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United Kingdom and Ireland

# OracleScene

A UK Oracle User Group publication



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# Welcome

to Issue 36 of Oracle Scene!

## Goodbyes, Hellos and Elections!

I am sad to say that this edition heralds a couple of goodbyes. Firstly, Brigit Wells is leaving Scene in order to focus on other areas of the UKOUG. Brigit started working on OS back in summer 2000, departing a year later to move to Turkey, getting married and starting a family. She returned in March 2006 to rejoin a much-changed team and we would all like to thank her for all her hard work in taking the magazine forwards. However, her departure brings me to our hello and welcome to Iyisha Rocke (best email address ever – [IROCKE@ukoug.org](mailto:IROCKE@ukoug.org)!!) who will be taking over responsibility for the publishing complexity that is Oracle Scene! Iyisha joins us straight from university (Birmingham, but we won't hold that against her – at least she will feel at home during conference!) and please do come and introduce yourselves to her during conference at the Focus Pubs or similar.

The second goodbye is from me – I have now been Editor of Oracle Scene since 2005, and I feel it is time to allow someone else to pick up the baton and see how they can add their own special touches to the magazine. I have hugely enjoyed having the privilege of editing the wonderful words of so many people, including Debra Lilley, Jonathan Lewis, Tim Onions, Tony Hasler and many more. Thank you all for bearing with my eclectic hat collection and random musings on my life! I will be back.....

Elections will take place either at conference or immediately afterwards, in plenty of time for the Spring 2009 edition.

Some highlights from the last 3 years include: new, up-to-date layouts, as a direct result of the services of a new designer, Anne Kotan; inclusion of blogs; revival of Top Tips; addition of author biographies.

## This edition

Hopefully your appetite has been whetted by the questions on the front of the magazine – we have a fantastic selection of articles, many from our regular contributors such as Tony Hasler (love the pic!) with Part 2 of his Partitioning article, Bob Mycroft with something I genuinely can't even begin to understand, and Jonathan Lewis with a Top Tip on Over-indexing. We have an HR theme to the Apps part of the magazine, as well as many of our regulars such as Debra's Diary (please do read and have a good laugh at the "lift" story!!)

We had a massive number of submissions for this edition, and our apologies to all of those whose articles were held over – this is no comment on the quality of the submissions, but the editorial team do need to ensure that they have a balance of content for each edition and as you can see, we are so full that we can't even fit any of our normal blogs in!! A special mention must go to iTrain, who have been consistently strong contributors over the last year or so, and without whom we would struggle for Apps content. If you're missing them, I know they will be at conference, so look them up. We are still always keen to source content as not every edition is as well resourced, so if you are thinking about writing for the magazine please do contact Iyisha or the Editor-to-be.



**Ophelia Dodds**

Editor, 2005-2008

[editor@ukoug.org.uk](mailto:editor@ukoug.org.uk)

I am also pleased to say that we now have a regular column from Grant Ronald on Tools of Fusion, starting this edition with "A Beginners Guide to JDeveloper and Oracle ADF". To find out more about Grant, check out Chris Muir's interview with him on p26. Fusion is such a hot topic of interest, and we are very lucky to have Grant on board. Look out for the next one in the Spring Edition!

And finally, wishing you all the very best for the remainder of 2008 and a safe, happy 2009.

## Chez Moi

Well, in these times of credit crunch (which hopefully, by the time we go to press, will no longer be such a problem – I'm writing this in the middle of October!) I thought I would share some relevant humour with you all with this email recently received:

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PLEASE ACCEPT OUR SINCERE CONDOLENCES ON YOUR LOSS OF YOUR LIFE SAVINGS.

BEST REGARDS,

ALHAJI. IBRAHIM. H. DANKWAMBO  
TREASURER GENERAL OF THE FEDERATION  
OF NIGERIAN REPUBLIC

# Contents

## Oracle Scene Editorial Team

### Editor

Ophelia Dodds, editor@ukoug.org.uk

### Deputy Editor, Applications

Giovanni D'Alessio, deputy\_apps@ukoug.org.uk

### Deputy Editor, Technology

Neil Jarvis, deputy\_tech@ukoug.org.uk

### Marketing Assistant

Iyisha Rocke, IRocke@ukoug.org

### Advertising & Subscriptions

For advertising/subscription information, see [www.ukoug.org](http://www.ukoug.org) or contact [opportunities@ukoug.org](mailto:opportunities@ukoug.org)

## UKOUG Directors

### Chairman

Ronan Miles, [ronan.miles@bt.com](mailto:ronan.miles@bt.com)  
+44 (0) 7917 025 435

### Deputy Chair

Debra Lilley, [debra.lilley@ukoug.org.uk](mailto:debra.lilley@ukoug.org.uk)

### Director

Peter Phillips, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Peter Robson, [peter.robson@justsql.com](mailto:peter.robson@justsql.com)

### Director

Carl Dudley, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Jonathan Lewis, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Jane McCullough, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Anne Power, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Roy Bailey, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director – PeopleSoft

David Kurtz, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director – JD Edwards

David Rowntree, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

### Director

Tracey Bleakley, [director@ukoug.org.uk](mailto:director@ukoug.org.uk)

## UKOUG Office

UK Oracle User Group, User Group House,  
591-593 Kingston Road, Wimbledon,  
London, SW20 8SA.  
Tel: +44 (0) 20 8545 9670  
Fax: +44 (0) 870 9000 335  
Email: [info@ukoug.org](mailto:info@ukoug.org)  
Web: [www.ukoug.org](http://www.ukoug.org)

## Production

Designed and produced by Anne Kotan

Tel: +44 (0) 1273 833 923

Email: [anne\\_kotan@hotmail.com](mailto:anne_kotan@hotmail.com)

Web: [www.anne-kotan.moonfruit.com](http://www.anne-kotan.moonfruit.com)

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Web: [www.wokingprint.com](http://www.wokingprint.com)

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*Bob Barnett*



# Global Resourcing: A Weapon in the War for IT Talent

by Tom Harris, Elan Computing, A Manpower Professional Company

Ask an economist what would happen if a given commodity – such as oil – became scarce, and you might just receive a textbook, two-part answer: firstly, make more efficient use of what you have (the hybrid car comes to mind); and secondly, explore alternate sources towards the same end (think windfarms and solar panels). If consumption cannot be limited, the price of that commodity will, of course, continue to rise. The recent huge increases in the price of oil driven by increasing demand from the developing nations has demonstrated what happens when supply and demand gets out of sync.

Whether you are filling up at the petrol station or filling positions for information technology (IT) professionals as your company's hiring manager, you will encounter much of the same problem: IT talent – as a local market commodity – has become preciously scarce and hence expensive and difficult to procure. Just like discussions around our nation's dependency on (mostly foreign) oil, it is impossible today not to consider the local-global context behind the demand and supply of IT talent. Especially with all the recent talk of the impending 'Talent Shortage' that many labour experts believe will have a crippling effect on our country's economy at large.

The British Computer Society has estimated that Indian Universities are releasing 500,000 high quality IT and engineering graduates into the Indian economy every year. By contrast, UK Universities release only 20,000 Computer Science and related discipline graduates every year. Data from university applications body UCAS shows that there has been a 50% drop in applications for computer science in the past five years, a 47% drop in systems engineering and a massive 60% drop in software engineering applications. The qualitative research suggests that these courses need a 30% increase in the number of student entrants year-on-year in order to begin to return to acceptable levels. Even this growth, however, would leave the IT sector far behind the predicted 150,000 IT professionals needed per annum, as predicted by e-skills UK.

The current economic slow down may take some of the pressure off the demand for IT talent but there is evidence that technology is increasingly becoming an integral part of many companies' competitive strategy. Therefore, it is not as easy to cut back on IT budgets and investments as on those, for example, in Marketing and Training, which have traditionally been the first "casualties" in a slow down.

Demographics (those irreversible trends like declining birth rates and the coming vacuum left by the soon-to-retire Baby Boomer generation) and steadily dropping enrolment rates for computer science graduates, will make the Talent Shortage one of the great economic problems for decades to come.

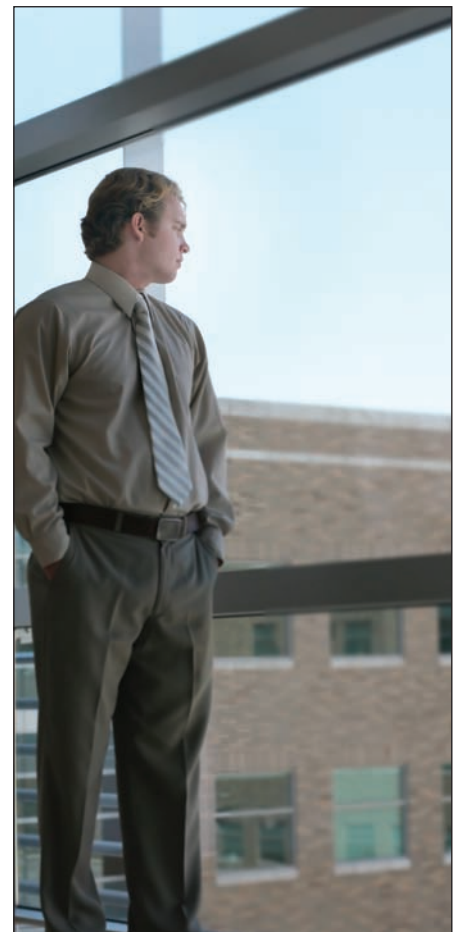
Already – and especially in the field of IT – it is taking hiring managers longer to find fewer qualified candidates at higher salary levels. In Germany, another fast-aging country, there are now more landscape architects than electrical engineers.

This Talent Shortage – by now at crisis level at many IT organisations, both large and small – will bring out the textbook economist in most of us: either we make our existing people more efficient, and/or we find alternate (non-domestic, global) sources of talent. The former, an exercise in what is known as 'Talent Management', is about creating just the right match between work and worker as well as striking an optimal balance between full/part-time workers and internal/external positions. The latter, often referred to as 'Global Resourcing', works on the principle that there is an asymmetric distribution between work and workers in high and low-cost countries, respectively (e.g. the UK or Germany vs. Brazil, Bulgaria or India); and that it is more practical (in most cases and for all parties concerned) to move the work, and not the worker.

There are some fundamental changes in the world of work that are re-shaping the nature of both the workplace and the workforce; changes brought about by technology and globalisation that are calling into question the traditional proximity between the work and the worker. Most IT professionals today have experience with distributed development teams – either as part of a geographically dispersed organisation across multiple office locations or during the course of working with an

offshore services provider. The notion that IT and other business activities can be performed remotely, in a virtual fashion, now seems hardly revolutionary. Even the (non-technical) 'rest of us' will agree that for the most part, work is something we do, and not just a place we go to.

Through Global Resourcing, employers can remotely deploy individuals and teams across geographic distances and time zones, managing them and collaborating with them (almost) just as effectively as if they were all in one physical location. This is typically accomplished through enabling processes and technologies – giving rise to something akin to a 'Virtual Workplace', a collaborative and often web-based environment for performing distributed work. By electronically moving the work, rather than physically placing the worker, employers can effectively augment their local staff with global talent that is situated off-site for tasks that can be performed remotely.

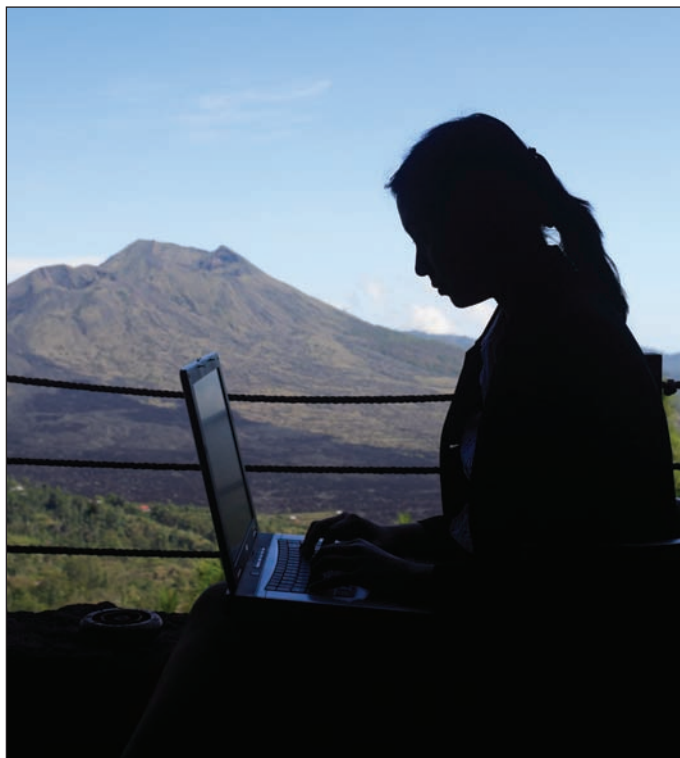


Needless to say, to pretend that there is a simple solution to such a complex problem as the Talent Shortage (or its high-octane-moniker cousin, the 'War For Talent') would be naïve; and in fact, the most successful players on the 'battlefield' of corporate Britain fighting this talent crunch are engaged in highly sophisticated forms of both Talent Management and Global Resourcing. Given the sheer population size and ample talent pools in many low-cost countries (current 'there-is-IT-services-export-beyond-India' favourites include: Argentina, Ukraine, Egypt, Vietnam and Philippines), seemingly poised to do just the opposite from our high-cost countries in terms of high fertility rates and the wholesale graduation of IT workers, the long-term fundamentals behind Global Resourcing appear to be solid.

