenGate will be used to capture these changes, which it will replicate into an intermediate "staging" database that Oracle Data Integrator will then use as the source for its Extract, Load and Transform ("ELT") data transformation into the target table. Oracle Data Integrator will be used to set up the Oracle GoldenGate process, configuring Oracle GoldenGate in a way that is compatible with the "table journalization" process that Oracle Data Integrator uses for handling change data capture.

## Getting Started

In this scenario, we will be working with three separate database schemas:

- A source schema called `GG_TEST_SRC`
- A staging schema called `GG_TEST_STG`, and
- A target schema called `GG_TEST_TGT`

For convenience, all of these schemas are held on the same Oracle Database 11g Release 1 database, however they could be held on separate Oracle databases and in addition, any version of Oracle from release 9i onwards could be used instead of version 11g.

The `GG_TEST_SRC` schema has a table called `CUSTOMERS`, from which we want to capture changes. My target database `GG_TEST_TGT` has a table called `CUSTOMERS_FULL` that I wish to copy

these changes into, along with some lookup data from a table called `CITIES` in the same schema that will be added to the incoming change records.

Oracle GoldenGate and Oracle Data Integrator will provide a transport mechanism between these schemas through the `GG_TEST_STG` intermediate staging schema. This staging schema will contain a replica of the `CUSTOMERS` source table (a requirement for GoldenGate) together with tables and view used by Oracle Data Integrator to manage the change data capture process. Data Integrator will then use this information to apply the changes to the target table, as shown in Figure 1 below:

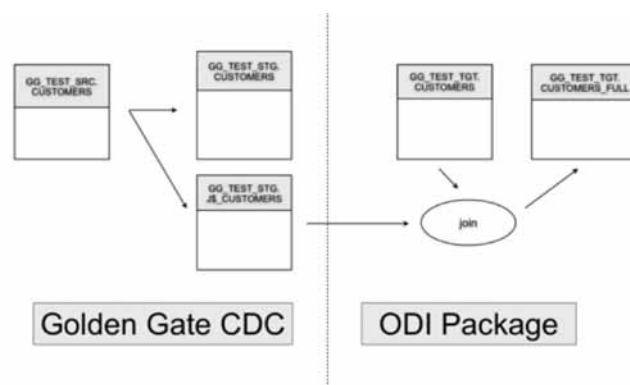


Figure 1 : Data Flow between source, staging and target databases.

Because GoldenGate populates the same type of change data capture database views and tables already used by other Oracle Data Integrator, this integration works with no changes needed to either Data Integrator or your project. Oracle GoldenGate populates all the table and views that Data Integrator expects to see when working with what it refers to as "journalized" data sources, and the fact that you are now using Oracle GoldenGate to capture changes is effectively "transparent" to the rest of your Data Integrator project.

To set this integration up, I have used the following software products and patches available on Metalink:

- Oracle Golden Gate 10.4.0 for Oracle 11g on Windows 2000, XP and 2003
- Oracle Database 11.1.0.7 on Windows Server 2003 (this needs to be downloaded from Edelivery)
- Oracle Data Integrator 10.1.3.5 for Windows 32-bit, with the 10.1.3.6 patch (9377717) and the 10.1.3.6.0\_02 patch (9449058)

We will actually need two separate installations of Oracle GoldenGate for this scenario; one for the capture process that will work with the `GG_TEST_SRC` schema, and one for the staging process that will work with the `GG_TEST_STG` schema. Oracle Data Integrator will then transfer the changed data placed in the staging schema into

the target schema via a regular interface and package. Once the two Oracle GoldenGate software installations are complete, we would then need to perform the post-install configuration steps detailed in the product documentation, and, if not done so already, install and configure Oracle Data Integrator together with the patches listed above.

### Configuring Oracle Data Integrator and Oracle Golden Gate

Figure 2 below shows the Physical Architecture view within the Oracle Data Integrator Topology Manager, with the three data servers set up for my source, staging and target schemas.

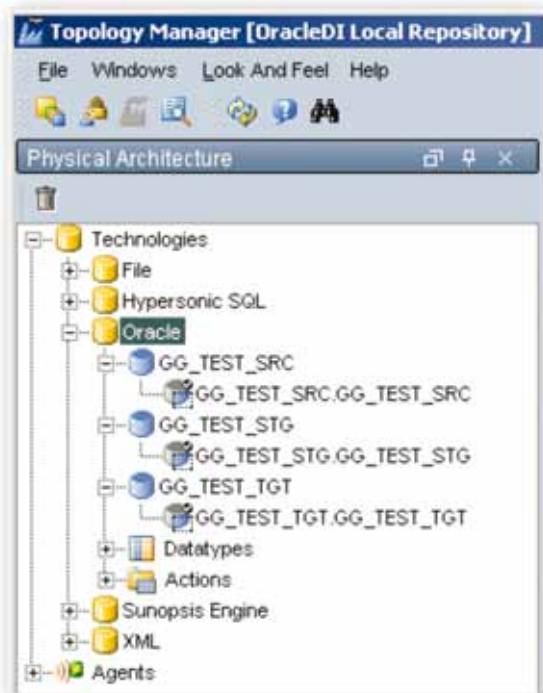


Figure 2: The Physical Architecture view in the Oracle Data Integrator Topology Manager.

Note that the “JKM Oracle to Oracle Consistent (OGG)” knowledge module provided through patch no. 9449058 is only designed to move new and changed data between two Oracle databases. Whilst it should be possible to amend the scripts generated by this knowledge module to support other database platforms, this is not currently supported and is outside the scope of this article.

Switching to the Oracle Data Integrator Designer, I have defined models for the three databases and reverse-engineered the tables that they contain. Figure 3 below shows the tables within each module, with the GG\_TEST\_SRC model opened for editing.

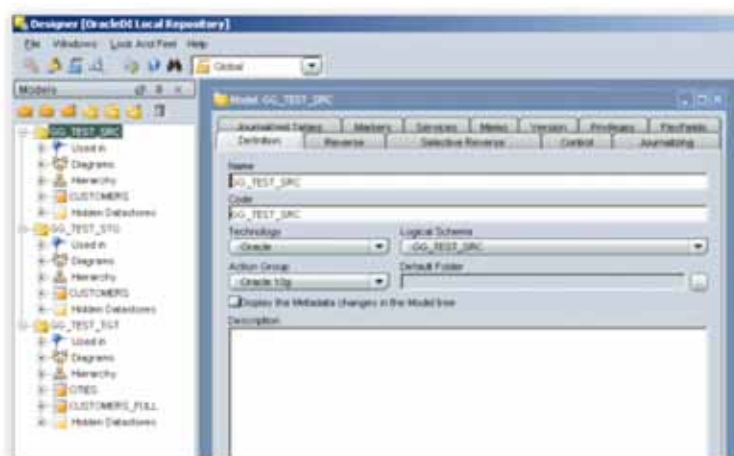


Figure 3 : The Model View in Oracle Data Integrator Designer

Now we need to import the required knowledge modules into the Oracle Data Integrator project. Keeping within the Designer, I switch to the **Project** view and import the following knowledge modules into my project:

- LKM SQL to Oracle
- IKM Oracle Incremental Update
- JKM Oracle to Oracle Consistent (OGG)

(note that you will need to have installed patch no. 9449058 to be able to import the Oracle Golden Gate knowledge module in this list.)

Now we are ready to start configuring the project to use Golden Gate. To do this, edit the properties of the GG\_TEST\_STG model and with the **Journalizing** tab selected, select the **Consistent** option and choose **JKM Oracle to Oracle Consistent (OGG)** as the journalizing knowledge module, as shown in Figure 4 below:

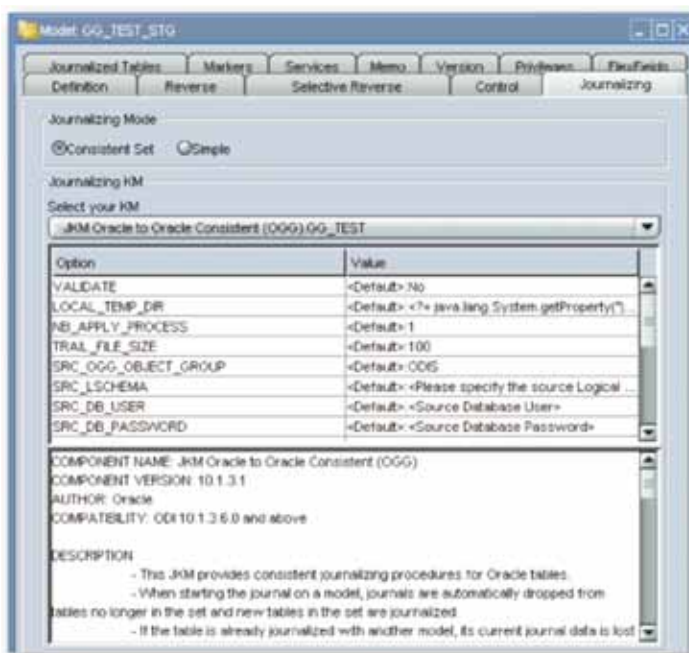


Figure 4 : The Journalizing KM Options Panel

Within the **Journalizing KM** section of the dialog, set the option values as follows (these may vary for your own database and Oracle



GoldenGate installations):

- **LOCAL\_TEMP\_DIR** : C:\TEMP
- **SRC\_LSCHEMA** : GG\_TEST\_SRC
- **SRC\_DB\_USER** : system
- **SRC\_DB\_PASSWORD** : password
- **SRC\_OGG\_PATH** : C:\GOLDENGATE\GOLDENGATE\_SRC
- **SRC\_HOST** : LOCALHOST
- **STG\_MANAGER\_PORT** : 7910
- **STG\_OGG\_PATH** : C:\GOLDENGATE\GOLDENGATE\_STG
- **COMPATIBLE** : 10

This information will be used, together with details we will specify in a moment, to create the Golden Gate configuration files that Oracle Data Integrator will generate when we tell it to start journalizing data from the GG\_TEST\_STG staging schema.

At this point we have specified the general options for Oracle GoldenGate, but we now need to choose what tables are included in the change data capture process. To do this, I select the CUSTOMERS table in the **GG\_TEST\_STG** model, right-click on it and select **Change Data Capture > Add to CDC**, as shown in Figure 5 below.



Figure 5 : Adding a table to a Change Data Capture set

I then create a subscriber for the change data capture process by right-clicking on the **GG\_TEST\_STG** model and selecting **Change Data Capture > Subscriber > Add**, and add a new subscriber called ODI. In the background, Oracle Data Integrator creates tables in the **GG\_TEST\_STG** schema to contain the list of subscribers and the tables that will have changes captured for them, and will ask you to choose an Agent (choose the **Local Agent** option) in order to create these objects.

Now that Change Data Capture has been set up, the process can be started. To do this, right-click on the **GG\_TEST\_STG** model again, and this time select **Change Data Capture > Start Journal**.

Unlike regular change data capture with Oracle Data Integrator, changes in the source and staging tables will not automatically start propagating. Instead, you will need to follow the instructions in a

file called **Readme.txt** in the **LOCAL\_TEMP\_DIR** directory specified in the knowledge module options, which will give you instructions on where to copy configuration files and command line options to run from the Unix or MS-DOS prompt. Locate this file and follow these instructions, and the capture process will then begin. To check that the capture and propagation processes are running correctly, you can use the Oracle GoldenGate **ggsci** command line utility to verify each process, starting with the capture processes. At the MS-DOS command-line prompt (amend as appropriate for Unix/Linux, together with file paths), type in the following commands to confirm the status of the Oracle GoldenGate processes, starting with the source schema GoldenGate installation:

```
cd c:\GoldenGate\GoldenGate_Src
ggsci
info all
GGSCI (w2k3vm) 1> info all
```

Program	Status	Group	Lag	Time Since	Chkpt
MANAGER	RUNNING				
EXTRACT	RUNNING	ODISC	00:00:00	00:00:00	
EXTRACT	RUNNING	ODIT1P	00:00:00	00:00:01	

and then move on to the staging schema GoldenGate installation, running the replication process:

```
cd c:\GoldenGate\GoldenGate_Src
ggsci
info all
GGSCI (w2k3vm) 1> info all
```

Program	Status	Group	Lag	Time Since	Chkpt
MANAGER	RUNNING				
REPLICAT	RUNNING	ODIT1A1	00:00:00	00:00:08	

At this point, Oracle GoldenGate is running and sending new and changed data from the **GG\_TEST\_SRC.CUSTOMERS** table to the **GG\_TEST\_STG.CUSTOMERS** staging table. If you get a status of STOPPED, ABENDED or similar, go back and check what you've done as the process won't work later on without fixing this.

#### Creating a Change Data Capture Interface and Package

Assuming all is working correctly, Oracle GoldenGate will now be capturing changes in the **GG\_TEST\_SRC** schema and replicating them into the **GG\_TEST\_STG** schema, and at the same time populating the change data capture views and tables that Oracle Data Integrator uses for applying journalized data. Our next step then is to create a new Oracle Data Integrator interface that takes this journalized data and moves it into the target schema, in addition carrying out any data transformations that are required.

Using the Oracle Data Integrator Designer, I create a new interface that has the **CUSTOMERS** table from the **GG\_TEST\_STG** model along with the **CITIES** table from the **GG\_TEST\_TGT** as the interface sources, joined on a common column. For the interface target I select the **CUSTOMERS\_FULL** table from the **GG\_TEST\_TGT** model, and crucially I check the **Journalized Data Only** checkbox under the source and target areas, and enter ODI as the **JRN\_SUBSCRIBER**



subscriber name in the **Implementation** panel under this section, as shown in Figure 6 below.

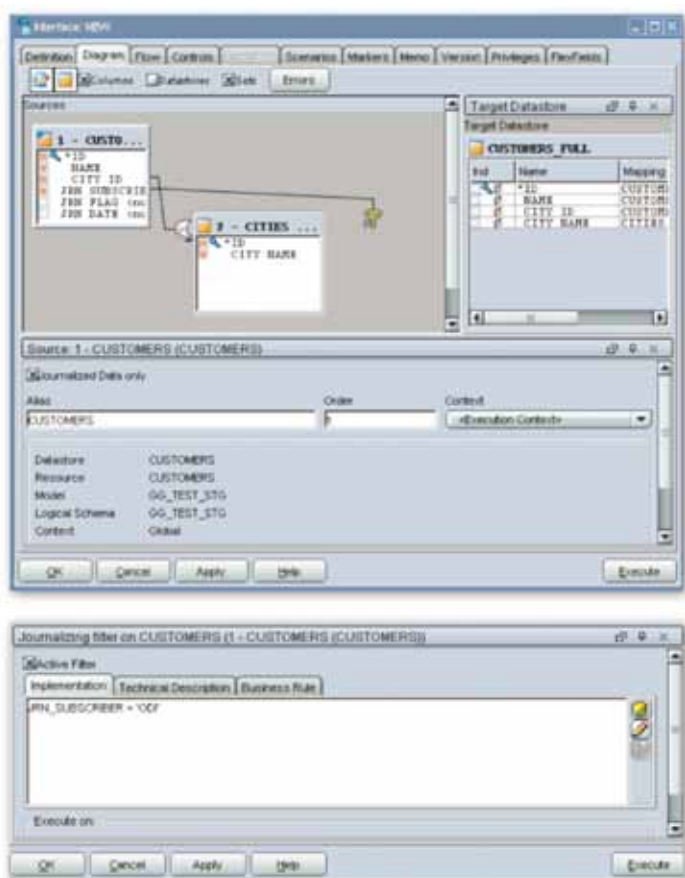


Figure 6 : Defining the Interface to use Golden Gate journalized data.

Switching to the **Flow** tab for the interface, I select the following knowledge modules for the source and target execution units:

- SS\_O source execution unit : LKM SQL to Oracle
- Target and Staging Area execution unit : IKM Oracle Incremental Update

This completes the definition of the Oracle Data Integrator interface.

Next, we need to create an Oracle Data Integrator package that will run this interface, along with the necessary change data capture administration steps. In addition, so that this capture process runs continuously, we will add a loop to the package so that it restarts after every run (warning: do not do this in production, instead you will need to add a means to exit the loop under operator instructions).

Using Oracle Data Integrator Design, create a new package and drop an **ODIWaitForLogData** tool onto the canvas, and set the options to the following values (leave all other options at their default)

**Global Row Count** : 1

**Logical Schema** : GG\_TEST\_STG

**Subscriber** : ODI

**CDC Set** : GG\_TEST\_STG.GG\_TEST\_STG

This tells the package to wait for one row of journalized data to appear in the GG\_TEST\_STG schema before proceeding with the rest of the package. Set the **Global Row Count** to a higher value if you want the package to wait for more rows before starting.

Then drag the **GG\_TEST\_STG** model onto the package canvas, and set the **Step Type** to **Journalizing Model**. Then scroll down in the properties area, check the **Extend Window** and **Lock Subscribers** checkboxes in the **Consumption** area, type in ODI into the **Subscribers** text box and press **Add** to add it to the Subscribers list. Then, click on the **Options** tab, and then enter the same details into the options list that you typed in to the Journalize KM options list before.

Then, add the interface that you defined previously into the package, and then duplicate the **Journalize Model** step you created previously, changing its name and connecting all four steps into a loop as shown in Figure 7 below:

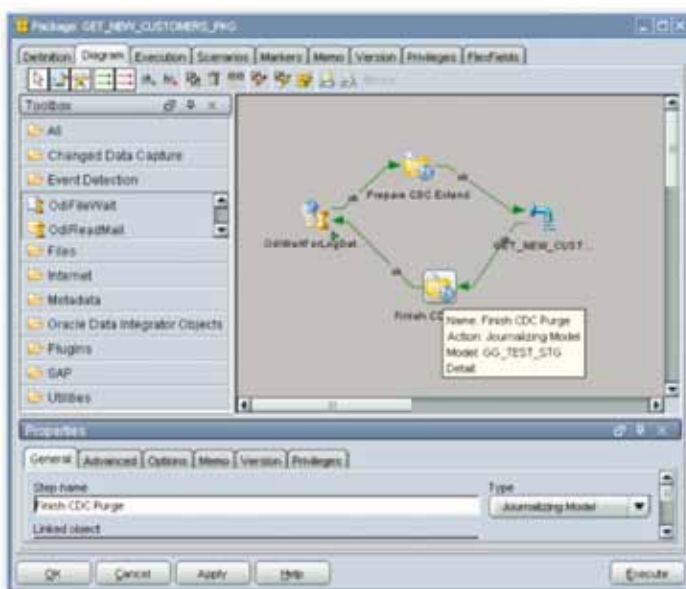
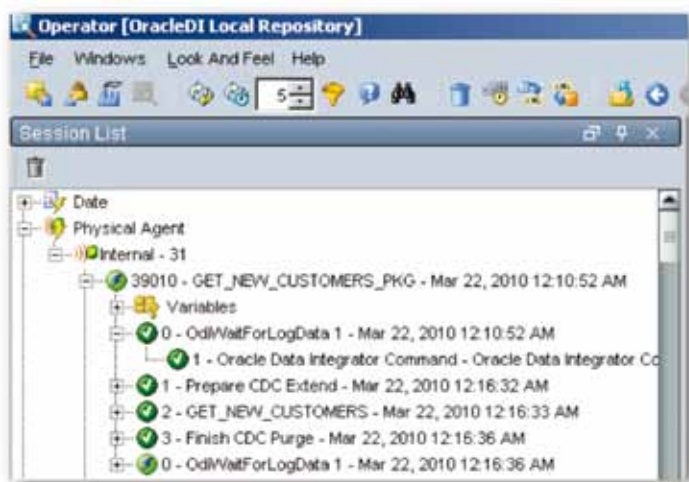


Figure 7 : Setting up the package to consume Golden Gate journalized data.

Finally, for the final (duplicated) model step, alter the **Consumption** settings so that **Purge Journal** and **Unlock Subscribers** are selected, and make sure that ODI is selected as the CDC subscriber (which it should be if you've duplicated the previous model step and not just created a new one).

Now we can test it all out. Press the **Execute** button on the bottom of the package to start it running. Navigate to the Oracle Data Integrator Operator, and verify that the package is running and waiting for a new row of changed data capture to arrive in the staging table courtesy of Oracle GoldenGate. Figure 8 below shows the package running and moving data from the staging schema into the target schema, with the package at the end waiting for new data to be copied into the change data capture journalizing objects.



### Conclusions

With Oracle GoldenGate and Oracle Data Integrator, you can set up data replication and change data capture either one-way or bi-directional, between Oracle or other database platforms. This article sets out how you can make use of Oracle GoldenGate with the current 10.1.3.5 or higher release of Oracle Data Integrator, by use of a patchset downloadable from Oracle's Metalink website.

For a more detailed, step-by-step version of this article that also describes the process to set up Oracle Golden Gate on the Microsoft Windows platform, an article is available on my website at : <http://www.rittmanmead.com/2010/03/22/configuring-odi-10-1-3-6-to-use-oracle-golden-gate-for-changed-data-capture/>

Please also check out the product documentation for both Oracle Data Integrator and Oracle Golden Gate, at <http://otn.oracle.com>.

## About the Author



Mark Rittman is an Oracle ACE Director, an ODTUG board member, editor of the UKOUG Oracle Scene magazine, is co-founder of Rittman Mead and blogs at <http://www.rittmanmead.com/blog>. Mark has worked with

Oracle's BI, data warehousing and ETL technologies since 1997, was a beta tester for Oracle Data Integrator 11g, and has presented on Oracle data integration technologies at various conferences around the world.



# Using Oracle Portal prior to 11i?

by Nicholas Shearer, Independent Consultant

Are you worried about having to completely change server software and possibly hardware in order to give your users a modern web experience? This is an issue I have come across many times in my career and I have found that, quite often, companies tend to live with static old fashioned web pages until they eventually have the budget to upgrade their server software. This article aims to show a developer a very quick way to get a very quick improvement with some dynamic, yet generic, code.

I am assuming a very basic understanding of html, javascript and pl/sql for this article. This example is generic enough that any version of Oracle Portal will do – the important technology is mod\_plsql for Apache.

This is a practical article. What we are going to do is create a generic AJAX solution that could be used within an Oracle Portal, or any other, web page.

AJAX, for those that don't know, is shorthand for Asynchronous JavaScript and XML. And in the all encompassing label that is "web 2.0" it is generally considered necessary. The term itself is almost a red herring – it doesn't need to be asynchronous, you don't need XML and you certainly don't need complicated DOM manipulation with JSON (JavaScript Object Notation) formatting. We are not going to use XML or manipulate the DOM (Document Object Model) to any great degree. We are simply going to do this:

- Create an HTML form on a web page.
- Use some javascript functions to handle the HTTP request object (AJAX).
- Contact a PLSQL procedure.
- Have the procedure respond to the browser with some html.

The key is, this is a generic solution that can be reused again and again with little effort. And by passing back a snippet of html we are doing all the work on the server. Perfect for people more familiar with databases and plsql than the intricacies of web browsers and DOMs.

## The Javascript

Let's start with the javascript. It's the most complicated part of this, and has the most code. Trust me though, it's easy, and it's already written for you.

It is up to you where you put this javascript code. You can have it as a separate .js file in the filesystem or, if using Portal, put it on the page in an html or ui template, or easier still, put it directly into the portlet/static page code inside <script> tags..

First off, we create an HTTP request object to handle the connection to and from the server.

```
function createRequestObject() {
    var ajax_o;
    var browser = navigator.appName;
    if(browser == "Microsoft Internet Explorer"){
        ajax_o = new ActiveXObject("Microsoft.XMLHTTP");
    }else{
        ajax_o = new XMLHttpRequest();
    }
    return ajax_o;
}
```

then some variables

```
var http = createRequestObject();
var ajax_procedure_address = 'pls/portal/!myschema.
mypackage.ajax_multiple?';
var loading_image = '/images/ajax-loader.gif';
```

The variable **http** is now our ajax object, and we have the **ajax\_procedure** variable with an address to our procedure and a variable for a loading image. The address must point toward a procedure that has had execute privileges granted to PORTAL\_PUBLIC if used within portal. Also, note the use of the exclamation mark before the schema name. This ensures that all name value pairs are received into the procedure as arrays. The loading image is an animated gif (google for one if you don't have one), this is actually very important as it only appears when waiting for a response and users expect to see that something is happening. We have an hourglass on the desktop; we need something similar in our web application.

That's our main javascript object. Now how do we send information from an html form? Well, if we contact this function from an html button we can send ALL the information from the form. We pass in the form object as a parameter, with a 2nd "action" parameter so the plsql procedure knows what it is supposed to do.

```
function sndReq(the_form,the_action)
{
    var the_parameters = 'p_action='+ the_action + '&';
    for (i=0;i < the_form.elements.length;i++){
        if (the_form.elements[i].type == 'checkbox' )
            if(the_form.elements[i].checked == true)
                {try {the_parameters += the_form.elements[i].name
                +'=' + the_form.elements[i].value+'&'}
                catch(e){} } }
        else if (the_form.elements[i].type == 'radio' )
            {if (the_form.elements[i].checked) {
                try {the_parameters += the_form.elements[i].name +'=' +
                the_form.elements[i].value+'&'}
                catch(e){}
            }
            else
```





```
{try {the_parameters += the_form.elements[i].name +'=' +
escape(the_form.elements[i].value)+'&'}
catch(e){} }
}
http.open('post', ajax_procedure_address + the_parameters);
http.onreadystatechange = handleResponse;
show_loading("div_loading");
http.send(null);
}
```

This code will loop through everything in the form, build a query string and display the animated loading gif within <DIV> tags with an ID of "div\_loading". You do not need to change this. It does not matter what <INPUT> tags you use or how many CHECKBOXES or RADIO button groups you may have on your web page – all will be sent with no error. It is up to the PROCEDURE to loop through the arrays and use those values.

Next, the **show\_loading** function called above.

```
function show_loading(id) {
replace_html(id, ' Loading, Please wait! ');
}
```

That in turn calls **replace\_html** which does exactly what it sounds like. It replaces the content of

<DIV> tags with whatever the "content" parameter is.

```
function replace_html(id, content) {
try{document.getElementById(id).innerHTML = content;}
catch(e){}
}
```

The **catch(e)** exists to stop an inelegant end to the running of javascript on the entire page if the ID you pass in does not exist.

That's the sending bit, and when we get a response from the server, we use this:

```
function handleResponse() {
if(http.readyState == 4){
var response = http.responseText;
var update = new Array();
if(response.indexOf('!' != -1)) {
update = response.split('!');
replace_html("div_loading", '&nbsp;');
if (!document.getElementById(update[0]))//nothing
in array
{ replace_html("div_loading", 'Error - nothing returned
!'); }
var i=0; //loop through array
while(i < update.length){
replace_html(update[i],update[i+1]);
i=i+2;
}
}
```

This function checks for a response, and loops through the returned string. It is looking for the pipe symbol ("|") as a separator in the returned string. We are going to get the PLSQL procedure to return its answer in the format "<DIV\_DESTINATION\_ID><HTML><DIV\_DESTINATION\_ID><HTML>" and have this function put each html snippet inside the destination div for us. The pipe symbol will always be interpreted as this separator in the return string, send "&#124;" if you want to pass back the pipe character for display. This code will handle the updating of as many parts of your page as you need, it will loop round until there are no more DIV IDs.

Before we go onto the HTML side of this, here is an extra bit. This is not used in the finished form code below (to keep things simple) but by adding an "onKeyUp" event to one of our form text boxes we could call the txtCheck function below. It checks if the string is at least 3 characters long and ignores it if it isn't. But if it is, it requests an html snippet from the server. This is useful to get the procedure to return an extra form element e.g. a drop down SELECT of employee names.

```
function txtCheck(p_string,p_form,p_action) {
if(p_string.length < 3){return}
sndReq(p_form,p_action);
}
```

We always use sndReq, it's generic remember. Obviously the p\_action parameter is different so the procedure knows what to send back. You may have noticed something here, we send all the contents of the form even though we only need the text box value. This is for ease of use. There is a negligible, extra overhead in all of the other form information still being sent but your plsql code will ignore it. If you do create a form massive enough that you start to notice delays – then is the time to expand on this code. However, I would advise against creating something that massive, the users that have to fill out the form will hate you.

## The initial HTML

The actual html page code, which you could put on the same page as the javascript for initial testing, looks like this.

```
<form id="searchform" onsubmit="return false">
<div id="div_loading"> &nbsp; </div> <br/>
<input name="box1" value=""> <br/>
<input name="box2" value=""> <br/>
<input type="button" onClick="sndReq(document.get
ElementById('searchform'),'test_action');" type="button"
value="GO">

<div id="div_test_action"> &nbsp; </div>

</form>
```

Is that it? It's a good start. The form has an ID of "searchform" so when you contact the sndReq function you pass that in using document.getElementById. You can therefore have as many forms on a page as you need and still only have the one javascript function. I

would advise always keeping the procedure you contact the same. It will become a gateway procedure that passes off the work to other procedures after establishing what you want to do from your p\_action parameter.

A couple of points to note; The onsubmit="return false" attribute for the form is there to prevent the user submitting the form by pressing return on the keyboard – our "GO" button must be clicked on. Also, we have two DIVs ready for population, both initially empty. The "div\_loading" one we are using for feedback to the user, and the "div\_test\_action" we are using as the main destination for our test.

This p\_action label is the first thing the plsql looks for on the server. Our 2nd parameter has the value of "test\_action". When we click on the "GO" button above, 3 name value pairs will be sent to the server. (2 text boxes and 1 button)

## The plsql

At the beginning, we created a variable called ajax\_procedure\_address . Obviously, this needs to point to an actual packaged procedure we can access. Because we are using multiple parameter passing, as designated by the leading !, we have predefined IN parameters in the form of 2 arrays. One for names, one for values. So it looks like this:

```
PROCEDURE ajax_multiple(
  name_array IN owa.vc_arr,
  value_array IN owa.vc_arr)
IS

begin

-- our first parameter should be the action
if name_array(1) = 'p_action' then v_action := value_array(1);

else http.p('div_loading!1st para should be "p_action" ');
end if;

-- we then check for specific actions and respond accordingly
if v_action = 'test_action' then
http.p('div_test_action!');
http.p(' These are the values you sent in : ');

for i in 1..name_array.count loop
  if name_array(i) is not null then -- skip unnamed form
elements e.g. the GO button
    HTTP('!lname_array(i)!l' = 'lvalue_array(i) ll') <br/> ');
  end if;
end loop;

else

http.p('div_loadtext!<b> unexpected action </b>');

end if;
end;
/
```

Short and to the point again. This procedure will go inside a package, have execute granted on it to the calling user (probably PORTAL\_PUBLIC) and will be called via our javascript function sndReq. Here our destination DIV has a naming convention of the action name preceded by "div\_", so it becomes "div\_test\_action" on the page. In reality you may have several DIV areas you want to update from the server. Think of sensible purpose related names for these DIVs. And document what each "action" is for in the plsql code.