Using remote IT workers is, of course, not practical for all IT tasks. IT Design and Architecture usually benefits from face to face collaboration. Other restrictions on remote working include the requirement for security cleared personnel and data security itself. For example, Swiss banks have offshore centres but they use the bank's own buildings and network and are therefore inside the bank's firewall. Many IT projects are being resourced by a blend of IT resources: 1) On site personnel; 2) Personnel brought in for a time period (usually landed from low cost countries); and 3) Offshore resources (again usually based in low cost countries). It is the exact nature of this mix of resources that determines the overall cost of the project. Global resourcing is not for everything but like any balanced portfolio it should be considered as part of an efficient mix.

To be an effective weapon in the war for IT talent, however, a Global Resourcing strategy must be implemented (and its effectiveness continuously measured) along the following three success factors:

- **Access** – give yourself the flexibility you need to meet all your skills requirements, as the likelihood of finding just one offshore partner that has the breadth, depth and ready availability of all skills required is low (consider multi-vendor arrangements for reasons of both readiness and redundancy). Also geographical diversity mitigates risk in terms of political, military, and natural disasters. The recent earthquakes in China, floods and terrorist attacks in India and the invasion of Georgia by Russia illustrate only too well the need for a "go lightly" strategy.



- **Quality** – remember the adage 'quality is not a function of size'; find suitably sized offshore partners that will commit quality resources, regardless of business volume. There are thousands of high-quality firms in South America, Eastern Europe and Asia that may be successfully engaged on smaller or mid-sized projects on a dial up and dial down basis – often for business volumes which are generally too low for the top-tier Indian vendors.
- **Cost** – follow a diversified country approach and be careful not to over-invest in one particular offshore location which may overheat due to popularity (is India – with its 40% staff turnover and 20% wage inflation – trending after Ireland, which priced itself out of the call centre business in the nineties?). Poland and Czechoslovakia are further examples of locations that for IT were once considered "low cost" but not any more.

If indeed the world is flat (as it has been famously and convincingly argued), or at least, if the world is becoming bigger and smaller at the same time, the dual realities of a global workforce and a virtual workplace are forcing us to simply think differently about workers and their work. Global Resourcing is a key part of that new thinking, as the Talent Shortage combined with rising cost pressures and the fact that many of today's IT jobs can be performed remotely, call for a more global and virtual view of talent acquisition and delivery.

## References:

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2. *Developing the future 5th July 2006*. Report by the Initial Working Party for Developing the Future on the Challenges and Opportunities Facing the UK Software Development Industry.

For more information and to discuss further please contact [tom.harris@elanit.co.uk](mailto:tom.harris@elanit.co.uk)

## About the Author



**Tom Harris** is the Director of Elan Global Resourcing, the outsourcing division of Elan, the specialist European IT recruitment

consultancy. Elan Global Resourcing provides its clients with access to a well established, vetted network, of around 250 professional consultancy partners based in over 40 low cost countries. A significant number of these partners have extensive experience and capabilities in Oracle Applications and Services. Tom can be contacted at [tom.harris@elanit.co.uk](mailto:tom.harris@elanit.co.uk)

For more information on the Elan alternate model to 'black box' outsourcing please visit [www.elanglobalresourcing.com](http://www.elanglobalresourcing.com)

# Brave New World for HR

## Why HR transformation should be a strategic priority for the global organisations

by Subroto Kar and Satish Srinivasan, Infosys Technologies Limited

Over the past decade, there has been an emergence of some key global trends such as globalisation, faster innovation and balancing of global work force, necessitating increased emphasis on alignment of HR departments to corporate strategy. The next generation organisations are embracing “HR transformation” – as a means to enhance HR service delivery and continue to align the focus of HR with the business. In this article we talk about three major trends – *Globalisation, Faster innovation and balancing a global workforce*.

### Globalisation

It's hard not to recognise this trend in our lives. Globalisation is driven by the notion of producing the goods and services where it makes the most economic sense and selling where it is the most profitable. Whilst creating opportunities to open up newer markets, the lowering of the investment barrier in practically in all countries and rapid reduction of communication costs is also forcing the organisations to transform the way they operate. When we talk of globalisation, one cannot ignore the increased numbers of mergers and acquisitions (M & A) that are taking place at a rapid pace. While some of the reasons can be attributed to the financial and market factors, a substantial number can be attributed to Human Resource issues and activities, leading to serious HR challenges in the M&A situation – cultural differences, role, value, management style, policy differences, alignment of compensation and benefit plans and so on. Another challenge presented by globalisations (and more directly M & A) is the fragmentation of HR systems into heterogeneous and disparate systems. Disparate systems are a major impediment to getting a holistic view of information and often provide a distorted view of HR information.

Therefore, in an age of increased mobility, diminishing trade barriers, lean operations and mergers and acquisitions, one of the key challenges that every global organisation faces is how best to organise global operations. While on the one hand standardisation becomes a key priority, there is also a need to leverage the full potential and knowledge of the global organisation.

### Top transformation initiatives to support Globalisation process

#### • Standardising global HR processes

There are at least three key items that are the top of the agenda for HR and these are:

**First**, as an organisation grows across geographies it is critical for HR to derive reduced administrative costs. Economies of scale and process consistencies are critical to sustain growth. One way organisations achieve this is by deploying a shared services model. This is typically common amongst large retailing organisations with extensive store network, a huge number of employees and high turnover.

**Second**, in the face of increasing mergers and acquisitions, organisations need to ensure that their HR systems are aligned and integrated, and that their business processes are standard. Organisations need to understand the importance of technology in implementing global policies and procedures.

**Third**, there has been increased scrutiny of regulatory compliance with the rise of globalisation. Organisations must maintain audits for processes with financial implications, such as compensation reviews and expenses, under purview of focused legislations such as the US Sarbanes Oxley Act 2002. HR departments have to understand and implement legislations and statutory rules enforced in the geographies of operation.

#### • Empowering the workforce with HR self service solutions

By enabling employees to access their own personal data, download pay slips, and apply for leave and travel requests the burden of the HR administration is dramatically reduced.

#### • Reporting and analytics

While an integrated HR system enables standardisation of processes and ensures information is aligned, a good reporting and analytics solution is critical to ensuring that this information is leveraged. Business intelligence has become an important tool in an age when accurate availability of information drives executives to make faster decisions and ensure operational efficiency.

(See Illustration 1, next page.)

### Faster Innovation

In this era of globalisation, it is not only important to innovate but rather to innovate swiftly and ensure that an idea becomes a product or a service and is launched in the market earlier than a competitor's. This has placed pressure on the HR department to ensure that the correctly skilled people are available at all times. In short, there is also a need for HR to innovate.

While the traditional views on the competitive advantage advocates patent protection, economies of scale, and barriers to entry, the need for faster innovation means the organisation's human resources create a key competitive edge. According to Jeffrey Pfeffer, a renowned leadership expert and Stanford professor – “Most of the organisations today can copy technology, manufacturing processes, products and strategy. However, human resource management practices and organisations are difficult to copy, thereby representing a unique competitive advantage”.



## Illustration – 1

Global organisation that has undertaken a transformation initiative to support globalisation process

### Profile I

Area of Business : High-tech Storage Solutions / US #Employees: ~ 4000 across > 30 countries  
Turnover : Low Revenue: USD 2-3 Billion

### HR Challenges

- Compensation schemes not aligned with best practices
- Inconsistent HR processes across geographies
- Disproportionate amount of manual intervention in personnel administration processes
- HR professionals constrained with administrative and paper activities
- At best, HR systems are fragmented; difficulties in reporting consolidated information

### Transformation Initiatives

- Participation in global job and salary surveys; Use survey inputs and key forums to appreciate and adopt contemporary and proactive HR practices
- Performance driven incentive schemes to attract employees in short and long term
- Employee and manager self reliance across global locations; minimal administrative HR
- Standardisation of global HR processes
- Empowerment of local HR representatives; shift in corporate HR from administrative to strategic focus
- Partnership with SI to implement single integrated HR system

### Business Benefits

- Compensation policies aligned to reward and retain top talent
- Managers and employees enabled to execute processes and make decisions
- Decentralized approach to repetitive and administrative activities
- Key HR personnel available to continuously review and improve HR processes and policies
- Significant Cost savings resulting from:
  - Single integrated HRMS system
  - Elimination of time consuming manual procedures
  - Reduced IT costs
  - Leverage holistic and accurate view of HR information to make decisions and implement actions

**Note:** Today best of breed HCM solutions with standardised global processes are critical to HR transformation as stated above. They are designed in conjunction with industry-wide best practices and conformance to legislative and statutory requirements. Self reliance facilities are usually fully enabled thereby empowering employees and at the same time freeing the HR professional for more strategic activities.

## Top transformation initiatives to drive faster innovation

### • Talent management

Scarcity of talent across the world continues to be a major challenge – which is driving HR to focus on hiring, developing, rewarding and retaining talent. Traditional practices are no longer valid as next genera-

tion HR must make itself more attractive to the global talent by improving effectiveness in the recruitment process. More than just attracting talent, improving the capability of the talent pool has become a key priority. Similarly, in order for the organisation to inculcate a high performance work culture and drive innovation, setting up a performance management system with goals and metrics have become a necessity.

### • Performance Management and Training

Robust appraisals processes, 360 degree feedback, encouraging time for research and innovation, rewards for good performance and avenues for learning are the order of the day. HR departments that proactively emphasise and improve these processes and policies ensure that they attract and retain the best people for the organisation. The ability to differentiate and reward key performers still remains the most effective means for an organisation to attract and retain its best employees.

### • Use of innovative reward programmes to encourage high performing workforce

Keeping motivation at a high level continues to remain a challenge for HR departments with a high performance workforce. While there are several compensation frameworks, the most widely followed is variable compensation – that attempts to link compensation to certain key performance measures. HR needs to look for ways to make the compensation program more attractive to the workforce.

(See Illustration 2, next page.)

## Balancing the global workforce

Globalisation, aging population, rising labor costs, fierce competition and compliance concerns are driving organisations to innovate newer models by which they can leverage the global pool of resources, at reduced cost, without compromising product or service quality. Global multinationals continue to explore how to balance the workforce in order to benefit from labor cost arbitrage, access to talent, scale and a delivery model that can give better customer service. Today, organisations are exploring next generation outsourcing models that extend beyond traditional organisational boundaries. This allows collaboration with partners leveraging offshore resources, technology, low cost connectivity and multi-location distribution of work components. It is essentially driven by the notion that if the organisations can componentise the work in a modular fashion, it is feasible to get the components produced, assembled and delivered from practically anywhere in the world. The distribution of the work components across various parts of the globe is not a simple process and requires a high degree of internal business process change. In addition, the organisations need to consider: the workforce competency, ability to scale, workforce mobility, learning capability, ability to retain talent, language and cultural sensibilities to maintain a good balance among a global team spreading over multiple geographies.

## Illustration – 2

Franchise-Model organisation that has implemented talent management to drive faster innovation

### Profile II

Area of Business : Quick service food Retailing / US	#Employees : ~ 1100 across > 5 countries
Turnover : Low	Revenue : NA

### HR Challenges

- Identifying and managing talent is a challenge; Systems and processes not enabled to manage workforce performance management effectively
- Compensation and incentive administration procedures not aligned with HR systems
- HR information is only available in silos; Fragmented HR IT landscape is an obstacle to strategic decision making and policy implementation
- HR systems do not integrate with other key groups such as finance and procurement effectively

### Transformation Initiatives

- Deployment of effective appraisal procedures and learning paths
- Implementation of self service across HR processes
- Integration of the HR IT landscape – consolidation of HR systems and processes and seamless integration with other departments

### Business Benefits

- Effective appraisals and determination of learning paths
- Merit information seamlessly reflects in compensation and incentive decisions
- Managers, recruiters and learning administrators are fully self reliant; automated approval mechanisms ensure actions and decisions are enforced per defined policies

**Note:** Means to achieve excellence at all levels is key to an organisation's success.

An integrated system of appraising employee performance, identifying key talent, training needs and distribution of incentives helps not only attract and retain talent but also enables the organisation to effectively handle succession planning and ensure that the placement of the right person is in the right position.

“...HR transformation is one of the powerful strategies that can drive huge benefit to align the focus of HR to the business. Transformation is not one time activity; its momentum must be maintained to align ongoing changes within the organisation.”