All we need to do to return information from our code is to use, this format;

http.p('<div\_destination\_id>|<html>|<div\_destination\_id>|<html>');;

## Final Word

Clearly there are things missing from this. There are no considerations for accessibility, only the basic checks for browser versions, no nice error handling, no validity checks for any form elements etc... but hopefully it is useful as a starting point for plsql developers who are new to this. For a fully fledged AJAX client application you may well go down the route of using JSON or XML and manipulating the DOM, but this needs more specific developer skills, much more planning and is certainly a much bigger project. To add quicker and more useful forms to your page, this is all you need.

An almost essential addition for development is the Firefox browser with the Firebug add-on. You could use IE8 with its developer's tool (press F12) and the fiddler add-on, but it is more limited. For AJAX work you need to be able to see exactly what is sent and received to easily debug, as well as easily see the ever changing source code behind the page This is true even if the browser your users use is the, nearly 10 year old, IE6. You should insist on a current browser in order to develop effectively but equally you must test on the browsers in use by the users.

## About the Author



I have been using Oracle since version 6 and. I created my first web site in 1994. My current specialities are Oracle Portal and general web development, Business Intelligence (Oracle Discoverer and Business Objects) Sql, Plsql , Application Server and I have occasionally been a mild mannered DBA. I have been training and consulting for 15 years and am accredited with Oracle University for 2 of the Oracle Portal Courses as well as SQL and PL/SQL.

I also dance and am known to occasionally write articles for a computer magazine.



# Diving into Server Pools in 11g RAC

by Bob Mycroft, Fortissimo Solutions



**11g Release 2 introduced a set of new features that together form one of the more powerful features of RAC. In this article I want to talk about “Server Pools”, “Policy Managed Databases” and “Cluster Managed Services”. These features combine to improve cluster manageability and bring us one step closer to making node addition or failure seamless to the running application. If you are an architect or DBA and want to implement RAC 11g then this article should hopefully be of interest to you.**

## About Server Pools..

At a high level, Server Pools are the big feature with Policy Managed Databases and Cluster Managed Services being the items that make parts hang together as a whole. Lets look at each feature in turn at a high level to get an initial feel for them... starting with the Server Pool...

A Server Pool is at its most basic level a logical subset of the nodes (physical servers) which make up a RAC cluster. The documentation tells us that a node can be a member of at most one Server Pool; this is a bit misleading as while a node can only be active in one Server Pool at any one time, it may be available to be used by any number of the Server Pools managed by the cluster.

Associated with Server Pools are a number of attributes which allow us to set boundaries for the number of nodes in the pool and to assign its relative importance against other pools. Clusterware uses these attributes to automatically take nodes from one Server Pool and put them in another if the Pool has had servers die.

A Server Pool on its own doesn't amount to much – we want to run our databases against a particular pool. A Policy Managed Database is a database with its instances assigned to run against a particular Server Pool – as opposed to what is now termed an “Administrator Managed Database” which is a database whose placement is not managed by the cluster. Because a Policy Managed Database has a defined link between itself and a specific Server Pool, Clusterware knows to only start instances on nodes that active in that pool.

Before 11gR2 we would probably run a instance of the database on every node of the cluster, and would use services as the main way to glue an application to a set of instances. The DBA would assign a service to a set of “preferred” or “available” instances and so know where (ie upon which server) each instance ran. Through connecting an application to a service, the DBA in effect controlled how much resources the application would receive. While this still works and is a valid way to manage the cluster it does require the administrator to manually define an effective “hard link” between services and specific instances; and hence against specific nodes. If we extend the cluster, or lose nodes from the cluster, there may be more manual work required by the DBA to keep the plates spinning.

Cluster Managed Services are a replacement for this “preferred/available” method of service placement, and allow the DBA to associate a Service with a Server Pool rather than tying it directly to a instance. When using Server Pools a Cluster Managed Service is defined to be either a UNIFORM or SINGLETON Service; a Uniform Service runs on every node

in the Server Pool while a Singleton Service runs on only one node. By definition then Cluster Managed Services can only run in a single Server Pool. The big advantage is that the administrator doesn't have to say which server the service runs on anymore. If a new node is added to the Server Pool, the service is automatically extended to run on the new node as required rather than needing manual configuration.

## Benefits...

Where's the benefit to us in all this? To my mind it comes down to 4 areas; System Consolidation, Database Manageability, Resource Allocation and “Service Location Independence”.

Looking at Location-independence first; Server Pools break the previous hard-link between a service and an instance. Clusterware will automatically run a service on whatever nodes (and hence instances) are running in the relevant server pool. If a server and its associated instances die then other nodes in the pool can reconfigure to run the service – protecting our application uptime into the bargain, all without DBA intervention and all without the DBA specifying specific servers for the service.

Server Pools control the resources allocated to a database and help to ensure that a particular application always gets its minimum required amount of computing power. We define server pools with MINIMUM, MAXIMUM and IMPORTANCE attributes. MINIMUM and MAXIMUM define the bounds for how many servers should be active in the pool at any one time, while IMPORTANCE defines the relative importance of the pool compared to other pools. If a server dies and takes the number of servers in the Pool below its MINIMUM attribute, Clusterware can requisition nodes from another server pool and reassign it to support the problem pool. In this way resources are dynamically relocated to where they are best placed to meet the resource requirements of the pool.

There are rules about from where a pool may take servers; Initially “spare” nodes from the FREE pool are taken. If the FREE pool is empty

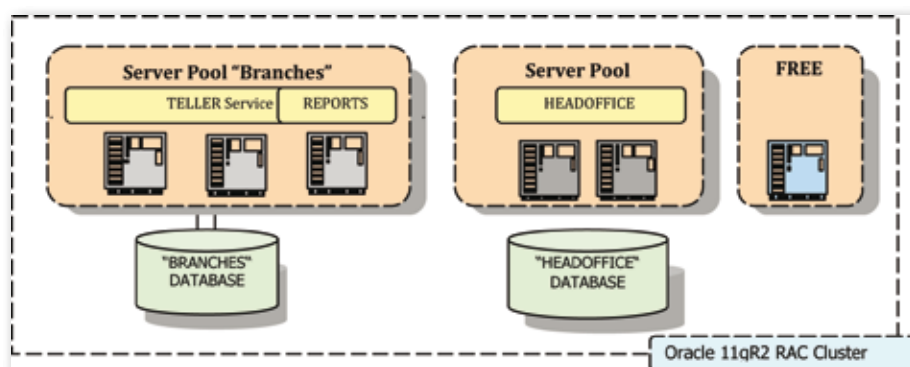


Figure 1 – Databases, Services and Server Pools



then Clusterware will take nodes from another pool of lower importance (down to that pools MINIMUM). If there are no pools of a lower relative IMPORTANCE then Clusterware will grab a server from a pool with a higher relative IMPORTANCE attribute (down to that pools minimum). At that stage, If there are no spare nodes anywhere then Clusterware will grab servers from a lower IMPORTANCE pool even if it brings that pool below its defined MINIMUM attribute. If you compare the new Services and Server Pool functionality with the more manual setup in 10g/11 R1 then you can see that the new functionality makes large clusters more manageable simply as Clusterware itself is controlling Service placement and resource allocation. Less work for the beleaguered DBA is always a bonus!

At the database level, as the database has been assigned to run in a particular Server Pool, it doesn't start instances on every nodes of the cluster – instances are only started on the nodes currently active within its Server Pool. This makes better use of the server resources such as CPU and memory as the overhead of running an instance for every database in the cluster on every server is removed – and again managed automatically by Clusterware.

This can really help us when consolidating existing stand-alone databases into the cluster; For example, the Head Office Database could run in its own Server Pool, whilst the Branches database runs in a separate Server Pool (and hence a different set of nodes). In this way they both receive the benefits of shared storage, high availability, scalability that clustering provides yet can still exist as a logically separate entity and still get their own dedicated allocation of memory and CPU from the underlying servers.

If a particular database needs more resources then of course new nodes may be added to the cluster and assigned to the relevant Server Pool. Server Pools help us at this stage by configuring the associated databases for RAC on our behalf; As long as a database uses ASM for its storage AND is using Oracle Managed Files then at the point that the node joins a Server Pool, Clusterware will automatically add and enable a new redo thread, add a new UNDO tablespace, start the new instance(s) and extend any relevant services to the new instance. Previously we would run DBCA to do these steps or perform them manually at the command line - Clusterware now does them for us!

## Built-In Pools...and Pinned Nodes

By default there are two inbuilt Server Pools – named FREE and GENERIC. The FREE pool holds nodes that have not been allocated to a Server Pool yet. The GENERIC pool holds “Administrator Managed Servers” – ie the nodes that are managed in the traditional way and are not allocated to any user defined pool. It should be noted that you may only use Server Pools with databases at version 11.2. so databases of earlier versions are assigned to the GENERIC pool, and cannot be manually moved out into a user-defined pool. The upshot of this is that you cannot have 11.2 databases using server pools and run 10g/11gR1 databases on the same nodes. If you do need to run 10g databases in an 11.2 cluster then you have to “pin the nodes” that are running the 10g instances. (For more info. check out “Pre 11.2 Database Issues in 11gR2 Grid Infrastructure Environment (Doc ID 948456.1)” ) This is akin to switching off Server Pool functionality for that node. (Note - If you don't pin the nodes then srvctl in the 10g RDBMS Oracle Home throws errors when used.). The GENERIC pool effectively works as a catch-all

for earlier versioned databases so when upgrading to 11gR2 any existing databases will be assigned to this pool. It is quite permissible to run databases in the GENERIC pool on one set of nodes in the cluster yet run user defined server pools on a different set of nodes. Servers that are not in GENERIC and are not assigned elsewhere will be assigned to the FREE Pool.

## A Walkthrough

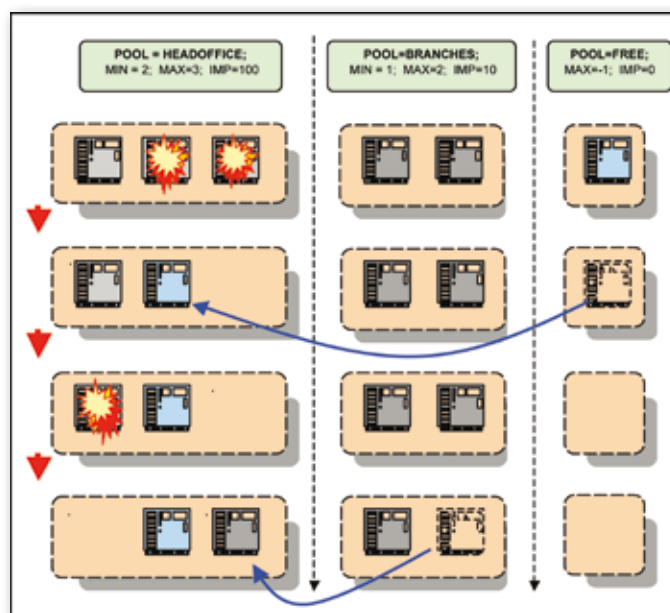


Figure2 – Walkthrough of nodes moving between pools.

Lets do a walkthrough of a scenario to see how and when nodes migrate between Server Pools;

In figure-2 we have 6 nodes in our RAC cluster. There are two databases, each assigned to a different server pool as per figure 1. The databases support the “Head Office” and “Branch” applications and the Head Office application is the most important to the business. To support this we might have 2 nodes of the cluster running the Branch application, 3 running the Head-Office application and one node “Free”. Services sit above the RAC nodes and control which nodes an application connects to in much the same way as in previous releases.

Lets say that something “unfortunate” happens to one of the nodes in the Head Office Server pool. Now the pool has 2 remaining servers – it still meets the value assigned by its MINIMUM (2) attribute. At this stage nothing much happens as the resources available to the Server Pool still meet its minimum requirements. When another node in the pool dies though, this brings the number of nodes in the pool below its MINIMUM attribute. Because there is a node “spare” in the FREE pool, Clusterware will reassign that server to the Head Office Server Pool, start a new instance and extend any relevant services. So far so good. If yet another node dies in the same pool, again taking the number below the MIN value, Clusterware starts looking at the relevant importance of this Server Pool against the others. In our example the “Branches” Server Pool is of a lower Importance level and has more than its MINIMUM number of servers running. Clusterware is able to take a node from the Branches Server Pool and reassign it to the HeadOffice Server Pool – again allowing it to meet its minimum size. It is important that when setting the MINIMUM pool sizes that enough resources are allocated to support the



application; although it is possible that given a choice between losing one application in its entirety at the expense of allowing another more critical one to live may be desirable in your setup.

Personally I'm not sure that having a server sat idle in the FREE pool makes best use of your licensing investment. Perhaps it would have been better to assign the server to the serverpool with the lowest importance so it's the first to be grabbed yet is in use at least?

One interesting thing to consider is how the pools are populated; for example if you have less nodes in the cluster than the sum of the MAXIMUM size attributes, where do the nodes go? Who "wins"? Initially servers supporting pre-11gR2 databases populate the GENERIC pool; they have no choice about their placement. The remaining nodes in the cluster then populate the pools in order of importance up to their MINIMUM value. Once this stage has been reached then the remaining servers populate the pools in order of importance until the MAXIMUM values are reached. At that point any servers left over remain in the FREE pool.

### Lets look at the Commands

So that's the theory – lets go through the commands and see this in action. In the following code section I am going to keep things down to its simplest case; a 2 node RAC Cluster running a single database called "o11g". Initially we'll create a pool, associate the database and add some services. Later we will add a new node and do something unspeakable to one of the nodes and see what happens.

Note that you cannot use these commands to manage the GENERIC or FREE pool directly; Clusterware will throw you an error. Throughout the code listings you will see that we can use the words "srvpool" and "serverpool" interchangeably as the commands accept both.

First off lets look at what pools are in place, Running `srvctl` from the RDBMS Home can give us high-level information on what servers are in what pools. At this point we only have the Generic and Free pools, with the latter having 2 servers (called `stdrac1` and `stdrac2`).



```
[oracle@stdrac1 ~]$ srvctl status srvpool -a
Server pool name: Free
Active servers count: 2
Active server names: stdrac1, stdrac2
NAME=stdrac1 STATE=ONLINE
NAME=stdrac2 STATE=ONLINE
Server pool name: Generic
Active servers count: 0
Active server names:
```

If you want to see the values for the pool attributes (MIN,MAX etc) then use `crsctl` command run from the Grid Infrastructure Home. The "-f" switch gives us the most information although there are others. Looking at the Free pool...

```
[oracle@stdrac1 ~]$ crsctl status srvpool Free -f
NAME=Free
IMPORTANCE=0
MIN_SIZE=0
MAX_SIZE=-1
SERVER_NAMES=
PARENT_POOLS=
EXCLUSIVE_POOLS=
ACL=owner:oracle:rw,pgroup:oinstall:rw,other::r-x
ACTIVE_SERVERS=stdrac1 stdrac2
```

We're going to create a single Server Pool called "branches" with attributes MINIMUM = 1, MAXIMUM = 2, IMPORTANCE=10 and add both nodes (`stdrac1` and `2`) as candidate nodes.

```
[oracle@stdrac1 ~]$ srvctl add serverpool -g branches -l 1 -u 2 -i 10 -n "stdrac1, stdrac2"
```

Now we check that the new pool has been created with the right properties. Note that when using `crsctl` the Server Pool name must have "ora." prepended;

```
[oracle@stdrac1 ~]$ crsctl status serverpool ora.branches -f
NAME=ora.branches
IMPORTANCE=10
MIN_SIZE=1
MAX_SIZE=2
SERVER_NAMES=stdrac1 stdrac2
PARENT_POOLS=
EXCLUSIVE_POOLS=
ACL=owner:oracle:rw,pgroup:oinstall:rw,other::r-x
ACTIVE_SERVERS=stdrac1 stdrac2
```

Next we want to tell the database to use the new Server Pool and then start it as below;

```
[oracle@stdrac1 ~]$ srvctl modify database -d o11g -g branches
[oracle@stdrac1 ~]$ srvctl start database -d o11g

[oracle@stdrac1 ~]$ srvctl status database -d o11g
Instance o11g_1 is running on node stdrac1
Instance o11g_2 is running on node stdrac2
```

Finally lets add and start two services. The "Reporting" service will only run on one node of the serverpool while "Teller" will run on all nodes. Note the UNIFORM and SINGLETON keywords.

```
[oracle@stdrac1 ~]$ srvctl add service -d o11g -s reporting -g
branches -c SINGLETON
[oracle@stdrac1 ~]$ srvctl add service -d o11g -s teller -g
branches -c UNIFORM
[oracle@stdrac1 ~]$ srvctl start service -d o11g
```

Lets check that the services are running as we would expect.

```
[oracle@stdrac1 ~]$ srvctl status service -d o11g
Service reporting is running on nodes: stdrac2
Service teller is running on nodes: stdrac1, stdrac2
```

At this stage we have instances running on the 2 servers that make up the “branches” server pool plus 2 services running as per their placement properties of UNIFORM or SINGLETON. So far so good! To test that the branches Server Pool can grab a Free server and relocate a service we are going to add a new node (addNode.sh from Grid Infrastructure and RDBMS Home) to the cluster but not add any new instances via DBCA as we would in prior versions. After adding the new node (called stdrac3) we break/shutdown stdrac2 to see what happens;

Node “Stdrac3” is part of the cluster but not available for any pool to use – IE not a “Candidate” pool. Lets make it a candidate server for the “Branches” serverpool.

```
[oracle@stdrac1 ~]$ srvctl modify serverpool -g branches -n
“stdrac1, stdrac2, stdrac3”
```

..and lets check that the pool can use stdrac3 if it needs. We want to see that its not an ACTIVE\_SERVER yet is down as candidate (Is in the list of SERVER\_NAMES);

```
[oracle@stdrac2 ~]$ crsctl status serverpool ora.branches -f
NAME=ora.branches
IMPORTANCE=10
MIN_SIZE=1
MAX_SIZE=2
SERVER_NAMES=stdrac1 stdrac2 stdrac3
PARENT_POOLS=
EXCLUSIVE_POOLS=
ACL=owner:oracle:rw,pgpr:oinstall:rw,other::r-
ACTIVE_SERVERS=stdrac1 stdrac2
```

So – the Server Pool is happily at its maximum and stdrac3 is still in the Free pool. If we shut down stdrac2 we should see Clusterware reassign stdrac3 to the branches pool, start an instance on stdrac3 and start the reporting Service which was previously running on the now dead stdrac2.

After killing stdrac1 ...

```
[oracle@stdrac1 ~]$ srvctl status serverpool
Server pool name: Free
Active servers count: 0
Server pool name: Generic
Active servers count: 0
Server pool name: branches
Active servers count: 2
Server pool name: other
Active servers count: 0
```

Excellent! Node “Stdrac3” has left the Free pool and joined the Branches pool. Checking to see what instances are running we see that a new instance has been started for us on the new node.

```
[oracle@stdrac1 ~]$ srvctl status database -d o11g
Instance o11g_1 is running on node stdrac1
Instance o11g_3 is running on node stdrac3
```

And finally – did Clusterware start the reporting service and also extend the teller Service?

```
[oracle@stdrac1 ~]$ srvctl status service -d o11g
Service reporting is running on nodes: stdrac1
Service teller is running on nodes: stdrac1, stdrac3
```

Yes it did - Success!

The thing I love about this is that Clusterware adds the instance o11g\_3 to stdrac3 for us with no work on our part; It even added the new redo thread and undo tablespace for us. Seamless!

One thing you will have noticed in the above is that there are other attributes against a Server Pool – for example PARENT\_POOLS, EXCLUSIVE\_POOLS and ACL. Of there really only ACL is of interest to us. ACL stands for Access Control List and you can see that it looks a lot like a unix file-permission listing. In essence Clusterware allows us to split responsibilities more at 11g and it could be the case that certain os-users are restricted to manage only certain Server Pools; This is what the ACL is there to manage.

## Conclusion

Hopefully this article will help raise the visibility of what is a cracking set of features. Anything which makes the DBA's life easier, helps improve resilience, manageability and system uptime yet is so simple to set up without requiring any additional licenses over the usual RAC option, is a real “Must Use”. There's still some unknowns that I'm working on; for example I cannot find anywhere that explicitly shows which serverpool a database belongs to; It has to be inferred from checking which servers are running instances. Perhaps if you work it out when implementing this on your systems then you could send me an email and tell me how!

## References

- Metalink (Doc ID 948456.1) - Pre 11.2 Database Issues in 11gR2 Grid Infrastructure Environment
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- “Oracle Clusterware 11g Release 2 – A First Glimpse Under the Hood” - Markus Michalewicz/Oracle (V. good article)
- Oracle Clusterware Administration and Deployment Guide - 11g Release 2 (11.2)

## About the Author

Bob Mycroft is an independent consultant living in the UK with over 15 years experience in all things Oracle. He holds DBA certification at 8i,9i, 10g and is an Oracle Certified Expert in RAC 10g. In 2009 Bob was awarded the “Oracle ACE” status for his articles and presentations with the UKOUG. Bob can be contacted at [bob\\_mycroft@fortissimo-solutions.com](mailto:bob_mycroft@fortissimo-solutions.com).





# Personal experience with Oracle VM

by Andreas Chatziantoniou, Accenture

For years the choice of virtualization products was VMWare. Based on commodity x86 hardware, with free versions like the VMWare Server or the VMWare Player, a large number of people (including the author) were using VMWare. The most compelling reason is the ease of creating an own environment, especially for test and training purposes. Especially in the Oracle community this was a viable alternative to dry-run new versions or test specific configurations and options before implementing them in a more professional environment – e.g. at a customer site. Also a lot of organisations used VMWare as the backbone for their virtualisation.

A while ago Oracle released its own product for the virtualisation of machines – Oracle VM. This article describes the authors experience with Oracle VM, gives some background of the underlying technology and identifies some possibilities for using it.

Oracle VM is based on the Open Source Xen.org hypervisor. The Xen hypervisor is a thin layer of code that enables multiple guest operating systems to run concurrently on a single piece of hardware. Oracle VM modified the Xen virtualization platform so that it works well with the Oracle stack. In some personal conversations with Wim Coekaerts – the Linux authority within Oracle – they did this because they needed primarily a very good I/O, which according to Wim, other virtualization platforms did not give them. This is also the main reason why Oracle does not support other virtualization platforms. They ran into a lot of problems, especially when heavy I/O was involved. As this occurs naturally in the database environment, they needed something where they had full control. Xen – and therefore Oracle VM offered them this chance. As a side note, I have to confess that the usage of VMWare with the database and various other Oracle products, has never caused any problems in my environments. But given my old and rusty hardware, it becomes obvious that the risk of high volume I/O is small.

While the underlying technology might not be the first reason to choose a certain

product, it can certainly influence the choice. Being based on Open Source technology, Oracle decided to distribute Oracle VM free of charge.

Next to this the following points are interesting:

- Using the Xen-based Hypervisor technology bare metal installations are possible
- Creating your own grid by adding physical hosts and create pools of virtual servers on it
- Possibility to move a virtual machine from one physical host to another
- Integrated Web browser-based management console

The last point especially became more of a decision-influencing point as it is now possible to create a small virtual machine that will act as the Oracle VM Manager. In a previous version this OC4J-based application could only run on a second machine. Now you can have your Oracle VM environment on just one machine.

When it comes to a decent environment to start with, you are primarily limited by your memory. Currently I run my Oracle VM on an old laptop with a 2.4 GHz CPU and 4 GB or RAM. I attached a 1 TB disk (hey these things cost next to nothing) and hooked it up to an old router, to which I connected an even older laptop. Certainly this is not a production environment. The main usage for the Oracle VM is to aid in installations, testing the functionality of new Oracle products, and provide a platform in which I can fast and easily setup new virtual servers.

Which brings me to the feature I like most. Oracle provides a number of VM templates. Starting with a plain Oracle Enterprise Linux template, you can also choose from Database templates, JRockit VM templates and even a complete Oracle EBS or Siebel installation are available. The rationale behind this is to take away the pain of installing an Oracle product. Using a template enables you to quickly offer a predefined environment. This can prove handy if you need to use an environment that is based on your projects/company's

setup. Next to use a template from Oracle you can create your own templates. In Imagine that you have to offer a number of developer environments. In Oracle VM you take the effort of creating this environment, put it into the staging area and whenever you need a new environment – you just go to the Oracle VM Manager and create a new environment in minutes. Actually the creation of a new environment takes just a few clicks with the mouse, but even if you need to customize your environment (e.g. a non-DHCP IP address) you will have a new environment available faster than a complete installation will take. If you are working with the Fusion Middleware products, this feature will support your creation of clusters. Now imagine that either in your private environment or at your organisation a creation of a clustered middle tier will take about 5 minutes.

Now you might ask, why you ever want to create your own templates if Oracle offers them and the only real effort you have to undergo is to download it to your Oracle VM.

Well the answer is easy. Each and every organisation is different. And as you can imagine you can setup an Oracle product (Database, Application Server, EBS, Siebel, SOA Suite, etc) in a variety of ways. In comes the cheap disk space. As I mentioned above, the typical disk nowadays is available at your local greengrocer for free if you buy a pound of spuds. So creating a variety of different templates and even instantiations will give you a large assortment of environments to use.

Now what are you going to do with all those environments? For me there are three reasons:

1. Learn as much as possible about the Oracle software
2. Test patches, deployment of new versions of your own software
3. Build "IT-landscapes" that resemble the client's situation

In order to really learn what Oracle offers, there is no substitute for hands-on experience. During a course at a vendor

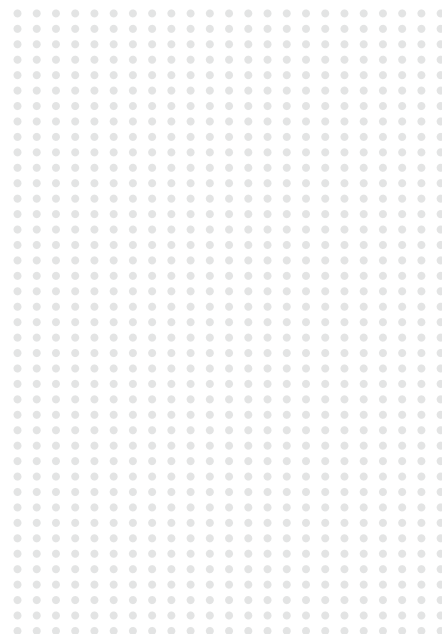
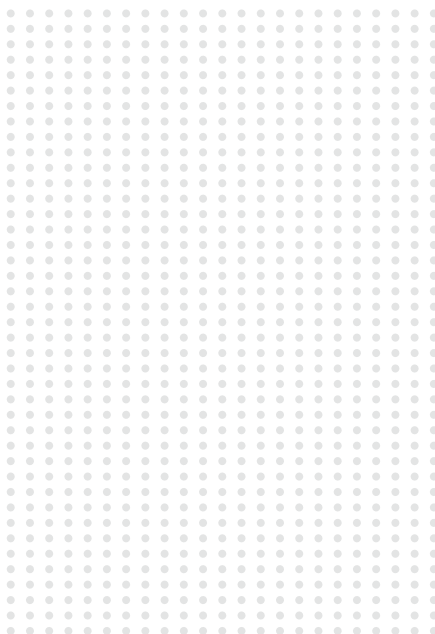


(e.g. Oracle University) you will have an environment that you can use, try everything – even the things you shouldn't do, and figure out if your ideas and understanding of the product translate into reality. The main issue – and I face this when trying to transfer knowledge to junior colleagues – is that the setup of such a learning environment is a bridge too far for a lot of people. If you quickly need to evaluate or learn about some new fancy features of version X.Y you don't want to spend half a day of preparing the environment. Offering an Oracle VM based approach will take away the pain and enables the fast roll out of custom courses (bite-sized feature tests, demonstration of certain technologies, etc). Currently we are busy to setup such an environment at my company. The second big advantage is the personalization of the environments. If three people want to use an environment, you can create accounts for them in a Oracle VM guest image, but having your own private environment ensures that your tests – especially when you are root, sysdba or WebLogic Administrator – will not interfere with others. If not in use, a web-based administration interface can be used to “pause” or shutdown the environment. This again will enable the access to your own training environment when you need it. For the more technical people among us, the installation provides most of the fun, so you could also opt to get a clean Oracle VM image, for example only with an OS, and start from scratch. This is a luxury that you will not find easily when working at a customer who is already stretched for hardware.

The testing of patches is only a small benefit, but in larger development environments Oracle VM can certainly help to test a large range of permutations. This is something that will need to be discussed in each development environment, but the benefits are clearly visible. Create a Oracle VM image, prepare it to suit your needs, clone it, perform the patching/deployment/modification and then evaluate the results. Normally this will take a lot of effort. I have done this in my environment when I was modifying some Oracle Application Server 10g installations. Preparing a clone takes minutes, compared to creating a new environment. Unfortunately Oracle VM does not offer a snapshot feature yet.

The third reason for using Oracle VM is the buildup of “real life” configurations. For many organizations the usage of clusters, load balancers, and other high availability features is very common, but when it comes to creating a similar setup for a development environment you are most certainly restricted to use a single machine, without Oracle RAC, no load balancers or clusters. Again Oracle VM offers a lot of possibilities in here. Using RAC with Oracle VM can be achieved in different ways. As the Oracle VM guest can be installed from ISO's it is for example possible to create your own “SAN” based on Openfiler. Using a small Oracle Enterprise Linux guest that hosts ha\_proxy you build your own load balancer. Creating clones of middle tier hosts allows you to experience the same clustering experience as you would have this at your organization of customer.

Now – why are not all the companies out there use Oracle VM? It's free, it is perfectly suited to run Oracle software, it is scalable, and ties in into the Grid concept that Oracle propagates. Well – the answer is easy. It still lacks features the competitors have, and also there are some quirks. Even after dealing with the Oracle VM for a while, I easily managed to blow up my complete Oracle VM machine by updating the Oracle VM Manager. I know that Oracle has some customers that run a large datacenter on Oracle VM, and the number will certainly increase in the future. Can you use it now? Yes, and the way how you could do this could be a copy of my own experience. Start with a small environment to understand the ins and outs. Create your own templates and modify them to your needs. Then expand this to a department level and use it for software development, training and some non-business critical virtualization. After that you can think of rolling it out further – a stage that I am proposing now in my company.



## About the Author

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# The Tools of Fusion: Oracle JDeveloper and Oracle ADF

*Data Visualization – the picture that paints a thousand words.*

by Grant Ronald, Oracle

The axiom “a picture paints a thousands words” is something we see demonstrated almost every day of our lives. Whether it is a weather forecast, the share prices on the London stock exchange, or the expected return, or possibly not, on your hard earned pension investment. Huge and complex sets of data are presented in a pictorial format that allows us to quickly see through the fog of individual data points, and discover trends and patterns.

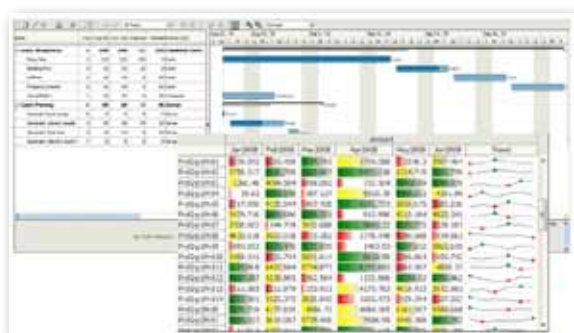
Oracle’s Fusion Applications have that same challenge. Whether viewing HR data, understanding customer spending patterns or predicting financial trends, there exists a fundamental requirement to simplify complex sets of data and present them in a way that can be easily digested and understood by the end user.