Subroto Kar

## Top transformation initiatives to drive balancing global workforce

- **Scalability.** Aligning the workforce to the needs of the business at the right time and at optimal cost is becoming increasingly complex. The HR department is also challenged by its ability to scale in different parts of the world and attract talent. Outsourcing continues to remain a key strategy to strike a balance among cost, efficiency and scale – HR's role in cross border outsourcing is critical due to issues with surrounding people in the extended workforce and local country regulatory norms.

By utilising comprehensive talent management solutions, many HR organisations bring in improved efficiencies in workforce planning and scheduling, recruitment and competency management for the global workforce.

- **Managing issues around data protection.** As HR increasingly found, getting involved in outsourcing contracts, understanding and managing cross-border transfers of employee data is critical. Most developed countries have stringent rules with regards to making personal information, and compensation and benefits data available outside their shores. HR has to understand the nature of data protection laws in all the geographies within which they operate. For instance, one of North America's largest Employee and Benefits services has successfully developed a secure and legally compliant offshore development center in liaison with their long term IT and HR Consulting partner.

- **Managing employee mobility.** With increased mobility, transfers and secondments, strategic relocations and geographical expansion of organisations, the pressure is again on HR to enable the organisation by ensuring seamless mobility for its employees. Understanding customs and immigration laws, labour laws, employee welfare, eligibility for visas, cross-cultural training and sensitivity, language training and administrative processes (filling forms, visa lead times and processes, etc.) are critical components to ensure this mobility. Organisations have to invest sufficient time and costs to collate the requisite knowledge, implement travel policies and enable robust and efficient processes to manage employee mobility.

(See Illustration 3, next page.)



### Illustration – 3

Global enterprise that has taken advantage of outsourcing

Profile III

Area of Business : Employer and Benefit Services / US #Employees: ~ 10000

Turnover : Low Revenue : NA

#### HR Challenges

- Critical to leverage talent and services from BRIC economies
- Sensitive nature of information presents key challenges to outsourcing

#### Transformation Initiatives

- Collaboration with long term IT and HR Consulting partner
- Deployment of secure and legally compliant offshore center in India
- Investment in captive unit in India

#### Business Benefits

- Cost efficiencies from offshore locations
- Successfully implemented a near 24-hour work day (across the US and India) to obtain service efficiencies
- Leveraged expertise and experience of IT partner in HR services

stage. A Level 4 recruitment process, on the other hand, is both scalable and mature. Strategic initiatives to attract top talent by HR are supported by intelligent and scalable systems. The organisation is able to predict future trends and continuously improve their processes. Such an organisation is well positioned, not just to survive economic and technology shifts, but also to derive the full benefits of changing global conditions.

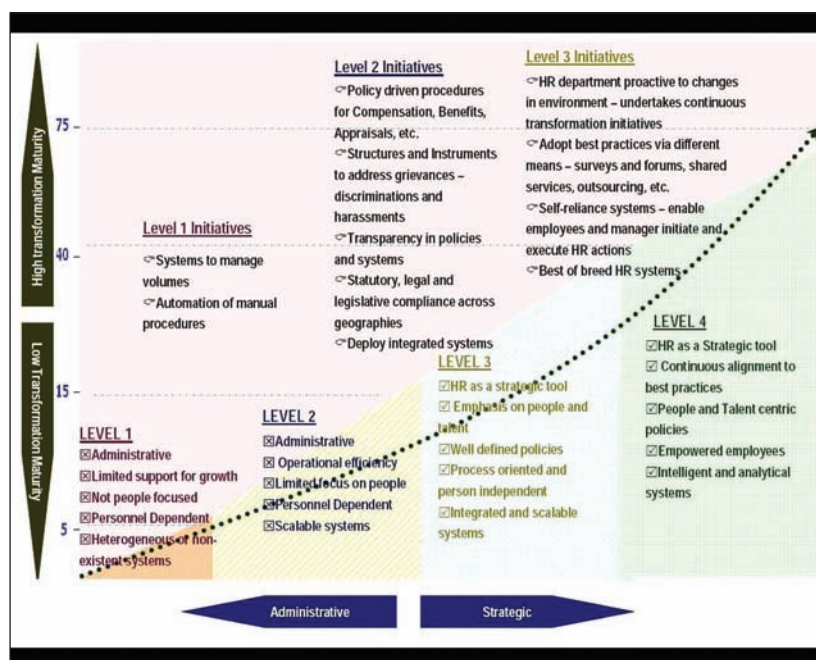
### Conclusions

*Globalisation, faster innovation and balancing global work force* are the key emerging trends which are causing organisations to become leaner and more efficient, whilst at the same time fiercely competitive. Focus for most of the organisations is on their people, as ultimately human resource management practice for any organisation is difficult to duplicate, representing a unique competitive advantage. Significant opportunities exist today for HR to enhance its service delivery – transformation is one of the powerful strategies that can drive huge benefit to align the focus of HR to the business.

However, transformation is not one time activity; its momentum must be maintained to align with ongoing changes within the organisation.

### A road map to HR Transformation Maturity

The chart below is an attempt to present a road map with key HR initiatives against the level of maturity.



To further illustrate the above diagram with a specific example of a HR process, consider the Recruitment process maturity of an organisation. At Level 1, it is, at best, a means to source people rather than attract talent. Recruitment at Level 1 is not enabled by empirical information or supporting systems. Level 2 recruitment processes would be streamlined and

organised, scalable to meet organisational growth but still lacking focus on people orientation. These needs are met in Level 3 where there is an involved attempt to focus on developing the Human Capital and focusing HR policies towards strategic people initiatives and long term organisational goals – typically organisations are proactive to a certain extent at this

### About the Authors



**Subroto Kar** is the Delivery Manager – Enterprise Solutions (HCM) Practice with Infosys Technologies Limited. He is responsible for the delivery of HCM Solutions and HR transformation programs for the global clients. He has several publications IT demand management, technology strategies and process improvements.

He can be reached at  
[Subrata\\_kar@infosys.com](mailto:Subrata_kar@infosys.com)



**Satish Srinivasan** is a Senior Consultant with the Enterprise Solutions (HCM) Practice at Infosys Technologies Limited. Satish is responsible

for managing HCM programs including consulting customers on the HR systems.

He can be reached at  
[Satish\\_Srinivasan@infosys.com](mailto:Satish_Srinivasan@infosys.com)

# How I Learned to Stop Worrying and Love Excel

## MFA: Live Oracle Data in a Spreadsheet

I have spent a huge proportion of my life in the company of accountants. I have come to know their little ways, their charming idiosyncrasies. Like that intrepid woman who hung out for years in the mists of the Rwandan rainforests, I have been accepted by accountants into their group, and I have even formed close relationships with some of them. I am so comfortable around accountants that just by sniffing any given individual I can distinguish a Chartered one from The Other Sort. Nobody, I'm saying, maintains a higher regard for accountants than I.

by Mark Bastable, Mokum

And yet, in my capacity as an Apps Implementation Project Manager, I take the view that your common-or-garden abacus-jockey is not temperamentally disposed towards an enthusiastic acceptance of innovation. I have based that opinion on what I perceive to be accountants' attitude to Excel. They like it. They don't want to be without it. Even when their organisation invests serious wedge in an ERP system not only to record the fine detail of any real-world event carrying the tiniest fiscal implication but also to report such recorded information at any imaginable level of zoom, accountants want to see it in Excel.

To a technically-inclined applications person such as myself, this dogged attachment to a spreadsheet tool just doesn't make sense.

"Look," I said to an FD of my acquaintance whom I shall call Runcie, "the information's right there in the database. You can get at it through the screens and you can arrange it on the page in all sorts of reports. Why on earth would you want it in Excel?"

He smiled at me indulgently, like an archbishop explaining the loaves-and-fishes sting to a curious but incompetent curate. "There's more to my job than checking that it all adds up," he said.

"But what's in the apps is *fact*," I protested. "It's the single source of the truth. What more do you want?"

He offered me an Imperial Mint and explained that I was confusing two fundamentally different operational requirements. Oracle eBusiness Suite – yep – very clever, very thorough, very good at capturing huge volumes of raw information, shoving it through the right filters and squirting it into balanced containers for constant and indefinite access.

Excel on the other hand – incredibly powerful, immensely flexible, an unparalleled tool for the kind of analysis, manipulation, exploration and presentation of numbers that comprise the real function of accountants. Excel is indisputably the *lingua franca* of the profession.

"You ask ten accountants to choose between browsers," Runcie said, "and you'll get a split across IE, Netscape and Firefox.

But ask them to express a preference for spreadsheet tools, you'll hear a unanimous ovation for Excel." He pointed to the members of his team beavering away in the cubicles outside his ever-open door. "Every single one of my people knows how to use Excel. And beyond this department, beyond this company, beyond even this industry, everyone else knows how to use it too. You can't often say that about a given piece of technology." He leaned forward and beckoned me closer. "You can't even say that about Oracle Financials."

I winced and let out a pained squeal.

"I'm sorry," Runcie said. "Does that come as a shock?"

"No, no," I said, "I crunched my Imperial Mint and snapped a crown off my tooth." I spat white shards of sweetie onto my palm and began to sort through them in search of six-hundred-quids-worth of cosmetic dentistry. "Okay – I get it. Excel is what the accounting punter wants. With or without an ERP, Excel is unimprovable."

"Ah, no," Runcie said. "With an ERP, it's *very* improvable. In fact, I can specify two improvements I'd like to see right now."

His first gripe had to do with ease of data transfer. By the time you've identified an FSG you like, specified how you want it changed, persuaded some techno-sprite to change it, figured out how to get it in a format that can be loaded to Excel and implemented a mechanism by which that can be done, you've spent as much time on it as you can afford. That wearisome palaver conspires against innovation and creativity at the Excel end because too much effort is expended in the pursuit of the data in the first – and, actually, the second – place. What Runcie wanted was a magically instantaneous transfer of numbers direct from the database to Excel.

His second gripe concerned the age of the data. As he put it, "the moment you get the figures into Excel, they're out of date. When I present to the board on Thursday having worked all day Wednesday, I have to tell them that these are Monday's figures that I received on Tuesday. That's mediaeval. We're in the twenty-first century here. I want to do ingenious stuff today, and then press a button tomorrow and see the overnight figures in the clever way I worked out yesterday. I want live data in Excel."

"Yeah, well – I want universal peace, bankruptcy at Stamford Bridge and George Clooney's teeth." I wrapped fragments of plastic molar in a Costa napkin and slid the package into my breast pocket. "But we can't always get what we want, can we?"

Runcie shrugged. "Who knows what the future holds?" he said.

"Oh, God," I groaned. "Do you use it for forecasting too?"

Last week, I dropped in on Runcie at work.

"I want to show you something," I told him.

"You've had your misaligned molars fixed?"

"Actually, yes," I said, firing up the laptop. "But that's not it." I directed his attention towards the screen. "Get a load of this."

"It's a spreadsheet," he said. "Looks like a trial balance."

"Essentially correct. But the data is from Oracle."

"So what? We load data from Oracle into spreadsheets all the time. And a real pain it is too."

"Aha. But this is from Oracle *as it stands now*. It's live data." I paused a moment to let that thought sink in. "Allow me to present the Mokum Financial Analyser."

Mokum Financial Analyser (MFA) is a reporting tool that dynamically links Microsoft Excel to Oracle's eBusiness Suite. Users can simply open a spreadsheet, change a period – or an account number, or any other attribute – and instantly see their real-time financial balances. They can also drill down to journal details and sub-ledger entries. All within Excel.



Developed in the US by Global Software, this essential tool is licensed to 2500 clients in thirty-nine countries. Last year, Mokum partnered with Global to bring the branded MFA suite to Oracle users in the UK.

In a bullet-point, this is what it does.

- It gives you up-to-the-minute Oracle data in an Excel spreadsheet.

But, of course, there's more to it than that.

- MFA is preconfigured for any set-up of Oracle GL – so you can plug-and-play.
- Both MFA and the Distribution Manager are as simple to use as they are to install. It takes less than a day to get them running.
- Both tools are Excel Add-Ins – so users already know how to use this software. They can be running and distributing reports almost immediately.

## How I Learned to Stop Worrying and Love Excel MFA: Live Oracle Data in a Spreadsheet

**"I'm really impressed with the speed that MFA updates information. I keep getting new projects from my manager and its absolutely great once the document is created just to hit a button and refresh info instead of trawling through prints."**

Carol Morrissey, Management Accountant,  
North Yorkshire Fire & Rescue

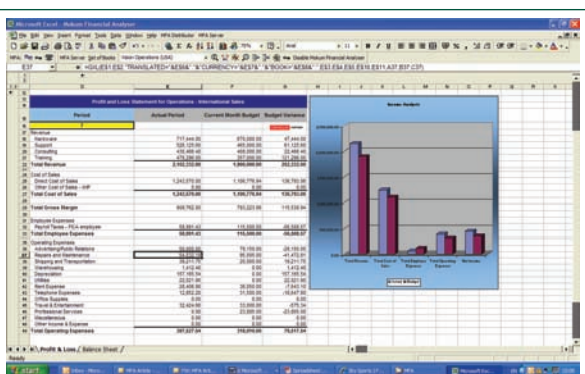


Figure 1 – MFA gives you Oracle Data Live in Excel

- Oracle security rules apply within MFA.
- The user accesses real-time period, year-to-date, quarter, opening and closing balances.
- You can drilldown within Excel to the lowest level of detail – including specific sub-ledger drill-downs.