To address this challenge, Oracle JDeveloper and Oracle ADF provides the Fusion developer with a feature called Data Visualization Tools (DVT), which allow business service data to be displayed in a variety of graphical formats

## Introducing the DVT Components

If you have been following this column over the last 18 months, you will have learned that Oracle ADF includes a library of standards-based components, called ADF Faces. This library includes UI components for displaying single data values: such as text fields and checkboxes; and also components for displaying collections of data: such a tables and trees.

DVT adds to this library of UI components by offering over 50 types of graph including pie charts, line graphs and scatter charts. In addition to these graph types, DVT also includes Gantt charts, pivot tables, hierarchy viewers and geographic maps.



Gantt chart and a pivot table

## Using the Data Visualisation Tools

So how can these visually rich and seemingly complex components be linked up to the business service data? The secret is the ADF binding layer, called ADF Model, which ensures that business services are bound to visual components in a simple and consistent manner. Once the Fusion developer has defined the business service data and relationships, for example, a department has many employees and

an employee may be an account manager for many customers, that data can then be displayed on a page by simply dragging the business service from JDeveloper’s Data Control panel, and dropping it onto a page. On dropping the business service on the page, JDeveloper presents a list of possible UI components, where the developer can simply select the appropriate component and register how that data to be displayed.

The next screenshot shows the resulting dialog that allows the Fusion developer to choose how the data values should be plotted on a bar graph: in this case, order total is being plotted against the order date.

## Properties and tags

This simple gesture of dragging and dropping data as a DVT component can be repeated for all manner of graphs, maps and charts.

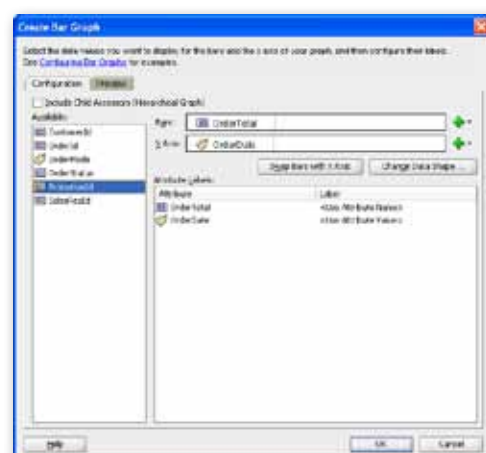
Once you have the appropriate DVT component

on the page, you can then start fine-tuning the behavioural and visual aspects of the component.

For example, a bar chart has properties to control the 3D effect of the graph, whether the bars are animated when displayed, and how the graph resizes depending on the available screen real estate.

Furthermore, each DVT component has a set of sub-components, called graph child tags, which are child components of the DVT component.

These graph child tags allow the Fusion developer to add text placeholders such as a legend, title and subtitle, and data marker features such as a threshold level or a reference line.



Selecting the data values for a bar chart



Bar chart with properties set and using child graph tags

The next screenshot shows a bar graph where properties and child graph tags have been used to render the graph in 3D and include a title, reference lines, formatted axis and a legend.

## DVT Gauges

Of course, graphs don't have to be restricted to the more traditional bar, line and pie charts. Another useful DVT component is the gauge. Like a traditional temperature gauge in a car dashboard or a warning light, the DVT gauge component allows the end user to visualize data against threshold values. For example, the precise temperature of your car engine is not really so important as long as it sits within the range 40 – 120. The DVT gauge component provides a similar style of component and allows you to easily visualise these limits or threshold values.



*DVT Gauge dial*

The image above shows a DVT gauge representing the stock levels for a particular product. In this example you can easily establish that there are 122 units of the product in stock; nevertheless, the fact that the stock level is currently showing in the amber region of the dial might suggest that the end user may want to consider restocking sooner rather than later.

The DVT gauge component comes in a number of different flavours: an LED gauge, status meter, or as is shown above, a dial.

## DVT Map

Another feature of DVT is the Geographic map. Often the series against which you are plotting data is geographic in nature: a country, a state or an address. This component allows you to plot data points on a map against a geographic series such as a customer's address or the location of a delivery van. Fundamentally, the design experience for the Fusion developer is still the same: the representation of a business service is dragged onto a page from JDeveloper's Data Control panel, whereupon a dialog is presented to allow the Fusion developer to specify the data attributes to be plotted. The only additional piece of information required above and beyond other ADF Faces components, is the URL of a map server, such as Oracle Mapviewer. This map server is responsible for serving up the maps on which the data will be plotted.

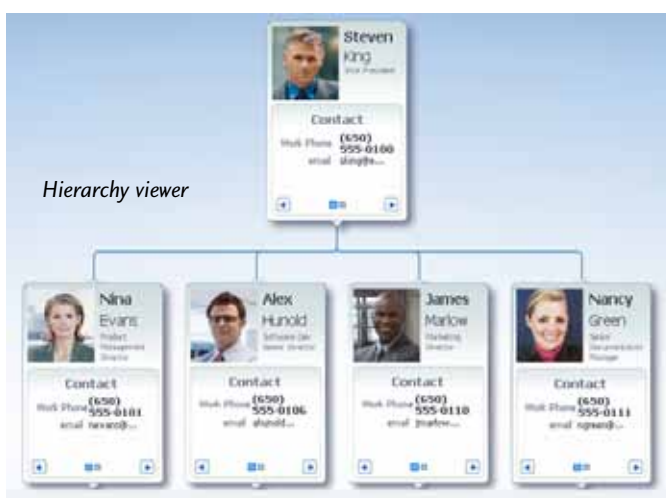


*Data plotted against US states*

The next image shows an example of a map where the shading for each state is representing a different data value for that state.

## Visualising hierarchical data

There may also be the requirement to visualise the hierarchical relationship of data. There is of course the classic example of visualising departments and the employees within those departments. With a business service that already implements that hierarchical relationship, visualisation through DVT is relatively straightforward. On dragging the business service onto a page, the Fusion developer can specify what information is displayed at each level of the hierarchy. Furthermore, the hierarchy component allows the developer to specify what attributes are displayed depending on the zoom level of the component. So, for example, when zoomed out, only the employee's name and email address is shown, but on zooming in on an employee, their full contact details are rendered within each cell.



The hierarchy component, which is rendered using Flash, supports the ability to zoom, move, resize, expand, collapse and reposition the component and nodes within it.

So, while your business and applications might be storing and handling ever more complex sets of data, Oracle ADF's Data Visualization Tools provide a variety of components to support the rendering of data in a range of different ways: the picture that paints a thousand words for Fusion.

## About the Author

Grant Ronald is a Senior Group Product Manager working for Oracle's Application Development Tools group responsible for Forms and JDeveloper where he has a focus on opening up the Java platform to Oracle's current install base. Grant joined Oracle in 1997, working in Oracle support, where he headed up the Forms/Reports/Discoverer team responsible for the support of the local Oracle Support Centres throughout Europe, Middle East and Africa. Prior to Oracle, Grant worked for 7 years in various development roles at EDS Defence.



Grant is author of the "Quick Start Guide to Oracle Fusion Development: JDeveloper and Oracle ADF", published by McGraw-Hill





# Data Archiving in Action

by Rachel Morgan, Informatica

**Data growth threatens to overwhelm every organisation. You need to harness the growth in your production environment while minimising IT costs, improve application performance, and support regulatory compliance. Paul Walker, Information Lifecycle Management Product Specialist, Informatica explores the value of data archiving as part of an integrated information lifecycle management strategy.**

What are you doing about all the data piling up in your Oracle E-Business Suite or PeopleSoft systems? Are you concerned about the amount of time and effort being devoted to keeping up with all those database and application maintenance tasks? And even if you have the resources to absorb those tasks, it's likely that the data growth is impacting performance, too.

The accumulation of all this data will quickly be felt by your customers too. Service-level agreements surrounding your supply chain are suddenly skipped. Your Oracle billing application is no longer as reliable as you thought. And suddenly the business lacks the agility to respond quickly to changes in the market.

A study last year by the OAUG ResearchLine into enterprise application information lifecycle management (ILM) found that organisations are already feeling the impact of uncontrolled data growth on overall performance. Only one out of four reported they currently meet all service-level agreements, while half of respondents use full copies of production data within non-production environments, thereby increasing the volume of data across the enterprise.

The most surprising thing of all? The majority of this data is inactive. Legacy applications, for example, are rarely used and most have little ongoing business value. However, they continue to be maintained for compliance reasons, incurring significantly high software license, hardware, power, and maintenance costs. When an audit request comes in, imagine instead being able to access historical and current data, ensure its authenticity, and make it available to the business on demand, then purge it from storage when the retention period expires.

If your IT organisation is like most, you've probably used a variety of methods to manage data growth. In your Oracle E-Business Suite applications, for example, you may have purchased additional storage and processing hardware, you may have tuned and partitioned the database, or you might have used Oracle purge routines or developed in-house scripts to purge, archive, create subset copies, or mask sensitive data.

It doesn't have to be this way. The key to managing exploding data volumes in Oracle and other applications lies in two simple facts: the value of all data diminishes over time, and all data is not created equal. Let's examine the time issue first. Perhaps your IT organisation occasionally needs to access old inventory transactions within the manufacturing application module of Oracle E-Business Suite. But once an item is removed from inventory, most of this data is no longer required for day-to-day business operations. This 'historical' data is largely inactive—used infrequently for reporting and compliance purposes.

The second consideration is the fact that all data is not equally important. Not all the data in your production systems is needed for effective testing and development in nonproduction environments. Your IT organisation may be able to conduct perfectly adequate testing with a just a portion of data—for example, the last six months of purchase order and customer transactions for selected regions in Europe. Not all data needs to be copied to multiple test environments.

## Data that's readily accessible whenever it's needed

Informatica Data Archive is the answer here. This highly scalable, high-performance ILM software enables you to cost-effectively manage your data growth - not just in Oracle and PeopleSoft applications, but also in a range of other enterprise business applications like Siebel and SAP. The data archive software makes data archiving, database archiving, data warehouse archiving, and application archiving safe and easy, so your IT team can store master, reference, and transactional data for ready access whenever it's needed.

Using the technology, you can identify and move inactive data to another database or to a secure, highly compressed immutable file. Application-specific business rules allow you to maintain data integrity while implementing the data archive solution and after running the data archive program. Moreover, the solution reduces the size of the production instance, making backup, recovery, and upgrades faster and easier.

A major international healthcare company is just one of the many organisations already capitalising on the advantages of the Informatica Data Archive solution. The company has been expanding at home and overseas - and by moving into adjacent spaces in the health area, including health services and home healthcare. Consequently, the amount of data stored in the healthcare company's PeopleSoft and other enterprise systems has been exploding, in some instances by as much as 20 percent every month.

The firm implemented a blanket 36-month retention period for 'active data' and a monthly archive schedule, so that users would know that there was always the most recent 36 months in production. Altogether, the healthcare company archived around 90GB of data during the initial cycle - covering the Accounts Payable, Purchasing, Accounts Receivable, General Ledger and Asset Management PeopleSoft Financials modules. Using the Informatica technology, the team identified and moved inactive data to another database; they implemented application-specific business rules to identify data that was ready to archive, and relocated complete business entities; and they were able to quickly and easily access archived and active PeopleSoft data from the same application user interface.

So here's some final advice. When your data volumes are spiralling out of control, Informatica Data Archive can help you to cost-effectively manage the increase in data volumes by safely archiving application data, providing seamless access to archived data, and delivering it to the business as needed.



# Put an End to the Compliance Blame Game

by David Hunt, Q Software Global Limited

For many businesses and organizations compliance is regarded as something imposed by government legislation, such as Sarbanes Oxley.

They do not look at the benefits of implementing effective controls that will help improve the performance of their business. Consequently they approach compliance on a project basis whenever an audit is looming.

This article addresses the challenges posed by compliance; especially that of project oriented compliance audit versus continual compliance. It will:

- assess the pressures an audit places on a business
- review the dilemmas facing security officers
- compare the benefits of continual compliance versus project compliance
- explain how to end the compliance blame game
- offer a 7 point plan for a better way of managing compliance

## (Lack of) preparation for the audit

Why is preparation for an audit seen as a major chore that “distracts” employees from their day to day work and primary objectives? Why do audits seem to come as a surprise at short notice that requires an audit project to be set up with a major flurry of activity to try to get together the information the auditor is likely to want?

This is partly because audits and compliance are often not regarded as an integral part of the operation of the business. It is partly because the IT department and security team are often only informed about the date for the audit very late in the proceedings, so they have to disrupt important projects in order to prepare for the audit. This may mean that such an organization may be ill-prepared, resulting in an extended audit that causes further disruption to the day to day “planned” activities.

Those organizations that have not built compliance into their everyday plan will often require key staff to work extended hours and produce information in a hurry. This may be information being provided for the first time, or may be a repeat of process performed before, but not proceduralised to make it easier for future audits.

As the work has not been planned and made a standard procedure, effectiveness of controls have to be checked and reports produced in a hurry. Assuming you actually have the ability to obtain accurate and relevant information to testify or otherwise to the effectiveness of your controls; what if they should identify deficiencies and exposures? How do you explain these to the auditor? Do you have time to fix them before the auditor comes on site?

The more important question you should ask, though, is why were the deficiencies and exposures allowed to happen in the first place?

## Phew! The audit is over

If you “passed” without any major issues, you might be tempted to relax until you realize suddenly that the next audit is imminent!



What, as is more likely, your auditor identified major issues that need to be dealt with? This will, of course, depend on the seriousness and volume of deficiencies.

There are occasions when organizations pass audits when they really should not have done so. This may be due to lack of knowledge on the part of the auditor pertaining to the intricacies and peculiarities of your Enterprise Resource Planning (ERP) application, each of which has its own peculiarities that requires specialist knowledge.

Another reason you may have passed the audit may be due to basing information on inaccurate data. For example, you may have produced a report showing a user can only access certain programs, when, in fact, he might be able to access other programs through back-door routes you were unaware of.

If you base business decisions on false premises, you are exposing your business to unnecessary risks and giving your management, customers, shareholders and other stakeholders a false sense of security.

Research carried out by PriceWaterhouseCoopers in its 2009 Global Economic Crime Survey indicates that fraud continues to be a major issue worldwide and that the current economy is encouraging fraud.

The Association of Certified Fraud Examiners 2010 “Report to the Nations on occupational fraud and abuse” shows a **typical organization loses 5% of its annual revenue to fraud**. Can your business really afford to lose 5% of its revenue? They also estimate **global losses from fraud totals \$2.9 trillion**. Only four nations have gross domestic product greater than this!

Should you fall victim, as many organizations do, to fraud or other economic crime, made possible due to ineffective security and segregation of duties controls; not only will you incur the costs of that crime, and incur the costs of investigating and preventing further crimes of that sort, your subsequent audits will be more strenuous, time-consuming and costly as a result.

## Consequences of failing your audit

In many cases, failing your audit could so easily be prevented by simple adoption of basic security and segregation of duties controls. Before deciding that security is not worth the investment you need to consider, for example the implications of such a scenario:

- What effect will this have on employee morale?
- How much will it cost to carry out remedial work for those issues identified, and for any testing and re-audit activity?
- How many sales will you lose from customers who will not buy from suppliers they deem to be “risky”?
- How much may you already have lost from the above crimes due to ineffective controls?
- How will this affect your share price?
- How will the resulting loss of confidence by your auditor affect future audits?

### This is when the “blame game” and recriminations begin.

The finger may be pointed at

- the security or compliance officer, who may not have been the person who designed the business process or decided what level of application access and authority should be granted to users.
- the business analysts, who did decide on the processes, tasks and access authorities required.
- Human Resources for changing users’ roles and requesting access to new applications without asking for old duties’ capabilities to be removed.

## The Security Officer’s dilemma

There seems to be an ever-increasing number of rules and regulations.

All round the world governments have been and continue to introduce local regulations with which international businesses must comply. Industry requirements such as the 21 CFR Part 11 within the life sciences industry add to the burden.

These requirements put increasing pressure on the Security or Compliance Officer to demonstrate that effective controls exist to secure your IT systems and data. The Security Officer must report on the adequacy of those controls on a regular basis. How can he do so when the ERP applications do not provide the tools to help him identify the true picture of those controls?

A further dilemma is that, whilst the Security Officer may be held accountable for the implementation of effective controls to meet compliance requirements, too often he is provided with insufficient budget to achieve the standard required.

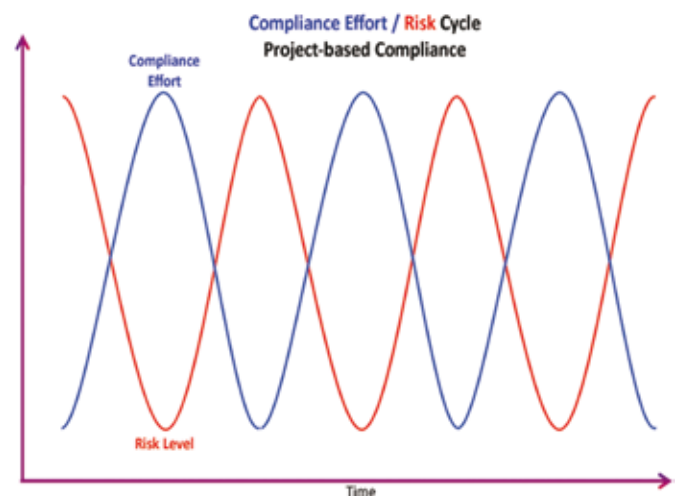
Not only that, but the Security Officer does not determine the business processes, who should perform them, or what combination of processes or tasks may be assigned to an individual. This may be in the hands of the business analysts or the Human Resources department.

But how do you go about implementing a truly sustainable compliance environment?

## Project compliance v continual compliance

Compliance is not a once-off task; it is an on-going commitment, year after year after year. Compliance activity, therefore, needs to be sustainable and not regarded as a once-off project. Those organizations that treat compliance as a project will cause negative consequences for their business. These consequences are magnified if the project is treated as an emergency because the audit is imminent or a re-audit is required.

- Resources will be taken off other (planned) projects causing them to be delayed and thereby delaying the payback to the business those projects were due to deliver.
- Unplanned controls may result in duplication of effort and controls “to be on the safe side”, as you cannot be sure if you are at risk or not.
- Your protection is merely temporary or cyclical.



The table above shows the cyclical and temporary nature of your protection from risk if you adopt a project approach to compliance.

In a project-based compliance approach, compliance activity increases as the audit approaches. It is no surprise, therefore, that whilst increased attention is being paid to compliance, with controls being tested, user access being checked and transactions being audited; risk levels decrease.

Once the audit has passed and the focus on compliance is reduced, the opportunity for fraud increases and reaches a peak when there is little or no compliance activity. This cycle is repeated ad nauseam.

This does nothing to achieve compliance and does nothing to end the compliance blame game.

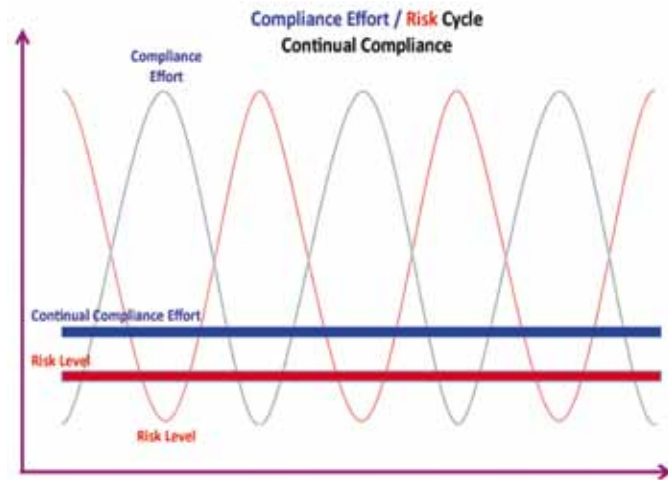






## Ending the compliance blame game

To end the compliance blame game it is necessary to move away from the project or cyclical approach to compliance and adopt a continual and sustainable compliance approach that should, if using the right tools, enable you to achieve compliance with reduced effort and keep risk permanently under control.



A continuous compliance effort requires a coordinated way of managing users' roles and responsibilities and controlling access to valuable business assets, including programs and sensitive data. It requires an efficient way to allocate and remove user access to IT resources, and it requires an effective and easy way to monitor and audit the effectiveness and relevance of your controls.

Key to this are the technology you use and the management approach or philosophy you adopt. It is important to be able to test and report accurately on the effectiveness of your controls, so you can have confidence in the information provided. However, once you identify deficiencies or errors in your security controls, you need to complete the loop and fix the issues.

## 7th Heaven – the 7 point plan

In addition to the technology, though, you need the right management approach. Below I suggest a pragmatic approach in 7 steps that will end the compliance blame game once and for all.

### 1. Commitment from the top

Businesses can no longer adopt the approach of giving the Security of Compliance Officer a budget arbitrarily picked out of the air. Compliance is too important and will pay for itself if implemented correctly – please request the Q Software white paper “Save money by investing in security” for details on how compliance will more than pay for itself.

Compliance needs to have a main board sponsor who will drive the on-going compliance effort and ensure the security team and business management work in harmony to mutual objectives.

### 2. Risk intelligence

Risk awareness and intelligence is critical.

Leading auditors increasingly are encouraging their clients to become more risk aware or risk intelligent, as compliance is all about risk management. Each auditor has its own methods for risk intelligence. The diagram below shows a pragmatic 7 point risk intelligence plan designed to create and preserve value in the business.



If we start at the top of the diagram, a business or organisation needs to determine its Governance objectives so it can set about deploying its strategies to address them.

It then needs to identify the potential risks to the business and assess the likely impact of each risk on the business. If there is a high likelihood of something happening and the negative impact on the business is high, then it is most important to take steps to respond to that risk.

If the risk is low and the impact is low, then it may not be worth taking steps to prevent it.

This risk assessment, therefore, will determine your priorities and how you design the appropriate controls, which should be tested before rolling out.

Once the controls are in place you need to monitor their effectiveness, so that you can assess any weaknesses and improve on them. This provides assurance that the controls are correct and effective. Any deficiencies or errors should be escalated so remedial action can be taken swiftly before any serious breach occurs.

Any improvements that can be identified in business processes or controls should be fed into the system to enable improvements and refinements to be made.

Clearly, you need to involve key people in the business as they know what goes on, and how they actually work (i.e. the processes), in order to get the job done. You should apply technology where it assists in the risk assessment and future controls to manage potential risks.



### 3. Align controls to your business processes

The business analysts need to drive this, as they understand how the business actually works. It is common for management to have one view on how things are done, whereas the reality of what is really necessary to get things done can be quite different. The business analysts should determine the optimum *modus operandi* and define the tasks necessary to make each process happen correctly. This will determine the security authority required for each task, which should be the minimum capability necessary to perform each task i.e. no one should be given more authority than they need to perform each task. If “enquiry” access to a program is all that is required, that is the only privilege that should be granted for this task.

Care should be taken to develop appropriate Segregation of Duties rules in tandem with the process controls to ensure that combinations of tasks and program access do not allow anyone to commit fraud or other economic crime against the organization.

Once the processes and controls have been defined, the security team or other designated resource should attach the users to the appropriately authorized tasks, duties or roles in order for the users to perform their jobs in line with the preferred business processes, whilst protecting the business from any security risk.

### 4. Ensure controls are sustainable - deskill

You should choose a security management solution such as SEC-Qure® from Q Software that enables you to deskill your on-going security management to avoid interrupting your expensive IT resources and delaying the delivery of whatever project they are involved in. Your security administration resource should be able to set up new users, make changes to users or remove users from your system within minutes of the changes being authorized.

Only if your security maintenance is quick and easy will you keep it in line with the changing needs of your business.

### 5. Implement a program of continual testing

Ideally your internal auditor and authorized departmental managers should be able to check and audit their own departments or business without the need to disturb your precious IT resources.

The results of the testing should be retained as proof to the external auditor that you really have taken compliance to heart and have implemented a continual appliance program.

### 6. Feedback deficiencies for correction

Any errors should be reported immediately to your security administrator to correct at the earliest opportunity.

Corrections should be tested to ensure the remedial action has been taken in accordance with authorized instructions.

### 7. Keep controls aligned with the business

In many organizations the biggest risks come from those “trusted” long-term employees, who have moved from role to role over time, being granted access to new programs with new authorities, but all too often still retaining access to programs no longer appropriate for their current role. This is known as “security creep”.

The research by the Association of Certified Fraud Examiners shows that 85% of fraud in 2009 was committed by people with no previous history of fraud - possibly your long-term “trusted” employees.

If you have followed the above steps and simplified your security management; you will have no excuses for not ensuring your controls keep pace with any changes to business processes, staff or staff responsibilities.

### Benefits

Implementing an on-going compliance program as suggested in this paper i.e. effective, tested and documented controls, in line with your business processes and kept up-to-date with changes to processes and users’ current roles and responsibilities, will:

- Minimize the effort required to achieve and maintain compliance
- Minimize your exposure to fraud and other economic crimes
- Minimize the cost and effort required for your external audits
- Minimize the impact on other important projects
- Improve business effectiveness: a strong security infrastructure enables faster and easier access to accurate data for authorized individuals
- Improve productivity: staff will have to follow your preferred business processes and not be able to explore exposures that enable them to commit fraud or just waste time
- Improve business agility: Well structured and easily maintained security will enable you to react faster to changes in economic or competitive situation and enable you to take quick advantage of new opportunities.



## About the Author



David Hunt is an experienced management consultant, Interim Manager and is Marketing Director of Q Software Global Limited, the first Oracle Gold Partner to provide security, risk management and compliance solutions for Oracle's JD Edwards, PeopleSoft and e-Business Suite. David is the author of a number of white papers on Governance Risk & Compliance (GRC) and presents regular webinars on various aspects of GRC.



# UKOUG – A Place of Innovation

by Hajar Mozaffar

There has been a great deal of discussion within policy and practitioner circles about the importance of 'innovation'. In particular, there has been much interest in what people are beginning to call 'open innovation'. The basic idea is that innovation no longer occurs within the boundaries of the firm but that new products and services are generated at the point where the firm interfaces with its partners and customers. It is this latter interface that I have been interested in my research. How the users of technology contribute to the design and evolution of new technologies.

It is said that the software industry more than any other industry is characterised by open or 'user-led' innovation. This is because large organisational software packages (like enterprise resource planning systems) are difficult to implement and often require significant reworking within the adopting organisation. This process often throws up new kinds of solutions which are sometimes fed back into the generic software solution. Indeed, research on the history of software packages has shown that many of the leading systems were developed in through these kinds of interactions between users and software vendor organisations.

The process today is no different. Software vendors still rely on their users for innovative ideas (and in some cases actual software solutions). In this respect the 'user group' appears to have become one of the key places where these important kinds of interactions occur. Thus in my research I propose to study the UKOUG as a locus of innovation.

The Oracle user group is a heterogeneous community of user firms with members comprising those in different phases of an ERP lifecycle, as well as system developers and independent Oracle consultants.

Examining such a setting encompasses different phases of an enterprise system lifecycle, from production, to selection, implementation, use, support and upgrade.

Despite the prominence of user groups there has still been no academic research on these communities. This means that there is little formal knowledge of what actually goes on within these communities. It is clear,

for instance, from my initial observations of UKOUG that it is not simply a locale of innovation that benefits the vendor. There are also forms of knowledge exchange that benefit the other members of the community.

To obtain a full picture of these exchanges and the influence of the group on its members, I have attempted to separate out some of the reasons as to why people participate in user communities. This article focuses on three sets of events: Conferences Series, Special Interest Groups (SIGs) and Customer Forums.

## Who Participates, Why and How?

This article introduces a three dimensional model comprising of: Actors, Motives and Modes of Participation (Figure 1).

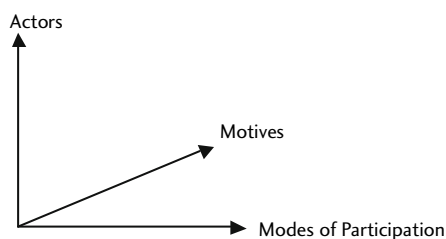


Figure 1 – Dimensions of Study

This study defines groups of actors performing the events, their modes of participation in performing the events and finally their motives for taking part in each event.

## Actors

The most important element in the community is the various actors. Actors are the members of UKOUG whom take part in the events. They can be divided into the following four classes:

- **Users:** This class consists of users of Oracle Products including E-business Suite Application, JD Edwards, Siebel, PeopleSoft, Database, etc. These are the key players in the community who are in most cases the main audience for other actors.
- **Partners:** This class encompasses the companies that are members of UKOUG and offer tools, products and services related to Oracle products with an aim of providing solution and enhancement to the "users".
- **Consultants:** This group consists of

technical and non-technical consultants with experience with Oracle's technologies who are independent members of UKOUG or independently present at UKOUG events or publications (non-partners). They include freelancer and non-freelancer consultants.

- **Oracle:** This final group consists of UKOUG members or presenters who attend the events on behalf of Oracle Corporations. They also include members from companies acquired by Oracle.

Although we have separated out each of these categories of actor for this study, in practice, the actual arrangements and workings of the UKOUG structures are different. For example, members from each type of actors maybe grouped together to form a SIG committee.

## Modes of Participation

Modes of participation range from superficial to intense - from passive information sharing to full engagement in decision making and attempting to influence product design. These modes can be categorized into five main areas:

- **Information Distribution:** At the very shallow end of the participation scales lies the information sharing type of participation. This involves disseminating information to aid other factors in planning or evaluating their activities. Talks regarding Oracle pricing, support, future strategies, user and non-user statistics fall into this mode of participation. This participation also involves making preparations for future services and products.
- **Introduction of New Features, Modules, Applications, Etc.:** A second type of participation is providing awareness about the latest products and services in the Oracle market and its related areas. This involves overviews of the new product such as new features, technologies, modules, applications, tools and partner products and services. Examples are one-touch requisitioning, Oracle Fusion Middleware, Oracle UPK, Nimbus BPM tool, NDEVR GHG Accounting Software Solution. Besides being a chance for the presenters





to introduce their products and find a new market for them, these meetings provide an opportunity for the audience to gain information on solutions and their intended benefits.

- **Sharing Experiences:** A common mode of participation in UKOUG is 'sharing the story'. This includes recounting experiences about all phases of an ERP cycle, from pre-implementation (e.g. selection) to post-implementation (e.g. support and upgrade) processes. This mode provides practical advice about solutions to similar cases (technical, functional, managerial and strategic issues). It involves sharing knowledge and often tacit "feelings" amongst the presenter and the audience.
- **Innovation:** This mode of participation occurs when a member of UKOUG come up with a new solution to a problem which comprises of innovation in process and product with a degree of novelty ranging from incremental to radical innovation. This includes new ideas in performing a task in Oracle, workarounds and customizations.
- **Training:** The final mode of participation is training provided on already existing products, tools and processes. In this case a detailed practical description is provided.