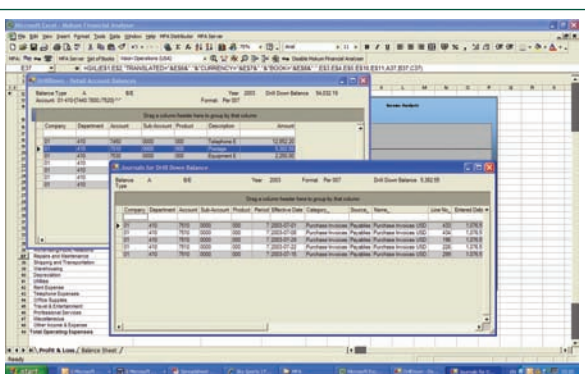


Figure 2 – Drilldown within Excel

- There's no need for specialist report writing skills, and no IT involvement is necessary to create or alter reports.
- There's no more downloading, cut'n'pasting, exporting, staging areas, data warehouses or re-keying of data.
- You can combine reporting, account inquiry, and journal inquiry into one application – which is likely to reduce the time required to close your books.
- Finance users can free up time for true business analysis.

- Consolidations become easier with instant access to real-time data.
- The Budget Manager add-on increases the efficiency and timeliness of your budgeting process.
- The Distribution Manager automates email distribution of your reports as .xls, .pdf, .doc, or zips.

Runcie spent a few minutes experimenting – that was all it took for him to understand the features and to recognise the potential. He sat back in his chair.

"At the risk of sounding like something out of a soap-powder commercial, I have to say that I'm impressed with what I'm seeing. This could be the answer to a whole raft of issues."

"Well, we endeavour to meet our clients' needs, whatever the personal cost."

"Personal cost?"

"I've come over to the dark side," I said. "I've admitted the universal power of Excel. I could get thrown out of the Database Designers' Guild."

"Serious stuff." Runcie offered me an Imperial Mint. "Still – if you're shunned by your peers, you can always hang out with us accountants."

"Oh, goody," I said, flipping the mint into my mouth. "For a minute there, I thought I might be in trouble."

Learn more about MFA here: [www.mokum.com/mfa.php](http://www.mokum.com/mfa.php)

**Mark Bastable** has extensive knowledge of Oracle programming and the design of financials applications gained from more than twenty years experience working within the Oracle consulting market. He has a wealth of management experience on implementation and upgrade projects in both private and public sector organisations coupled with extensive knowledge of Oracle technology and applications. He has acted as Solutions Architect and Functional Expert on a number of Oracle programmes. Mark is one of the founding directors of Mokum.

[Mbastable@mokum.com](mailto:Mbastable@mokum.com)



# Who, what, where, why and how?

## Oracle Identity Management Solutions

Manpreet Singh Johal, Inatech Solutions Limited

This article gives an overview of Oracle Identity Management solutions and how to quickly deploy Oracle Enterprise Single Sign-On, using Oracle Internet Directory as a user profile and credential repository.

Identity management is the process by which the complete security lifecycle for end-users and network entities is managed for an organisation. Identity management most commonly refers to the management of an organisation's users, where steps in the security life cycle include account creation, deletion, suspension, privilege modification, and attribute management. The network entities managed include devices, processes, applications, servers, or anything else that needs to interact in a networked environment. Entities managed by an identity management process may also include users outside of the organisation, for example customers, suppliers, or trading partners.

### Identity Management System Components

A complete identity management solution includes the following components:

- Scalable, secure, and standards compliant directory service for storing and managing the user information
- User-provisioning framework that can either be linked to the enterprise provisioning system (such as HR application), or that can be operated stand-alone
- Delegated administration model and application that allows the administrator of the identity management system to selectively delegate access rights to the administrator of the individual application or to the end-user directly. An appropriate security model, and user-interface model that can support various requirements is critical
- Directory integration platform that enables the enterprise to connect the Identity Management directory with legacy or application specific directory
- Run-time model and application for user authentication
- System to create and manage PKI certificates

### Benefits

- **Identity management saves money.** For most enterprises, application user administration is a very expensive, laborious and error-prone process
- **Identity management enables faster deployments.** Typically, provisioning of a new application means creating and managing separate user accounts and their privileges. Identity Management enables the new applications to leverage the existing infrastructure for its user management, and thus reduces the time it takes to deploy and manage new applications
- **Identity management improves the end-user experience.** An identity management strategy allows new users to gain access to their applications quickly, eliminating wasted employee time. It also allows the users to modify any of their attributes or preferences at only one place, instead of changing it for every application
- **Identity management improves application security.** An identity management strategy allows users to have their passwords and security credentials managed centrally

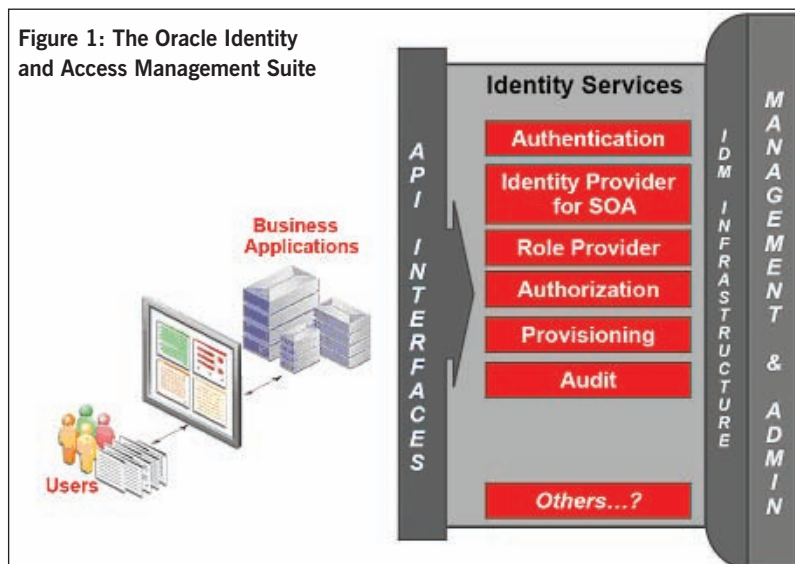
### Oracle Identity and Access Management Suite

Oracle Identity and Access Management Suite allows enterprises to manage end-to-end lifecycle of user identities across all enterprise resources within and beyond the firewall. Administrators can deploy applications faster, apply the most granular protection to enterprise resources, and automatically eliminate latent access privileges. The Oracle Identity and Access Management Suite is a member of Oracle Fusion Middleware family of products, which brings greater agility, better decision-making, and reduced cost and risk to diverse IT environments. (See Figure 1.)

The Oracle Identity and Access Management Suite include the following components:

- **Oracle Access Manager** delivers critical functionality for access control, single sign-on, and user profile management in heterogeneous application environments
- **Oracle Identity Manager** is a powerful and flexible enterprise identity provisioning and compliance monitoring solution that automates the creation, updating, and removal of users from enterprise systems such as directories, email, databases and so on
- **Oracle Identity Federation** enables cross-domain single sign-on with the industry's only identity federation server that is completely self-contained and ready to run out-of-the box

Figure 1: The Oracle Identity and Access Management Suite





- **Oracle Internet Directory**, a scalable, robust LDAP V3-compliant directory service that leverages the high availability capabilities of the Oracle 10g Database platform
- **Oracle Virtual Directory** provides internet and industry standard LDAP and XML views of existing enterprise identity information, without synchronising or moving data from its native locations
- **Oracle Web Services Manager** is a comprehensive solution for adding policy-driven security and management capabilities to existing or new Web services
- **Oracle Enterprise Single Sign-On** provides users with unified single sign-on and authentication across all their enterprise resources, including desktops, client-server, and custom and host-based mainframe applications
- **Oracle Adaptive Access Manager** provides web access real-time fraud detection and multifactor online authentication security for the enterprise
- **Oracle Role Manager** is an authoritative source for role lifecycle management that leverages business policy and organisational data to automate role based provisioning and access control

### Oracle Enterprise Single Sign-On (eSSO) Example Deployment

Oracle Enterprise Single Sign-On (eSSO) provides single sign-on functionality for all the enterprise applications i.e. web based, client-server and legacy applications. Users are able to use eSSO functionality whether they are connected to corporate network, traveling, or roaming between workstations.

Oracle Enterprise Single Sign-On uses any LDAP directory or any SQL database as its user profile and credential repository. It accepts primary authentication from Windows logon.

Oracle Enterprise Single Sign-On has the following components:

- Oracle Enterprise Manager Single Sign-On Logon Manager*: allows users to securely use a single login credentials for all web based, client-server and legacy applications.
- Oracle Enterprise Single Sign-On Password Reset*: helps in reducing helpdesk calls by enabling users to manage Microsoft Windows password through self-service interfaces.
- Oracle Enterprise Single Sign-On Authentication Manager*: allows organisations to use a combination of tokens, smart cards, biometrics and password for strong authentication.

- Oracle Enterprise Single Sign-On Provisioning Gateway*: enables organisations to distribute single sign-on credentials to Oracle eSSO Manager based on provisioning instructions from Oracle Identity Manager.
- Oracle Enterprise Single Sign-On Kiosk Manager*: allows users to securely access enterprise applications at distributed workstations.

For the purpose of this article, we shall demonstrate how to deploy **Oracle Enterprise Manager Single Sign-On Logon Manager (eSSO-LM)**, using Oracle Internet Directory as user profile and credential repository at Windows environment.

### Step 1: Enterprise Single Sign-On Logon Manager (eSSO-LM) Admin Console Setup

This section assumes that Oracle Internet Directory is already installed and functional in your network.

1. Download Oracle Enterprise Manager Single Sign-On (eSSO) Suite from Oracle Technology Network (<http://www.oracle.com/technology/software/products/ias/htdocs/101401.html>)
2. Extract the software at C:\esso directory. Extraction will create sub-directories for each of Oracle eSSO sub-components under C:\esso directory.
3. Go to C:\esso\ESSO Logon Manager 10.1.4.0.5 and click on "ESSO-LM Admin Console.exe".
4. At **Welcome** screen, click **Next**.
5. At **License Agreement** screen, accept the agreement and click **Next**.
6. At **Setup Type** screen, select **Complete** option and click **Next**.
7. At **Ready to Install** screen, click at **Install**.
8. Click **Finish**, once installation is completed.

### Step 2: Extend Oracle Internet Directory schema for eSSO-LM

1. Launch eSSO-LM Administration Console.  
Start -> Programs -> Oracle -> ESSO-LM -> ESSO-LM Console
2. Click on Repository -> Extend Schema menu option. (See Figure 2.)

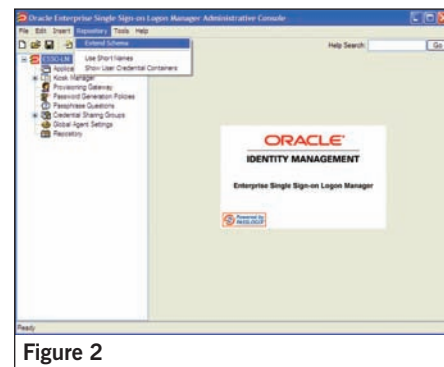


Figure 2

3. Connect to Oracle Internet Directory by entering following information, and click **OK**.

**Server Name:** lon-int-lap0586 or name of the server where OID is running.

**Repository Type:** Oracle Internet Directory.

**Port:** 389

Use secure channel (SSL): Uncheck Username/ID: cn=orcladmin

**Password:** <orcladmin password> (See Figure 3.)

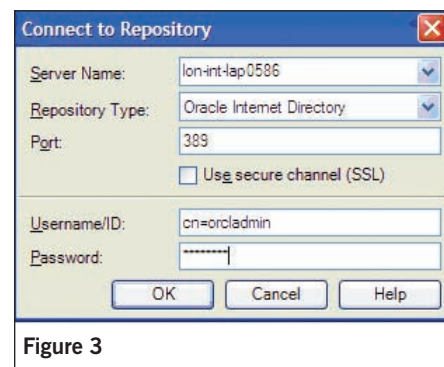


Figure 3

4. After successful extension of OID schema, a dialogue will appear. Click on **Close**.
5. In order to store user credentials under respective OID user objects, an additional schema change and rights assignment is required. The OID user object needs to allow the creation of a child object of type eSSO-LM. A user also needs the right to create this object and credential objects under their own OID user object. Click at **Repository** link at left navigation of eSSO-LM Admin Console, and click on the link **Click here to connect** in right hand side pane. (See Figure 4.)