It is important to bear in mind that, these modes of participation overlap at times. For example there are cases where an experience has led to an innovation and an innovation is transformed into a new product. Nevertheless, based on the intentions of the actor, typically each presentation focuses on a single aspect of these possible modes. Yet an important factor to take into consideration is that not all modes of participation are experienced equally by all classes of actors.

### Motives

The third dimension of this study looks at the motivations of participants in these events. This information was obtained by interviews and discussions with different actors when asked to explain their reasons and aims for taking part in the events. Also participants were asked to describe why they thought other actors were attending the events. Surprisingly all participants used the word "networking" in their responses. However they had different

intentions. The initial analysis of the responds, result in the following categorization:

- **Being Seen By Oracle:** A common response given by many of the users is that by being a member of UKOUG and participating in its events they will not be just one among many Oracle customers. They will be seen by Oracle and their voice be heard. As a result they can have an influence on the vendor's products and strategies.
- **Knowledge Sharing:** A large number of respondents mentioned knowledge sharing as one of the main reasons for attending the events. They stated that hearing other members' experiences regarding different aspects of implementation, use and upgrade of system as well as development of related products, reports and customizations is one of the most inspiring reasons to spend a day with the UKOUG. This includes sharing experiences about the implementation of the system, upgrades, tools used during the implementation and use, problems faced by others and their solutions comprising of standard solutions, workarounds, possible customizations, extension products and their impacts on the business and application.
- **Increasing awareness of new technologies:** Gaining knowledge about new products, tools, technologies and future plans and strategies of Oracle is another motive for participating in the events which is said to result in some strategic decisions. Furthermore, this includes getting trained about different products. Also learning about related partner products and services offered by Oracle partners to solve some of the requirements is another motive for participating in the events.

- **Expanding business boundaries:** Respondents stated that the group provides opportunities in developing new business contacts. This includes a wide range from collaboration between companies to promotion of their products and services.
- **Other networking opportunities:** Finally, some respondents expressed their motive as making new contact with individuals with different intentions such as a link in another company, a reference to discuss some technical issues, and etc.

### Forming the Cube

After careful consideration of modes of participation and motivations for actors to attend the events, the next question would be their inter-relations and how the structure of the UKOUG can help actors with different motivations to achieve their goals through making use of different modes of participation. To answer this question it is necessary to understand whether a balance between these three dimensions exists.

"Furthermore, going back to the key question of this research, it is important to find out whether such a community can be considered as the locus of innovation. A key issue with regard to this can be drawn from a number of interviewees making the point that ?a user?s innovative idea can be accounted as its organizations competitive advantage, so it is not freely revealed?. In such case the question is where does user-led innovation reside for Oracle?s enterprise systems?"

However, on the other hand some interviewees believed that they would share their knowledge and innovations through the UKOUG. In this case the point to be followed up is how these modes of participation can be more effective in influencing the products and strategies of vendors and developers of related products.

## About the Author

Hajar Mozaffar is a Software Engineer studying PhD at the University of Edinburgh Business School. She has over 10 years of experience in the IT industry and has been an Oracle E-Business Suite implementation consultant since 2002. She has been researching on socio-technical aspects of Enterprise-Wide Systems during these years with her current research focus being about user-led innovation in ERP packages.





# Managed Solution for Staffing Industry Part 1

by Anil Bhatia, Infosys

## Staffing Industry Challenges and Technology Solutions

Today, most frequently cited challenges in the Staffing industry are:

- Customer Retention, Growing Revenue and Improving Resource Utilization
- Supply Shortage and Applicant / Candidate Loyalty
- High Staff Turnover
- Increasing Recruiter Productivity
- High Operation Costs

Below are some key areas within each of the above mentioned challenges where Technology can help an important role to work on them.

- **Customer Retention, Growing Revenue and Improving Resource Utilization:** Staffing companies' revenue follows **Pareto's law**. 20% of the Accounts account for 80% of the business.

The companies have to focus on not only meeting but exceeding Service Levels Agreements as they service their accounts and focus on growing revenue from the existing accounts.

Here are some of the key areas where technology can be an enabler to growing revenue in top accounts and other accounts as well:

The key to retaining a customer in the Staffing industry is not just winning the order but *fulfilling the Job order*. Once the order is won, the customer needs a status of the Job order on an ongoing basis. The Job order on-boarding process is typically customer defined and negotiated by the customer as the order is won.

The Recruiting Funnel is one such tool available in PeopleSoft Front Office which brings visibility into the talent acquisition process and highlights the status of candidates at an order workflow level and also status of each candidate at the detailed level.

The fact that Recruiters can interact and actionize with candidates directly if any step of the on-boarding process is not meeting customer expectations brings customer visibility to the process and shows the accountability of the staffing company which is very important to retaining a customer.

*Maximizing on the resource utilization* helps in preventing any loss of revenue. The Staffing Solution should provide the system capability to look at holiday calendar, candidate leaves and allocate him to a future dated assignment.

It should also have the capability to reactive closed assignments as assignments get extended thereby minimizing data redundancy by creating new assignments each time.

A company works with multiple staffing companies for an order and the staffing company who saves the order first with the right match wins the order. Below are some of the features in PeopleSoft Staffing Front Office Solution that are effective in winning the order.

*Resource Search* In this case as the Sales recruiter initiates the search, Front office systems should have the capability to automatically populate defaults from the order which saves time and avoids data entry.

*Matching process:* The Front end systems should have a very effective matching process as that is the key to winning the order. The system should be able to separate Resumes from structured data and also be available to account for a weightage to assign to the same. The Candidate Scorecard should be able to provide how best the Candidate matches the order criteria viz; partially, fully or no match with least amount of manual intervention.

*Single repository of Resource Pool & Search Engine effectiveness:* The Front end system should have access to the talent pool (subcontractors, applicants etc...) that is stored in a single central repository such as a HR data base. The system should have third party integration for Resume parsing. During the matching process the recruiter is grappling with a huge database of Resumes and the system should facilitate retrieval of resumes in chunks (say of 100 in a database of 1000 resumes) for effective screening of resumes.

In Oracle's, PeopleSoft product, this resume chunking is facilitated with integration with 3rd party search engine named Verity that helps structured retrieval of resumes.

## About the Author

Anil Bhatia has over 14+ years of management consulting experience and lead large global ERP programs in areas of Finance , HCM and Manufacturing. He is a Senior Practice Engagement Manager with Infosys in the Oracle economy for Services vertical in North America and has been with Infosys for the last 11 years .Anil is Certified in Production and Inventory Management has published papers in forums like OAUG, Erpassist.com etc...





**Verticalisation Support:** The Front Office system needs to be verticalised by industry to not only capture order criteria accurately but also to understand sourcing and filling trends by industry. The system should have the capability in terms of tools to customize the fields on a page to incorporate new fields relevant to a particular industry.

The verticalisation also helps to understand the talent acquisition trends and challenges in an industry during the sourcing process. This would further help Staffing company to focus on the right industries where they can leverage their strengths to source right profiles and win orders in a market where Staffing companies are looking out to diversify and expand into new verticals.

For example: The verticalisation can clearly identify a trend of mid-manager and director population waning in manufacturing and utilities industries based on sourcing requests to fill these kinds of profiles on a recurring basis across customers in a particular industry.

- **Supply Shortage and Applicant / Candidate Loyalty:** Today staffing agencies are competing for the same talent to fill the open order for the same customer.

To understand the applicant loyalty; it is necessary to understand the impact of demographic change in US workforce. The aging of Baby Boomers (42-61 years old); new values in Gen X (26-41 years old) and Gen Y (7-25 years old) workforce and a reduction in technology skills in the US have led to demographic supply shortage. From an aging perspective, if we hold the working age constant, the total supply of workers is decreasing and there is an expected reduction in the size of working age population across the world which ranges from 20 to 50 percent and this gets compounded in US by losing skills

Given the shortage in supply, it is important to secure your high performing candidates on successive assignments and keep their utilization is high.



It is important that the Staffing Solution works on creating an *Excellence in recruiting metrics* and is able to report the important measure in recruiting which is the “*Quality of Hire*”. *Analytics platforms such as OBIEE* can help in creating such metrics and other metrics in determining the turnover rates of various groups of employees such as males and females, with different age groups, ethnicity, region, performance and pay scales to provide useful insight into the various reasons candidates keep switching companies.

The Staffing Solution should be able to capture the Performance feedback of candidates on assignments and plot a Candidate Pay and Performance Relationship by customer. Staffing companies should track top performer turnover trends.

*The Analytics Recruiting Metric* should be able to score recruiting sources, recruiters and other processes so that recruiting function operates like an efficient “sales” function and goes after the best possible candidates in most efficient and effective ways.

It is important to understanding the changing values of the Gen X and Gen Y (the working age population pool from where most candidates will be sourced) Staffing Companies adopting *Self Service*

*Applications like Applicant Portal*, using web, collateral etc.. to position the organization will create an excellence in the employment brand with experimental Gen X and Gen Y applicants who will then find it difficult to leave these Staffing companies.

- **High Staff Turnover:** The Staffing industry is seeing significant attrition and technology can play a key role by including features in the Front office design that eliminate the need for internal knowledge transfer as someone leaves the company.

Features in PeopleSoft product such as enforcing Customer Master Rates on orders and assignments can help not only eliminate need for internal knowledge transfer but also minimize data entry and create a process discipline, thereby preventing any margin loss due to incorrect discounting.

It is important to track changes in orders and assignments and have visibility on the replacements made on an assignment. This will not only help drive metrics reporting but provide transparency in Agent Incentive compensation which is a key to retaining the recruiters.

- **Increasing Recruiter Productivity:** This is closely related to the aforementioned



high turnover challenge for Staffing industry.

The key to retaining a Sales recruiter is to provide him with a system that can increase his productivity and allow him to close orders faster, thereby increasing Agent incentive compensation.

During the annual rate changes, the recruiter shouldn't face downtime for rates being updated on selected orders and assignments. Instead there should be a mass rate change facility to identify impacted assignments for necessary changes.

This should further undergo validation to ensure that master contract rate limits are not violated.

Staffing industry recruiters spend a lot of time in correspondence with customers and internal employees. Email templates can automate this process and save a lot of time especially in crucial moments when a match is found and candidate is being proposed to the customer.

PeopleSoft solution helps to capture all the matching criteria on the page such as Qualification, Availability, and Resume Factor etc... and send the candidate Scorecard to the customer on the click of a button.

- **High Operation Costs:** Staffing companies are making 3-5% EBITDA and run a very high operations cost. The key component of the costs for a Staffing industry after paying their Temps is the operation costs.

Back office costs are the key to reducing the operation costs and streamlining the back office is the foundation to efficiently managing the back office functions which include billing the customers and paying the suppliers.

Streamlining the back office is possible through simplification and standardization of the process and/ or process automation thus facilitating straight-through processing (STP).

The key to *simplifying the process* is to implement modules like Pay Bill (created

in PeopleSoft especially for Staffing industry) that provide a single view on the Pay and Bill side of the Back office by:

*Automating the Middle Office Layer* (from Contracting to Pay Bill Processes)

– This includes components like Contracts, Project Costing, Time and Labor (for time capture), Billing and Payroll. The system automatically creates projects and contracts for every order and assignment created. It provides rapid entry for populating the Time data. Pay Bill integrates with Time and Labor product for time validation, with Time and Labor to utilize Payroll processing, and Contracts and costing for billing.

*Process Automation:* This can be achieved by implementing the Self Service and Portal Layer on the Bill and Pay side. Please see Application Layer: Self Service and Portal Layer section described in the Managed Solution for Staffing Industry section below.

*Power of Analytics* - Focusing on the right Metrics to control costs: It is necessary to report and track the right metrics for your back office to control costs. It is necessary that a user friendly Analytics engine sits on your Back office installed base to provide you the ad-hoc reporting capability that will help you identify and track the right Metrics for controlling the BO costs.

DSO, Billing timeliness, Accuracy are some sample metrics on the Bill side that will be the key to measure and track your Back office efficiency. It is also important to track and report metrics that are an important driver of client satisfaction levels.

On the pay and bill side here are some key trends that you can track through Analytics:

- Headcount Trend for a Year by month
- Billing Details by Geography
- Candidate Pay and Performance relationship

- Top Performer Turnover Trends
- Distribution of Expenses by customer

Oracle's OBIEE platform (with tools such as Answers, Delivers and Dashboards) provides the necessary Analytics capability on the ERP installed base to deliver and track metrics reporting. Please see Application Layer: Analytics Layer section described in the Managed Solution for Staffing Industry section below.

*Seamless Integrations to Back Office:*

By implementing the Pay Bill module as described previously, it would be important to design the Front Office integration to it so that the orders and assignments can flow in Back Office.

It is also important to consider the back office integration with VMS data.

Following Open Integration Framework supporting a wide range of different integration styles can be considered; point-to-point, batch file integration, application messaging, Web services, API-based integration, and component interface integrations., SOA based integration etc..

*Implementing the Back Office:* It is important to set up business rules that reduce collection efforts such as past due accounts, customers reaching their credit limit etc. as modules such as AP, AR and GL are implemented in the BO.

Also, important is the experience the SI brings in ensuring compliance with accounting guidelines as these modules are implemented.

**Part 2 of this article continues in the next edition of Oracle Scene**





# My life as co-CEO here at Miracle is still miserable.

by Mogens Nørgaard

My former friend and current co-CEO Lasse has – as I mentioned in my first column – turned on me. The traitor.

He is now a slick, smooth-talking, white-shirted, dance-shoe-equipped sales-type guy who tries again and again to make people buy and implement those communist, socialist, lesbian, longhaired, hippie, collective, left-oriented ERP, BI and other - even worse and more criminal - solutions.

Sigh.

He calls my part of the business (the real, honest, hard-core DBA-types that do James Bond things when databases go down hard and the IT World must be saved) the "pre-historic department" and laughs openly when he spots us in our wheelchairs.

He hires young, crazy programmers that work 25/8/370, change programming language once or twice a week, but fortunately only change development framework platform yadiyadiyadi once a day, not twice.

He hires in project managers now! It's the end of days.

And a year ago we started up a separate business which we named Miracle BuddyShop. Big success – 40 freelancers sold so far, and lots of activity...

They sell anything (ITEL consultants, process consultants, grandmothers, that kind of people) to anybody.

For instance, I currently have three Englishmen staying in various rooms in my house, all of them freelancers hired in from England to deliver various specialities that we know nothing about: a black guy from London, an Indian guy from Birmingham, and a white guy from Manchester.

The evenings here are NOT boring at all these days – three mad Englishmen, stationed abroad, no wives and kids.... I've requested a Chinese guy in order to complete the rainbow coalition here. We'll see.

Back to the main topic: Our guys in Miracle BuddyShop are agile, youngish, hungry types (only about 42 years old or so) that



## Some internal comments:

"You are cannibalising our own business"

"Persuade the customer to buy our own guys for twice the price"

"We should never sell cheaper than our own prices in Miracle"

"We should coordinate so we don't end in these situations again"

"This doesn't make sense at all – just say no"

"Could we sell one of our guys for only 3.42 hours a day?"

monitor all sorts of websites, visit all sorts of potential customers, and in general behave as if they want something to succeed. Crazy.

So when they recently sent out an email to everyone in Miracle asking if anyone knew of an Oracle DBA they could hire in for a client – for about 650 kroner an hour – it created the biggest and most viscous mail storm we've ever had inside Miracle since we started in 2000.

We normally sell Oracle DBA's for either 1250 or 1800 kroner an hour, depending on whether they are regular customers with support contracts or not.

It's always interesting to introduce competition to ones own business. It's a good idea, I think. Always. Otherwise, someone else will compete with you and do their best to tear down your business. Better to have it in-house. But it's usually a shock to the existing folks in your shop.