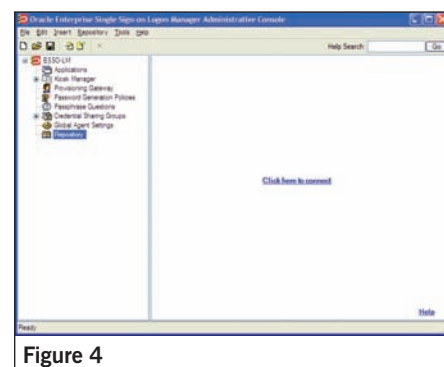


Figure 4

6. Enter OID connection information, as specified in Step 3. After successful authentication, OID schema information will appear in eSSO-LM Admin Console as following: (See Figure 5.)

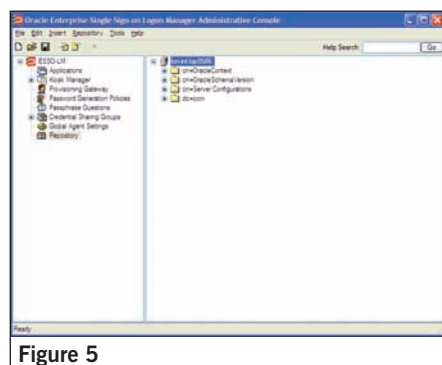


Figure 5

### Step 3: Install eSSO-LM Agent

1. Go to C:\esso\ESSO Logon Manager 10.1.4.0.5 and click on "ESSO-LM.exe".
2. At **Welcome** screen, click **Next**.
3. At **License Agreement** screen, accept the agreement and click **Next**.
4. At **Setup Type** screen, select **Custom** option and click **Next**.
5. At Custom Setup screen, four options will appear.
  - a. **Application:** installs all necessary files and settings that serve as the core foundation of the application.
  - b. **Logon Methods:** This option provides plug-ins for different methods of logging on to eSSO-LM. Choose **Windows Logon**.
  - c. **Extensions:** This option provides plug-ins that enhance and extend the functionality of eSSO-LM.
    - i. **Backup/Restore Manager:** allows a user or administrator to backup a user's passwords and settings to file and restore, if required. This feature should not be used along with synchroniser, due to conflicts in credentials time stamp.
    - ii. **Logon Manager:** this is a required component for credential management, request and delivery. It includes support for web application accessed through Internet Explorer or Firefox. Mainframe applications, console window applications such as Telnet and JAVA applications.
    - iii. **Setup Manager:** This plug-in provides the initial first time use experience when setting up the SSO application.
    - iv. Expand **Extensions -> Synchronisation Manage -> LDAP Synchroniser**. It will allow eSSO-LM to synchronise administration configuration, mobility and

backup. Administrators can deploy configuration overrides to provide new registry, application template, and first-time use settings or to update existing settings. eSSO-LM synchronises credentials to a central repository i.e. OID, in this example.

- v. Expand **Event Manager** and choose **Windows Event Extension**. This plug-in supports logging of events to Windows Event Manager.
- d. **Languages:** provides localised language support for various international languages.

6. At **Ready to Install** screen, click **Install**.

7. Click **Finish**, once installation is completed.

### Step 4: Configuring OID with eSSO-LM

This section contains steps that enable credentials to be stored in and retrieved from Oracle Internet Directory. This section includes:

- Configure logon manager agent to connect to OID
- Create a container in OID for storing SSO information
- Configure a test application
- First time agent setup and confirmation of OID sync

1. Start the eSSO-LM Admin Console
2. Right click **Global Agent Settings** from left hand pane of Administrative Console. Select **Import**, and select **From Live HKLM**. This step imports current configuration from the local-machine registry entry on your system. Additional entries will appear in Administrative Console
3. Expand **Live -> Synchronisation**
4. Set **Enable role/group security support** by checking the appropriate box and selecting **Use role/group security** from the appropriate drop down box. Set **Sync Order** to **LDAPEXT** and **Interval for automatic re-sync** to 5. (See Figure 6.)

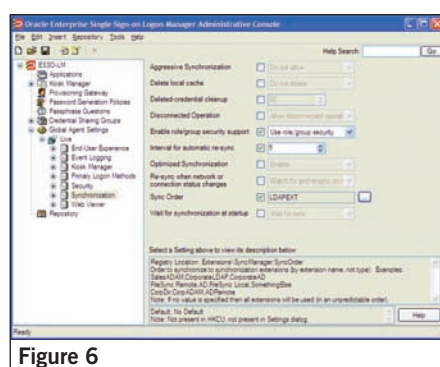


Figure 6

5. Navigate to **Global Agent Settings -> Live -> Synchronisation -> LDAPEXT -> Required**. Select **Directory Type** check box and specify value as **Oracle Internet Directory**. Select check box named **Servers** and specifies OID server hostname/IP address along with Port. (See Figure 7.)

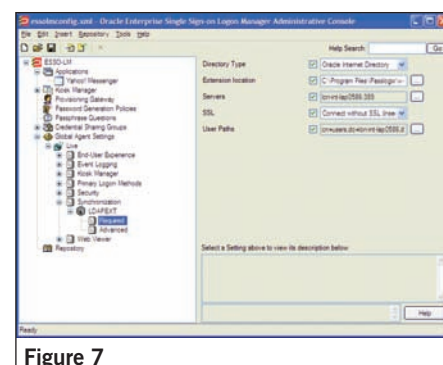


Figure 7

6. After configuring the eSSO-LM agent, we need to configure OID to store eSSO-LM application templates and configuration settings in OID. Login into **Repository** by clicking on link in left pane.
7. Right click on container named **dc=lon-int-lap0586, dc=com** and select **New Container**. Specify container name as **SSOConfig** and click **OK**. New container will appear in OID schema as following. (See Figure 8.)

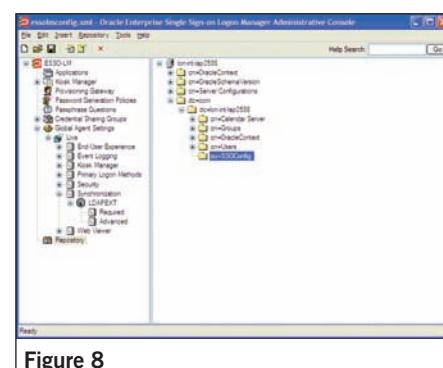


Figure 8

8. Update the eSSO-LM agent configuration to make use of container defined in earlier step to store application templates and configuration information. Navigate to **Global Agent Settings -> Live -> Synchronisation -> LDAPEXT -> Advanced**.
9. Check the check box next to **Configuration Objects Base Locations**, and click on button on right hand side of field. Specify container location as **ou=SSOConfig,dc=lon-int-lap0586,dc=com** and click **OK**.



10. Update the configuration information to OID. Click on **Repository** entry in left window pane. In right window pane, right click on container **ou=SSOConfig** and choose **Configure SSO Support** option.
11. At **Configure SSO Support** screen, select **Administrative Console** as data source, as we are uploading application template defined in eSSO-LM Administrative Console.
12. Choose configuration mode as **Advanced**, and click **Next**.
13. Click **Next**.
14. At **Global Agent Settings** screen, choose **Live** and click **Next**.
15. At summary screen, review the information and click **Finish**. Application template information is uploaded in OID.
16. To update the client systems registry entries with updated information from OID container, choose menu option **Tools -> Write Global Agent Settings to HKLM**.
17. Restart client desktop.

### Step 5: First Time Use (FTU) Agent Setup

1. After the system restart, login into your desktop/laptop. Since this is first time we are logging in after installing eSSO-LM Agent, First Time Use (FTU) wizard will appear and prompt for OID username/password to update the user information. (See Figure 9.)



Figure 9

3. At **Primary Logon** screen, click **Next** and at next screen, choose **Windows Logon** and click **Next**. It will prompt for user's Windows credentials.
4. Provide the credentials and click **Next**.
5. Click **Finish** and eSSO-LM is ready for use.

### Step 6: Add applications to eSSO-LM

In this section, we will demonstrate that how we can add a web application to eSSO-LM.

1. Launch Internet Explorer and open <http://metalink.oracle.com>
2. Click at Login to Metalink link. (See Figure 10.)

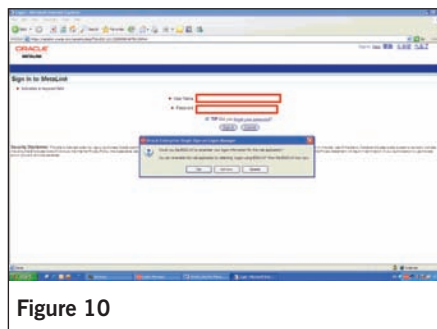


Figure 10

3. eSSO-LM will automatically detect web login page and will prompt user to enable ESSO-LM to remember the login details. Click **Yes**.
4. A **New Logon for Login** dialog will appear. Provide Metalink Username/Password details and click **Finish**. (See Figure 11.)

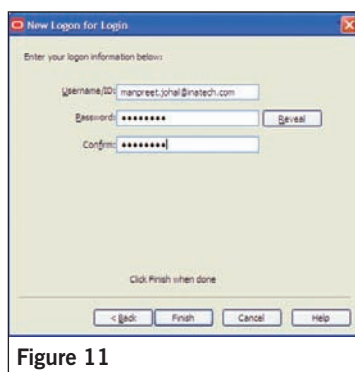


Figure 11

5. ESSO-LM will implicitly login user into Metalink with credentials provided.
6. Next time, whenever the user will access Metalink Login page, ESSO-LM will login user with credentials provided during application registration.
7. User can view the registered applications information by right clicking at ESSO-LM icon, which appears in system tray and choose **Configuration-> Logon Manager**. (See Figure 12.)

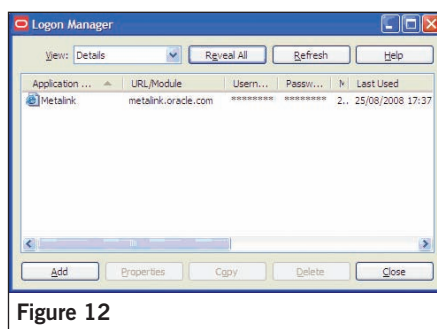


Figure 12

8. Similarly, users can add other desktop and web applications to Logon Manager.

## Conclusion

Oracle Identity Management enables customers to manage life cycle of user identities by providing products which manage different stages of user identity life cycle. Customers can choose the products that fulfill their business requirement and integrate with existing in-house identity management products. Thus, providing a unified and integrated identity management solution.

## Inatech Value Add

The following services can be provided for Identity Management Solution:

- Enterprise Single Sign On for Web Application
- Single Sign On integration with Microsoft Active Directory
- Synchronisation of Users' Account from Microsoft Active Directory to Oracle Internet Directory and vice versa
- Integration functionality with 3rd party Directory Services using out-of-box with available Integration Functions, and using LDAP APIs where standard integration function is not available (provided Directory Service should support LDAP interface)
- Available directory connectivity solutions for Peoplesoft and Oracle Human Resources
- High Availability and Scalability deployment and support

## About the Author



**Manpreet Singh Johal**, Solution Architect – Inatech Solutions Limited  
Manpreet Singh Johal is an Oracle Certified Associate – AS

10g with nearly 8 years of cumulative work experience. He has excellent technical experience in Oracle Applications 11i/R12; Fusion Middleware - Application Server, Identity Management, Enterprise Management, OCS Implementation, Portal Administration/Development, and Software Development/System Analysis. He has worked with various teams successfully across multiple projects globally. He has also conducted a presentation at UKOUG 2007 on "Designing Disaster Recovery Site with OracleAS Guard 10g".

# The Tools of Fusion: Oracle JDeveloper and Oracle ADF

## A Beginners Guide to JDeveloper and Oracle ADF

by Grant Ronald, Oracle

For many of you reading this magazine, whether you are an implementer of Oracle's business applications, hard-core technologists, or just the guy in the middle who has to do everything, which is probably most of us, the term "Fusion" is one you are probably hearing more and more. Whether through Oracle's next generation of business applications or as a company building applications on Oracle technologies, Fusion is something that will affect all of us in the Oracle eco-system.

And at the heart of this eco-system are a set of tools and technologies. Now, you may not have made a conscious decision to embrace them and may think: "they are not really for me", but these are the tools and building blocks now being used by Oracle and customers alike to build their next generation of business applications. Maybe these technologies "are for you" after all? This article is the first in a series taking you on a journey of discovery, and hopefully enlightenment, explaining how Fusion is built and the tools and technologies used.

### If I had a hammer

For Fusion developers, there are essentially two tool sets: Oracle JDeveloper and Oracle Application Development Framework (Oracle ADF). JDeveloper is the IDE (Integrated Development Environment). The builder in which you "do stuff": write code, debug it, design screen layout etc.

Complementing JDeveloper is Oracle ADF: a set of runtime and design time features that implement common, and best practices (often called design patterns) on the Java platform: meaning you don't have to write it yourself. So, for example, the Java EE specification tells you how to map Java objects to relational database tables; ADF implements that for you.

It's probably worth pointing out that developing with JDeveloper and Oracle ADF doesn't tie you to either the Oracle middleware or database, or in fact, even to JDeveloper. Being based on standards, applications can be built to run against a variety of data sources, middle tier servers and developed with tools such as Eclipse. That's what a standards based platform is all about.

### JDeveloper

Possibly a contradiction in terms, but the focus of JDeveloper is everything! It's not just Java development; it's not even just about Java developers. It's about a single environment for the complete lifecycle of application development whether you are a database developer, Java developer or someone coming from Oracle's "classic" tools background like Forms and Reports.

#### Complete Lifecycle

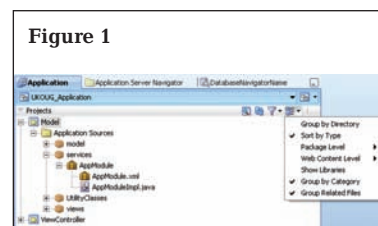
This one tool becomes your single point of development – integration with a source code management system like Subversion gives you the ability to version and manage your source code, whether it is Java code, XML or SQL files. UML tools allow you to visualise and model elements such as databases, class and use cases. Coding aids help you refactor, syntax check, profile and debug your code; whether its

PL/SQL, Java or JavaScript! And WYSIWYG editors aid you in designing your user interface or visualizing page flow and service orchestration.

So let's take a high level look at the IDE.

JDeveloper helps organise your source files, starting at the top most level with an *Application*. Within the application you have a number of *Projects*: a project being a logical container for a portion of your application. For example, you might decide to partition your user interface into a different project from your business services. Furthermore, you can also partition your source code into *Packages*. So you might envisage the Application/Project/Package structure like a filing cabinet (*application*), with separate drawers (*projects*) and each drawer containing folders (*packages*) in which you organise individual source elements. In fact, a feature of JDeveloper called Application Templates automatically creates a recommended application structure depending on the type of application you want to build, and also tailors the IDE menu choices to only present choices that make sense for

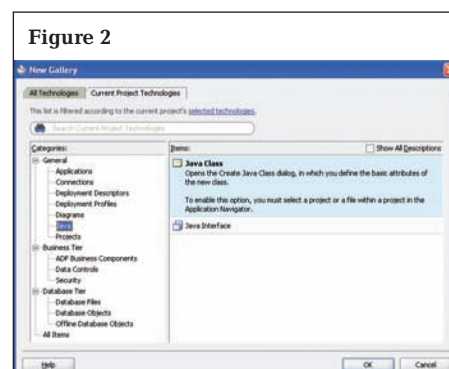
the application you are building. Hence, the full power of JDeveloper now becomes focused on the technologies that matter to your application. (See Figure 1.)



The Application Navigator in Figure 1 shows an application called *UKOUG\_Application* containing two projects, *Model* and *ViewController* and four packages *model*, *services*, *UtilityClasses* and *views*. Furthermore, JDeveloper provides various ways of filtering and sorting the source files to ensure you are working with a well ordered and structured view of your source.

You can also see tabs for the Application Server and Database Navigator. For example, the Database Navigator provides a view of connections to your database(s) and allows you to browse and edit database objects such as tables, sequences and server side PL/SQL, of course, assuming your database connection has those privileges.

What would you like to create today?

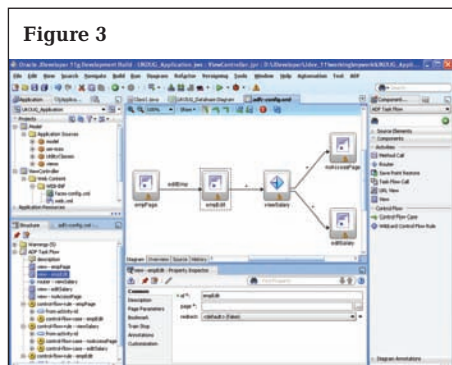


So, it's from within the Application Navigator that you would start building your application. But what do you want to create? Like most environments **File -> New** is a pretty intuitive place to start.

Figure 2 shows the New Gallery dialogue that lists the various artefacts you might want to create. A new application? A new Web page? A Web service? A database diagram? Or maybe just a plain old simple Java class.

Of course, what you choose to create will influence what happens next.

As mentioned earlier, JDeveloper supports a range of developers and development styles. So, if you create a page flow diagram, you will be presented with a blank diagram on which you can drag on or create web pages (centre Figure 3). Or if you are more comfortable at the code level, clicking the **source** tab allows you to edit the source code directly; visually or in code, it's all the same source. (See Figure 3.)



However, regardless if you are editing a page flow diagram or a simple Java class, JDeveloper gives you some common insights into the artefacts you are editing. The Application Navigator, (top left, Figure 3) as described earlier, shows the element

you are editing within the context of the whole application. The Structure Panel (bottom left, Figure 3) gives a tree view of the element you are editing. This can be useful for example, when dropping a button onto a page that has many nested panels and toolbars and you want to make sure you are dropping it at exactly the right spot.

The Property Inspector (bottom centre, Figure 3) shows declarative properties for the selected element. This might be a **backgroundColor** property for a button on a page or an **orderBy** property for an object based on a database table. And the Component Palette (right, Figure 3) provides a list of components that can be dropped onto the diagram or page.

Tailoring the IDE to suit the developer is pretty straightforward as well since these windows can be repositioned, resized, docked or hidden as required.

Of course, that's only scratching the surface of JDeveloper, and we'll cover more in later articles, but let's look at the framework that really gives the Fusion developers their power.

### Oracle ADF

Fusion is based on the Enterprise Edition Java platform (Java EE). Java EE defines a series of specifications on how to build multi-tier, distributed Java applications. In addition, there are a number of best practices as well as a whole host of "nice to haves" that anyone embarking on a development project would want to have. And herein lies the challenge. Each development team embarks on their own undertaking to implement, or source through other means, thousands of lines of code just to put an infrastructure in place in which you can actually do "real" development.

What Oracle ADF does is simplify Java EE development by implementing specifications, design patterns and other useful feature so that you can immediately focus on your application.

For example, you want to query the *Employees* table ordered by *Salary* with *JobId* as a list of values looked up from the *Jobs* table and then commit back any changes the user has made. Oh, and for added measure, you can only view the Salary field if you are a manager. And did I mention, I want this accessible from a browser with the data displayed in a table that can be reordered and the columns resized. Oracle ADF is doing all that hard stuff for you. You just set declarative information to define the tables, the attributes and

who has access to them, the LOV and the order by clause. You drag and drop user interface components onto your web page and declaratively hook them up to your data sources. Without Oracle ADF, you are on your own.

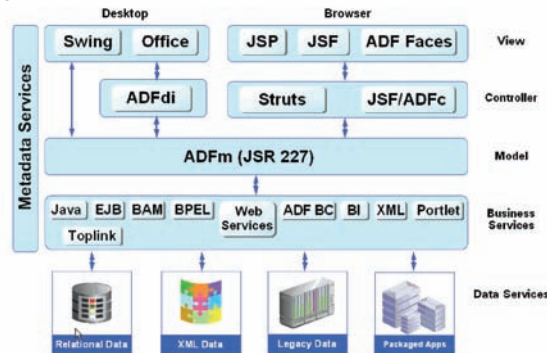
And the power of Oracle ADF is that much of this functionality is declaratively driven. By setting properties and attributes, you are driving the framework without the need to generate or expose huge amounts of code. So, the above example of the *Employees* application would be completely codeless. But, here is the beauty in Oracle ADF: if you really want to change how the framework behaves, augment or extend the framework, Oracle ADF is a "white box" meaning if you want to expose and change the implementation, you can. All the power of declarative development, but with almost boundless flexibility.

But that's enough of the marketing; let's look a little closer at Oracle ADF.

### Model View Controller

Oracle ADF is developed to the architectural pattern called MVC (Model, View, Controller). In layman's terms, all this means is that the implementation of the user interface (View) is separate from the implementation of the stuff that does all your business processing (Model), with the Controller linking the two (See Figure 4).

Figure 4



This separation means that your business services can be accessed through different user interface technologies, from other business services, or reused within part of a more complex flow of business processing.

### To choose or not to choose, now what was the question?

One of the key facets of JDeveloper and Oracle ADF is choice. Within Oracle ADF there are a number of technologies to implement a user interface (for example, Swing or Java Server Faces) and the same is true for your business services as well (see Figure 4).

For many, the freedom of choice gives them flexibility to develop based on their existing skills, end user needs and architectural requirements. For others, choice itself starts to raise too many questions and so following the mantra of "just do what Oracle does" provides the reassurance of knowing the chosen technologies, tools and development experiences are proven given their significance within the Oracle eco-system. For those who choose the Fusion path, the ADF choices are ADF Business Components, ADF Controller and ADF Faces Rich Client.

So, given you now know what JDeveloper and Oracle ADF are, in the next issue I'll drill into the Fusion experience of building business services.

*Editor's note* – This is the first in a regular column from Grant. To find out more about Grant, check out page 26 for an in-depth interview with him!



# Who has done what to your data?

by Shane Creedon, Ategrity Limited

The purpose of this article is to introduce the JD Edwards Database Audit Manager (DBAM) module and present the many benefits it provides to the JDE World users. A brief description of how to configure DBAM and get it working in your organisation is also provided. It is essential that organisations know who did what to their data, when it was done and by whom: DBAM lets you do this simply and effectively. Also, as mentioned below, the functionality is FREELY available from Oracle for maintenance paying JDE World users.

DBAM was introduced into the JD Edwards World application in 2003 with release of Cum 14 of A7.3 and Cum 6 of A8.1. It was also made available via a PTF for earlier releases of both A7.3 and A8.1. It is now fully contained within version A9.1 of the JDE World application. It is compatible with all historic versions of A7.3 and A8.1 of JDE World and if you currently do not have the functionality, it is downloadable (for free) from the customer portal on Oracle's website.

All organisations are now fully aware of the compliance regulations introduced by Sarbanes Oxley. This article is not intended to summarise or précis these requirements – suffice to say that SOX has placed considerable responsibility on company officials to ensure that the company operates with an adequate control framework in place. In overall terms, billions of dollars have been spent in order to create adequate control frameworks and gain SOX compliance. This has led to better control awareness amongst all organisations – whether SOX is required or not. Company directors and officials are now fully aware of the impact inadequate internal controls can have on their business growth and profitability as well as, in certain companies, their legal implications.

Within ERP application offerings, the JDE World application has been a popular choice with many organisations. The application has been developed to cater to all industries and offers the flexibility to be fine tuned to suit specific businesses. It is this flexibility that introduces an element of control concern and places an added burden on the organisation to ensure that optimal controls are configured within the application. Also, the base JDE World application, which pre-dated SOX, has not changed significantly. The existing security functionality within JDE World has largely been around since the inception of the application.

Application security is crucial in any organisation, regardless of SOX compliance. It is critical that it is implemented correctly. Facilities exist in JDE to create good access control (menu security); most interactive update programs that can be secured to prevent users from performing certain events (action code security); videos can be secured (function key security); certain data ranges can be protected in certain files (business unit security). Companies should also understand that there are many methods to access and update JDE data, not just through JDE applications themselves.

“Companies should also understand that there are many methods to access and update JDE data, not just through JDE applications themselves.”

No matter what implementation strategy is used for World security, or whatever third party product is used to support this, the efficacy of any implementation is proved by auditing which users have performed data updates and through which mechanism, DBAM provides this capability.

## Data Base Audit Manager

As the name suggests, DBAM (specifically Database Audit Manager) allows the organisation to monitor precisely who does what to one of their most valuable assets – the data itself. This powerful functionality allows the user to select any JDE file and, based on their own specific configuration, capture all changes made to it. More specifically, who made the changes, when they were made and which application (JDE or otherwise) was used to make it.

## How it works

The DBAM functionality is executed from the JDE menu G946. Firstly a customer should decide on a naming convention for the trigger programs and audit files DBAM will create. There are then 3 simple steps required to set up an effective audit history of any JDE table.

1. Select the Files to be monitored
2. Select the Fields to be monitored for updates
3. Select the Fields to be recorded

Once these selections have been made through DBAM and the audit files and trigger program names have been defined, all necessary objects will automatically be created either interactively or in batch mode.

All that is left to start a complete audit history of any Add, Change or Deletion event is to turn on the audit triggers through DBAM.

## Reporting

The data stored in the audit history file can be reported using Query, DREAM writer or World writer reports.

## DBAM versus Journaling or Other monitoring methods.

A number of third party OS400/I5OS tools for database audit exist and the OS itself has its own database change recording mechanism through Journaling. However neither of these are designed to work seamlessly with JD Edwards. This can make setup more complicated (file/environment identification etc.) and create additional integration work for JDE customers. Third party tools will obviously generate additional costs, both in terms of acquisition and implementation.