Back to the 650 kroner an hour DBA versus our own, much more expensive guys:

This was a job posted by a big bank (and an existing customer of ours) on a website.

If we can't deliver such a person, many other free lance agencies will.

If we place a freelancer there, chances are we get to talk to the customer about other things.

If some of our guys don't have enough to do, why not take the 650 kroner an hour job? 650 kroner is more than 0 kroner. And they get to do work and stay sharp instead of being unemployed.

It's a strength that we can deliver both cheap labour and exclusive/expensive experts to the same customers.

But the real shock to me and my old boys was the realisation that Lasse and his teenage programmers and ERP/BI whiteshirts are growing faster in numbers than we are. The hard-core bottom-of-the-stack guys like me are needed about as much as Welsh coal miners or mainframe COBOL programmers.

So I'll gather the last Oracle DBA's in Denmark around me, and then we'll make Custer's last stand look like a un-armed Sunday school picnic as we defend ourselves to the last man against Lasses hordes.

We shall fight them in the databases.

We shall fight them in the server rooms.

We shall fight them by the coffee machines.

We shall never surrender.

# A Journey of Discovery

by Phillip Cogger, UKOUG

Enabling members to share their experiences remains at the forefront of UKOUG's mission. "IT people are essentially creative people. What they look for is guidance and direction not hard and fast instruction," says Ronan Miles. "The existing model for the user group is about raising the skill level so people are equipped to handle problems for themselves."

Ronan Miles joined the user group as a volunteer almost 14 years ago. By 1998 he had become a Director, and in 2001 he was made Chairman. He recalls his introduction to UKOUG. "Carl Dudley, a UKOUG Director ambushed my boss and myself at the EOUG Conference in Amsterdam and asked that I consider taking on a volunteer role. My boss said 'yes' before I had time to support the idea."

As Chairman of UKOUG, Miles has witnessed some of the most significant changes within the software industry. A few years after he became Chairman, two major acquisitions took place that would change the complexion of the global market entirely. "Every year I have been involved with UKOUG there has been some form of issue or opportunity that needed addressing – things like having to move building, growth of staff, etc," says Miles. "All seemed vitally important at the time – however, one event was to prove that all these had been mundane. That event was the Oracle acquisition of PeopleSoft who in turn had recently acquired JD Edwards. The irony was that user group representatives globally had been informed of an acquisition strategy at least two years prior through an International Oracle Users Group Community (IOUC) meeting – but no one believed it. PeopleSoft with JD Edwards and subsequently Siebel showed the truth of what Oracle had told us."

UKOUG has built a reputation as a model user group in part because of its inclusive nature. "UKOUG had chosen to embrace the challenge of accommodating disparate communities back when it formed its E-Business Suite Special Interest Group – acknowledging that Packaged Applications users were very different to the technology users of the time," recalls Miles. "However, no one had anticipated Oracle embarking on a major acquisition spree back when that policy was set. We reached out to the PeopleSoft User Group board – and found



the JD Edwards board still effectively operating as well. Both groups elected to continue to operate within the UKOUG umbrella and have made the user group stronger because of it."

As UKOUG has continued to expand to include the full spectrum of the Oracle community, so has the UKOUG's influence with Oracle. "Initially, UKOUG had very little influence on the Oracle eco-system," says Miles. "Over time, we have become a valued influencer and contributor to this eco-system. The sum of knowledge available from the UKOUG community is larger than from anywhere else. We ensure that our dialogue with Oracle focuses on the business opportunity and on topics that will benefit both Oracle as a supplier and our members via their commercial success. We do not have a single member who bought Oracle because it was the wrong thing for them," says Miles. "In turn, every one of our members is interested in Oracle being successful in order to continue the production of better products and services for them to base their success upon."

Miles has personally overseen the user group annual survey and feedback to Oracle since it began in 2001. "For several years we could point at changes that Oracle made as a result of our survey – now, Oracle publically acknowledges the degree of influence the survey has," says Miles. "In part this came from Oracle's own realisation that customers with user group membership are happier and gain

a higher return on investment than customers who are not members."

UKOUG's success in facilitating exchange between its members has grown partly from the calibre of its events. "When I joined there was the one three day conference in Birmingham and six Special Interest Group meetings," explains Miles. "UKOUG's Conference Series events are now amongst the largest independent Oracle events globally. Working within the Oracle community is extraordinary fun. UKOUG as an organisation is hugely successful." Miles carries this passion over to his position as Chairman for the employer's forum of E-Skills in Wales where he helps to influence government funding agencies on employer IT and telecom skills. Miles fully admits, "I am a serial volunteer. I do it because it feels good."

Despite operating in a climate of ever tightening budgets and corporate downsizing, UKOUG represents over 7,500 member contacts and delivers over 80 events across the UK and Ireland to the Oracle community. "Our events remain our most visible contact point with members and our Conference Series events are the jewels in the crown," says Miles. "Attending these tells me just how successful we are – especially as members stop me and enthuse over the value they get."

To find out more about UKOUG go to:  
**[www.ukoug.org](http://www.ukoug.org)**.



# UKOUG news

## Conference Series Technology & E-Business Suite 2010

The 2010 Call for Papers was launched a lot earlier this year (in April) which gave speakers more time to submit their abstracts. The overall timeline was also different, with Agenda Planning Day taking place in September, and the agenda launch in October. The selection process this year started with over 160 volunteer and member judges. For the first time members were also given the opportunity to judge abstracts as opposed to just volunteers from the Oracle community, all specialists in their different topic areas. Over 700 papers were submitted for consideration for this year's agenda, making selection a complicated task.

## The selection process

Each of the judges takes on the job of reading over 150 entries to make sure all submissions get a fair judgement. The review results are then collated for the paper selection day. This one-day meeting involves a committee chosen from UKOUG volunteers who are deeply involved in the Oracle community. Our communities: Primavera, PeopleSoft, JD Edwards, Siebel and Hyperion who have their own conferences throughout the year set their agendas outside of this meeting.

Using our judge's scores, the committee splits into groups to select sessions that should be on the agenda with the aim to creating an agenda that meet the needs of UKOUG members. This involves ensuring that the sessions will accommodate all skill levels, cover a wide variety of topic areas (including end user stories and industry leader presentations), and offer a balanced agenda.

Following on from paper selection, the agenda is set. The groups putting the agenda together have to avoid clashes between adjacent sessions, which means taking into account that some attendees with varying levels of expertise will come for two of the three days the conference takes place.

See the finalised agenda for 2010: [www.oug.org/techebs/personalisedagenda](http://www.oug.org/techebs/personalisedagenda)

Book your place: [www.oug.org/techebs](http://www.oug.org/techebs)

## Conference Series JD Edwards 2010

UKOUG Conference Series JD Edwards is being held at Twickenham Stadium in Middlesex for the second year running and will kick off on **10th - 11th November**. This year will see over 50 sessions covering Enterprise One and World products, customer, partner and Oracle presentations and interactive demonstrations. This event will also be a chance to connect with the latest developments from the top of the JD Edwards tree along with over 250 members of the JD Edwards community. In addition to the analyst session and roundtables on Blue Sky Activity and Cloud Computing, we are proud to introduce our new 'Birds of a Feather discussion tables at lunch time, covering upgrading, BI and reporting, virtualisation and Fusion Middleware for JD Edwards. You can find out more about this event here: [www.oug.org/jdedwards](http://www.oug.org/jdedwards).

## UKOUG events

In addition to this year's conferences, we are proud to be holding a wide range of Special Interest Group meetings designed to help professionals using Oracle products come together and exchange their working knowledge. See this year's remaining events: [www.ukoug.org/calendar](http://www.ukoug.org/calendar).

## Partner of the Year Awards

We would like to thank all the UKOUG Partners who put themselves forward for this year's Partner of the Year Awards 2010/2011 which took place at the Jumeirah Carlton Tower on Thursday 7th October 2010. To see the list of winners and find out more about the event visit the PYA website: [www.oug.org/pya](http://www.oug.org/pya).

## Oracle Scene

Submissions for the winter 2010 edition of Oracle Scene have been a choice combination of informative stories, technical lessons and personal user experiences with a particular focus on Primavera.

We would like to welcome Neil Jarvis into his new role as editor of Oracle Scene, and thank Mark Rittman for the time and dedication he has given to UKOUG as editor. If you have a technical, applications or business and management paper you'd like us to consider for publishing, send it to Neil Jarvis at [articles@ukoug.org.uk](mailto:articles@ukoug.org.uk)

# Debra's Diary



Things at Oracle change so quickly, it is hard to write about them in a column in a printed article, so I hope you follow UKOUG in our e Bulletin, on twitter, LinkedIn etc to make sure you have the most up to date information.

This column, my diary is my recollection and prediction of what I am up to in the community. Today as I write this article it is my favourite time of the User Group year. Oracle Open World is just a week away and the first draft of the agenda for the Technical and E Business Suite is complete. Excitement is building and I love it.

For Oracle Open World I am excited about the launch of Fusion Applications. UKOUG have been at the front of users group input since it was first announced in 2005. To ensure UKOUG were included in everything, I have led the Product Development Committee, the single global users' group channel into development, and now the time is almost here. I am very proud to be introducing Steve Miranda, SVP Applications Development when he takes to the stage at OOW to demonstrate Fusion Applications.

Open World is very exciting, but also manic, I spend time planning my own logistics, my presentations, selecting which sessions I would like to attend, meetings arranged because this is one place you know everyone will be, and all too soon it is over. This year Fujitsu are the Marquee Sponsor so I expect to be even busier.

Open world is also where Oracle tells you their plans, and everyone is eager to find out what Mark Hurd, President will bring to Oracle. What I am interested in is how he will work with

users' groups, his predecessor was very good.

Closer to home the 2010 Conference Series is in full swing, over the summer we had the Hyperion, PeopleSoft and Siebel events where yet again we were able to attract great speakers for those communities. I have a special bond with the regional conferences as I have championed these from the beginning; living in N Ireland I understand that distance does matter. We have listened to the committees of both Scotland and Ireland and will have a slightly different model for these events next year. I have just returned from Dublin where I am very excited to say that we are taking the 2011 conference to the Aviva Stadium, although I still want to call it Lansdowne Road.

I hope to attend the Conference Series JD Edwards event is in November, and then all too soon it will be our TEBS event. However our calendar is not just about Conference Series, there are all the SIGs and I try to get to a few, I hope to speak at the Financial SIG updating them from Oracle Open World.

It is a credit to UKOUG that I am asked to speak overseas and

when possible I am proud to do so. I spoke at EMEA Harmony in May, a collective of Users' groups that met in Estonia. It was a fantastic first for them and I look forward to supporting them again next year. I am also going back to Denmark along with Mark Rittman, where we as ACE Directors will support their own in their post OOW event.

The work I do with Oracle Development around Fusion Applications means that over time I have learnt about the technology behind them which has helped me to bridge the gap between technical and applications; and because Fusion Middleware is available for all the acquired applications it has increased my knowledge of the whole portfolio. I am still an applications person at heart though, so I was very excited that I was able to persuade my fellow Oracle Scene columnist, Mogens Nørgaard to present with me about Oracle Business Accelerators, you may remember he wrote about 'How Apps Finally Got to

Me' a few editions ago. He thinks that as we presented in Australia at the Insync10 conference people closer to home won't know. Well they do now.

Being a director of UKOUG is not just about attending or even planning events, we are a company albeit Not for Profit, and like everyone are affected by economic issues. We have spent a lot of time working on strategy, how can we increase value yet contain costs? We need to constantly assess member needs, our products, and costs. Again I am proud that Fujitsu sponsored the now annual joint survey on economic impact on Oracle Projects, to help us understand the pressures on you our members. Another important input into our strategy planning, is our volunteers, they are our workforce and know their communities. This year we introduced 'Speed brainstorming' to the volunteers' day and moved directors around each group to capture what those closest to our members have to tell us.

Our revenue is not just from membership, a substantial proportion comes from the Partner Community and we continue to work with them closely. One idea from a few years ago that has proved very successful is our Partner Awards which are now in their 3rd Year. These member-

voted awards are very much sought after and it was interesting to see in the new Oracle Partner Guide how many winners have included their UKOUG awards in their marketing.

I hope you are as excited as I am, and get the value from the UKOUG you want. If you have any ideas let us know.



## About the Author

Debra Lilley is a Principal Business Consultant with Fujitsu Services. She is both an Oracle Certified Professional (Applications) and Oracle Master (IT Professional). Debra has been a UKOUG director since 2004 and is currently Deputy Chairman. She is also responsible for the Product Development Committees at both EMEA and International Oracle User Community.





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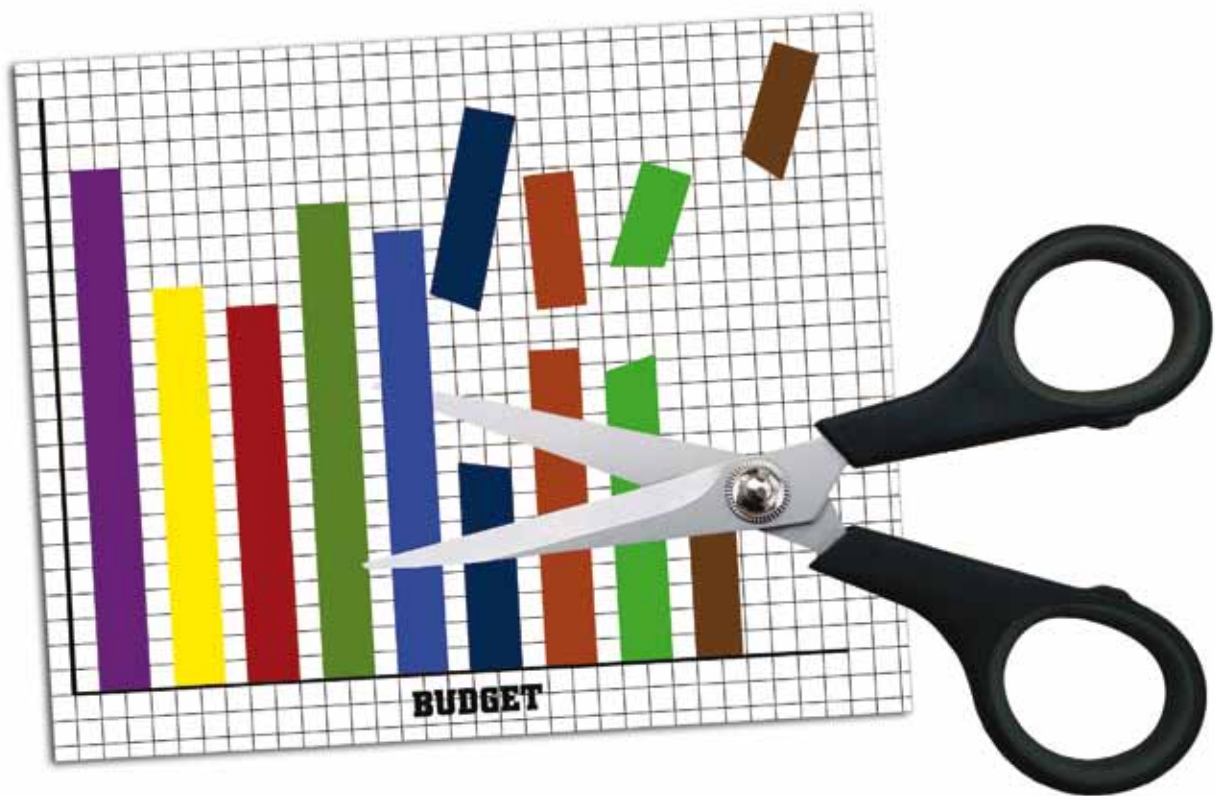
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