Journaling itself has a very wide scope and does not exist simply to record database updates. It has been designed to cover amongst other things:

- Updates to the journal receivers themselves
- File operations including when they are opened and closed
- Record updates
- Support for commitment control

Furthermore, the complexity of setup can be daunting. Perhaps the most important consideration when using Journaling, as opposed to DBAM, is that it is indiscriminate in terms of the database updates it records. Within JD Edwards many interactive applications will update the user date and timestamp fields when no other updates to the record are made. For example, if a subfile screen holds 15 records and an action code update is applied to one record, the date and timestamp fields for all 15 records will be altered and recorded in a journal. This can lead to confusion and significant data volume issues.

Because DBAM is based on trigger program logic, it can specifically exclude these or any other fields from a file being monitored.

## Getting the most from DBAM

There are literally thousands of tables in the JD Edwards World application. Fortunately the vast majority of these, while not immaterial to an organizations operation, would not warrant database audit monitoring. As a minimum Oracle recommends that the JDE security tables are monitored.

Every customer is unique and may have a specific audit requirement. However to assist in the selection of files we can consider four types of table.

1. Security files
2. Configuration files
3. Entity files
4. Transactional files

## Security Files

It is quite apparent why the JDE World security tables should be audited. These will define both access control and what a user can do when they are in an application. Included in the recommended audit file list are the menu tables. These hold masking attributes that can grant or deny access. All too frequently users will create their own instance of menus that call JDE or non JDE applications.

## Configuration Files

There are many configuration files in JDE. It is these that make the application so flexible and user friendly. For example, automatic accounting instructions will define the path of automated transactional processing in terms of source and destination accounts. Careful analysis of these files need to be performed for correct configuration purposes.

“...it is vital for an organisation to be able to determine who has done what to the actual data it owns. DBAM for JDE World is the ideal way to do this.”

## Entity Files

If a fraud were to be perpetrated, this would in many cases require the definition of some sort of entity. This might be an account, supplier or fictitious employee. For this reason, a selection of critical entity definition files should be included.

## Transactional Files

The clearest record of what has been done on a system will exist at the transactional level. For that reason the primary transactional files have been included in this section as a recommendation for auditing. While data volumes are unlikely to be an issue for the files in the other areas, the selected audit fields in these tables should be kept under review. The best way to manage data volumes is to purge the data from these tables by audit history date, which is a Julian value held on all audit tables.

## Conclusion

The DBAM functionality has been developed to provide a truly effective audit solution for its users. The functionality is freely available and is an excellent addition to any organisations operation. As mentioned previously, it is vital for an organisation to be able to determine who has done what to the actual data it owns. DBAM for JDE World is the ideal way to do this.

## About the Author



**Shane Creedon** has been involved in designing security and compliance solutions for many organisations using SAP and JDE. Since

1992 he has launched a number of software companies which have developed compliance and corporate governance solutions for the market. Currently Shane is a director of Ategrity Limited which specialises in developing integrated control solutions for JDE applications.

The author can be contacted at [Shane.creedon@ategrity.com](mailto:Shane.creedon@ategrity.com)

# Who's knocking on your door?

## Dynamic Resident Connection Pooling

by Bob Mycroft, Fortissimo Solutions

This article should mainly be of interest to the Oracle DBA and architect. In it I want to talk about one of the new 11g features – Database Resident Connection Pooling (DRCP for short) and do a comparison against the two methods for connecting to the database before 11g – Dedicated and Shared Server.

### An Overview of Dedicated Server

Before 11g, the two main methods for handling connections to the database were “Dedicated Server” and “Shared Server”, both of which have been around for a very long time. Dedicated Server is your “default” connection type. In this connection type, every client connection into the database has its own “server process” running on the database server. Hence, the relationship between a session and its server-side process is 1:1. The server process will continue to service only that session until the session is closed, whereupon the process will close releasing its resources back.

Dedicated Server is traditionally used for Client-Server applications where the likely number of sessions is known and where potentially an end-user will connect to an application and stay connected all day, with few disconnects and reconnects. This does mean that the resources assigned to the process (especially memory) are held while the process exists, even if the session is idle. If you have a large number of sessions – and hence a large number of server

processes – a large amount of memory can be consumed and is held for the duration of the session. Dedicated Server tends not to perform well for applications that connect to the database, grab a single piece of information and release quickly, because the creation of a new session along with the server-side process is resource intensive.

You can see the dedicated server processes at the operating system level. The process names are of the format *oracle<sid>* ie. for database db01, in a “*ps -ef | grep oracle*” you would see the following: “*oracledb01 (LOCAL=NO)*”. There are no database parameters that you need to set to use dedicated server as it works “out of the box”. (See Figure 1.)

### An Overview of Shared Server

For applications where the number of sessions in the database may be large, or likely to grow, shared server may be more suitable. In this architecture, the number of sessions is different to the number of server processes. The idea is that a limited number of server processes will service a larger number of sessions in the database. There is no direct permanent correlation between

a server process and a session in the way there is with dedicated server – a session can be served by any one of the shared server processes. Shared Server is more suited to “high think-time” applications, where a particular session is idle more than it is busy. In essence, when a particular session has no work to do, the shared server process is free to do work for another session.

Shared Server uses a couple of additional architectural components – namely dispatcher processes and their relevant queues. There is a single “common-request queue” and each dispatcher has its own “response queue”. Requests to run a piece of SQL are placed on the request queue by the client. The least-loaded dispatcher takes the request from the request queue and passes to an idle Shared Server for processing (the listener keeps the info on the loads on the dispatchers). This shared-server process performs the query against the database and the results are then posted to the relevant dispatcher’s response queue; the results are then picked up by the client. In reality, there is a little more to the process involving the listener and redirects; If you want to know more, then look at the “Net Services Administrators Guide, Chapter 2 – Connectivity Concepts”

Because there is a limited pool of shared server processes, you don’t want a single request to hog a particular shared server process – doing so effectively means that server isn’t available to service any other requests. It is because of this, that shared server is unsuited to batch programmes and applications with long-running queries. Tuning shared server is a matter of supplying enough dispatchers and enough shared servers to cope with the workload. If there is a shortage of either then you may get waits occurring and hence a performance hit.

The big advantage to shared server is that for the same memory footprint, Oracle can support many more concurrently connected sessions than in dedicated server. Remember though, this is a database scaling option, not a performance improvement option. The added complexity of shared server imposes a slight performance cost.

You can see the shared server processes and dispatcher processes at the OS level; Shared server process are called *ora\_snmn\_<sid>* and the dispatchers are called *ora\_dnnnn\_<sid>*.

Figure 1: Dedicated Server Components

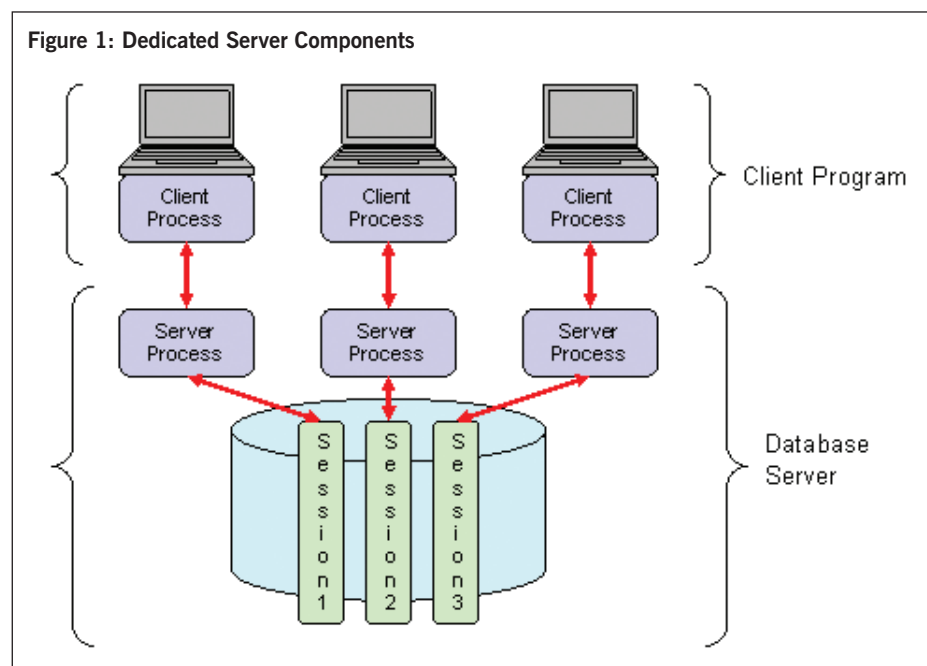
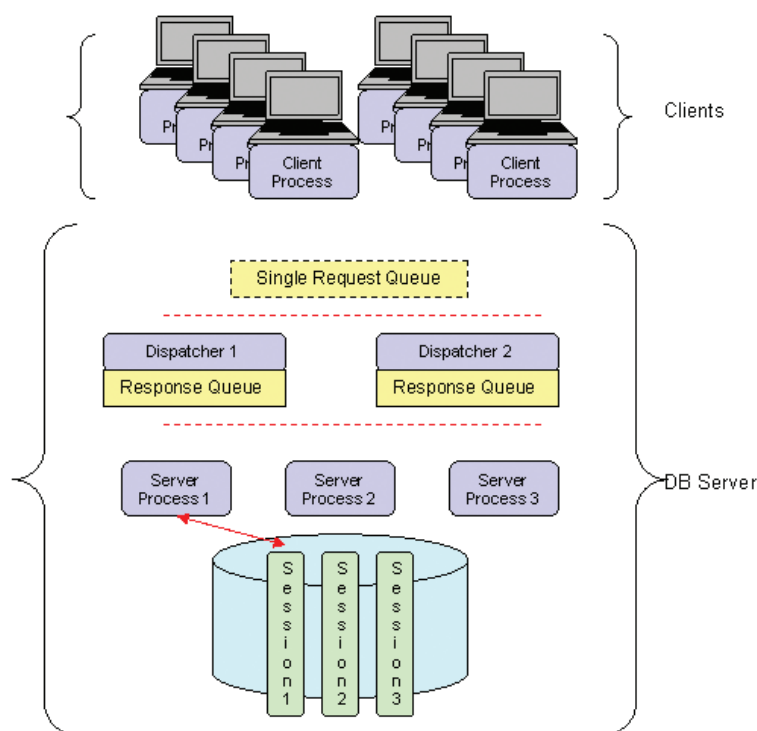




Figure 2: Shared Server Components



Shared server and dispatcher configuration is controlled at a minimum by setting the `shared_servers` and `dispatchers` parameters. (See Figure 2.)

## An Overview of DRCP

In 11g we now have something called Database Resident Connection Pooling (DRCP). In effect, once a client has taken one of the pooled connections, DRCP is the same as dedicated server in that the server process is working solely for the relevant client process. Where DRCP differs from dedicated server is in what happens at the point that a client connects to the database.

For some applications (generally web applications), the client application may create a new session, execute a query and then release the session again, which is both rather expensive in resources and a little slow. In 10g and earlier versions, you would probably want to use shared server for connections for this as it allows the number of connections to scale. The creation of a new session though is still an expensive operation even in shared server. This is where DRCP can step in as it reduces the overall memory resources and the time taken to make that connection.

According to some Oracle documentation, the Pooled Server processes are managed by a background process called `cmon` or the Connection Broker. There is only one DRCP pool allowed in 11g, although the specification of the procedures used to manage the pool suggests that in the future we may be able to have more pools.

Once the pool is started, a number of background processes are created to service any requests for a new session. As new connections are requested, the Connection Broker allocates a connection from the pool to service the request and hands it off to the client for it to do its work. At the point that the connection is released by the client, the connection returns to the pool again for reuse. Unfortunately, I have not managed to find any direct evidence of the “`cmon`” process yet. It doesn’t appear in the OS (`ps -ef|grep cmon`) or in `v$process` so I can’t find any direct evidence for this process. (Is this the *n*th L process though?)

The documentation tells us that “*A pooled server is the equivalent of a server foreground process and a database session combined.*”<sup>1</sup>

The pool is a set of sessions and associated server processes which sit, waiting to be used. While you can see the Pooled Servers at the OS level (by looking for the (Lnnn) processes running) and in `V$PROCESS`, you don’t see an associated session in `v$session` until a connection is allocated from the pool to a client. (See Figure 3.)

One of the things that suggests that DRCP is pooling both processes *and* sessions together is the existence of connection classes. A connection can only be shared at the point of another request if the username matches matches the one used the first time the connection was used. If the first user to connect to a pooled connection

is “FRED” then only “FRED” can use that connection in the future. In my opinion this suggests that the session does exist in some form behind the scenes when not in use, even if it isn’t visible in `v$session`.

You can see this by looking in `V$CPPOOL_CC_STATS`. For every different oracle-user that you connect to the pool, you will get a new Connection-Class.

You can see then that DRCP is suitable for applications where all the connections to the database are made using the same database account rather than as in many Client Server applications where everyone connects as their own user.

If the session in the database is pooled with the process then this may also help explain how pooled server connections are so blisteringly fast – just like in Shared Server on connection, no new background process is spawned but also there is no overlying cost of having to build a new session from scratch again. DRCP has the additional bonus over Shared Server in not having the Dispatcher processes to manage.

## How DRCP works

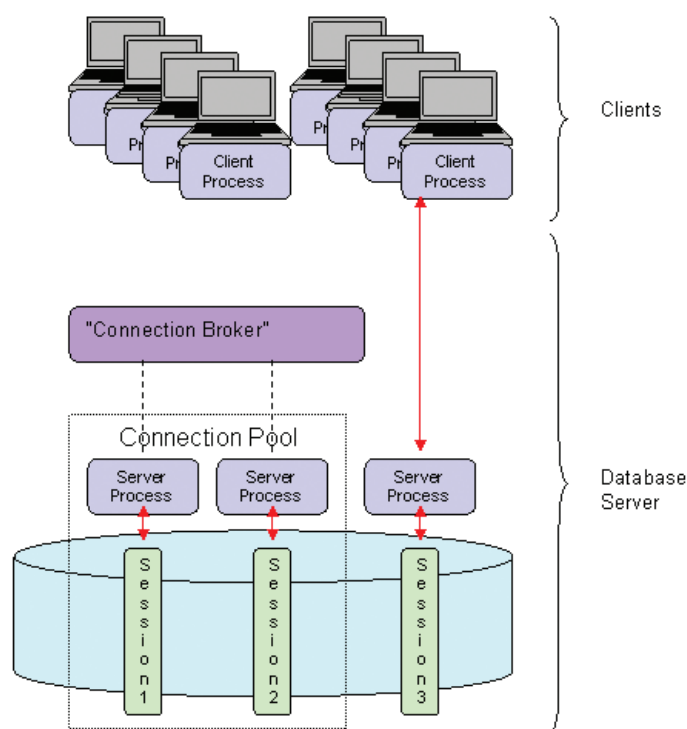
To understand how DRCP works it’s probably easiest to walk through an example case. Imagine we want a connection pool in place with a minimum of 2 and maximum of 10 pooled servers, with a “Max Think Time” of 20 seconds and a pool increment-size of 2.

First, we have to start the connection pool and we do this by executing commands in `SQL*Plus`. By default, there is a connection pool called `SYS_DEFAULT_CONNECTION_POOL` and in the current release of 11g we cannot create new pools. The syntax for the procedures that start the pool suggests that in the future we may be able to create new pools though.

Our first connection request from the client takes the first connection from the pool and connects to the database. When we make the second connection, we see that the pool of sessions starts to grow, 2 at a time, until we have 9 concurrently connected pooled connections. The 10th connection then hangs and waits for one of the connections to be released.

A pooled server is released when either a connection is closed gracefully by the application, or the connection is terminated by oracle because it breached its “max-think-time” condition. Once one of the 9 connected sessions is released, our 10th connection attempt “unfreezes” and this new connection is made to the database, reusing the freed pooled connection.

<sup>1</sup> (Oracle® Database Administrator’s Guide 11g Release 1 (11.1) – “About Database Resident Connection Pooling”).

**Figure 3: DRCP Components****Figure 4**

```
select ses.username,
       ses.sid,
       ses.server,
       ses.status,
       ses.program
from v$session ses
where regexp_like(ses.program, '(L(0-9)(0-9)(0-9))')
```

```
SQL> /
```

USERNAME	SID	SERVER	STATUS	PROGRAM
SYSTEM	135	DEDICATED	ACTIVE	oracle@vulcan (L001)
SYSTEM	126	DEDICATED	ACTIVE	oracle@vulcan (L002)
SYSTEM	143	DEDICATED	ACTIVE	oracle@vulcan (L003)

**Figure 5**

```
SQL> select num_auth_servers from v$cpool_stats
2 /
```

NUM_AUTH_SERVERS
1

**Figure 6**

```
exec DBMS_CONNECTION_POOL.START_POOL;
```

You can see that a session is using a pooled server by looking at the programme column of v\$session as below; you should see that a session is associated with an "Lnnn" process and you can get that information from the programme column in v\$session. The other thing that is interesting is that the v\$session.server column shows the connection type as DEDICATED. (See Figure 4.)

Ok, so we have our pooled connections connected to the database. If the connections then complete the work requested and exit, the pooled connection is released back into the pool. At this point, our pool will now contain 10 idle pooled connections again. You can check this in V\$CPool\_STATS but you can also see this at the OS level by looking for those (L000)-(L010) processes. These pooled connections will stay in place now until used again or until they are closed because they have passed an Inactivity-Timeout threshold or have exceeded the Max-Lifetime threshold that can be set, at which point the pool will shrink back to its Minimum Size.

It's interesting that with a maximum pool size of 10, we can only connect to 9 of the pooled connections. My guess is that the last connection process is used either for the connection manager mentioned earlier as (cman) or as an Authorisation server – on the basis of querying V\$CPool\_STATS. (See Figure 5.)

## How to implement DRCP

In essence, this is really simple to do. There are no Oracle initialisation parameters that are required and the pool is managed through a database package – DBMS\_CONNECTION\_POOL. Incidentally, you cannot manage the pool when connected via a pooled session.

To start the pool we simply do the following as SYS. (See Figure 6.)

To configure the pool, we can use either ALTER\_PARAM to change a single parameter or CONFIGURE\_POOL to change multiple pool parameters simultaneously. In this example, we set the minimum and maximum size of the pool, define how it grows, define how long an idle connection remains in the pool and finally how long for an idle connection to time out. All numbers are in seconds. (See Figure 7.)

If we want to stop the pool we just call. (See Figure 8.)

Finally if we want to reset do as in the illustration. (See Figure 9.)

To make the connection requests to the database use the Pooled Servers, we need to make some changes to our tnsnames.ora entries or to add a bit of text to the JDBC connect string. In the tnsnames entry, add the (SERVER=POOLED) as on the left. (See Figure 10.)

Figure 7

```
exec dbms_connection_pool.configure_pool(-
  minsize => 2,-
  maxsize => 10,-
  incsize => 2,-
  inactivity_timeout => 600,-
  max_think_time => 60);
```

Figure 8

```
exec dbms_connection_pool.stop_pool;
```

Figure 9

```
exec dbms_connection_pool.restore_defaults;
```

Figure 10

```
o11g =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = Vulcan)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = o11g)
      ((SERVER=POOLED))
    )
  )
```

Figure 11

Connect fred/passfred@Vulcan.bob.com:1521/o11g:**POOLED**

Figure 12

DBA_CPOOL_INFO	Contains information about the connection pool configuration such as the pool status, the maximum and minimum number of connections, and timeout for idle sessions.
V\$CPOOL_STATS	Contains pool statistics such as the number of session requests, number of open and busy servers in the pool and the number of times a client had to wait for a free connection.
V\$CPOOL_CC_STATS	Contains statistics on Connection Classes.

Figure 13

Connection Method	Time to connect and disconnect only.	Time to connect, do work & disconnect
Dedicated Server	2:27	4:00 ( 1:33 to do the work )
Shared Server	1:29	4:29 (3:00 to do the work )
DRCP	1:15	2:56 ( 1:41 to do the work)

For a configuration-less style connect, we can connect to a pooled server by specifying POOLED as above. (See Figure 11.) As you can see, DRCP isn't that hard to set up and get running.

If you want to look at statistics about the pool and its usage then there are three views that you can use. Be wary of the values reported in V\$CPOOL\_STATS though as there are a number of bugs relating to this view in 11g r1 and it rarely seems to report correct information about connected sessions etc. (See Figure 12.)

## Getting Test Timings

Just for interest I wanted to test the assertion that DRCP really can offer a performance benefit. To test this, I wrote some code that connected to, and disconnected from the database a set number (2000) of times. I did this for each of the three connection types, both with and without a workload. For the 'workload' connect the session simply performed a count of the rows in a sample table. All timings are in minutes and seconds. (See Figure 13.)

The table shows some interesting results. Looking first at just plain connects/disconnects, with no work; DRCP allowed the connections and disconnections to perform the fastest – twice the speed of the dedicated server connects/disconnects. Shared Server has a very similar connection/disconnect speed but was only marginally slower. This is possibly because shared server still has to create the session in the database even though the server processes already exist.

When it comes to performing the workload once connected, we can see that in this case DRCP is of a comparable speed to dedicated server and much faster than Shared Server.

The bottom line is that for this (very) simple test, DRCP manages connects/disconnects faster than the other methods yet has the performance of Dedicated Server when running queries.

## About the Author



**Bob Mycroft**  
works as an independent Oracle Consultant for Fortissimo Solutions. He has over thirteen years experience with

Oracle as both DBA and a Developer.

Bob can be contacted at  
[bob\\_mycroft@yahoo.co.uk](mailto:bob_mycroft@yahoo.co.uk)



# UKOUG calendar of events 2009

## January

- 20<sup>th</sup>** UNIX SIG Meeting, London
- 29<sup>th</sup>** Public Sector HCM Customer Forum, Midlands

## February

- 4<sup>th</sup>** Oracle Financials SIG Meeting, London
- 5<sup>th</sup>** Hyperion Enterprise Meeting, London
- 10<sup>th</sup>** Business Intelligence & Reporting Tools SIG Meeting, London
- 11<sup>th</sup>** RAC & HA SIG Meeting, Slough
- 11<sup>th</sup>** Oracle Government User Group SIG Meeting, London
- 12<sup>th</sup>** JD Edwards EnterpriseOne SIG Meeting, Slough
- 24<sup>th</sup>** Scottish SIG Meeting, Edinburgh
- 24<sup>th</sup>** Hyperion HFM Meeting, London
- 26<sup>th</sup>** HCM SIG Meeting, Slough
- 26<sup>th</sup>** Criminal Justice SIG Meeting, London

## March

- 3<sup>rd</sup>** Local Government Applications SIG Meeting, London
- 4<sup>th</sup>** App Server & Middleware SIG Meeting & Apps DBA for OEBS SIG Meeting, Slough
- 5<sup>th</sup>** Siebel SIG Meeting, Slough
- 10<sup>th</sup>** OUG Ireland Conference & Exhibition, Dublin
- 10<sup>th</sup>** Hyperion Essbase Meeting, London
- 10<sup>th</sup>** Hyperion Planning Meeting, London
- 11<sup>th</sup>** Local Government CRM Customer Forum, London
- 17<sup>th</sup>** DBMS SIG Meeting, Slough
- 17<sup>th</sup>** JD Edwards World SIG Meeting, London
- 19<sup>th</sup>** PeopleSoft Combined Event, London
- 24<sup>th</sup>** Supply Chain & Manufacturing SIG Meeting, Midlands
- 25<sup>th</sup>** UKOUG Partner Forum, London
- 26<sup>th</sup>** Development Engineering, Modelling, Analysis & Design & Oracle and .NET Combined SIG Meeting, Slough
- 31<sup>st</sup>** Oracle Spatial SIG Meeting, Midlands

## April

- 2<sup>nd</sup>** Management & Infrastructure SIG Meeting, London
- 23<sup>rd</sup>** Education & Research SIG Meeting, London
- 28<sup>th</sup>** Northern Server Technology Day, York
- 29<sup>th</sup>** Oracle Projects SIG Meeting, London

## May

- 12<sup>th</sup>** Stellent SIG Meeting, London
- 20<sup>th</sup>** UNIX SIG Meeting, Midlands
- 21<sup>st</sup>** Oracle Financials SIG Meeting, Manchester
- 21<sup>st</sup>** Public Sector HCM Customer Forum, Midlands

## June

- 9<sup>th</sup>** Document Management & Workflow Special Event, London
- 10<sup>th</sup>** JD Edwards Combined SIG Meeting, Slough
- 11<sup>th</sup>** HCM SIG Meeting, London
- 16<sup>th</sup>** RAC & HA SIG Meeting, London

- 18<sup>th</sup>** Business Intelligence & Reporting Tools SIG Meeting, London
- 23<sup>rd</sup>** OUG Scotland Conference & Exhibition
- 24<sup>th</sup>** App Server & Middleware SIG Meeting, London
- 30<sup>th</sup>** Modelling, Analysis & Design SIG Meeting, Midlands

## July

- 2<sup>nd</sup>** DBMS SIG Meeting, London
- 14<sup>th</sup>** Development Engineering SIG Meeting, Midlands
- 15<sup>th</sup>** UKOUG Partner Forum, London

## August

No events in August

## September

- 8<sup>th</sup>** UNIX SIG Meeting, Slough
- 9<sup>th</sup>** Irish HCM SIG Meeting, Dublin
- 10<sup>th</sup>** Oracle Financials SIG Meeting, London
- 17<sup>th</sup>** Business Intelligence & Reporting Tools SIG Meeting, London
- 22<sup>nd</sup>** App Server & Middleware SIG Meeting, Midlands
- 22<sup>nd</sup>** Oracle Spatial SIG Meeting, Reading
- 24<sup>th</sup>** Public Sector HCM Customer Forum, Midlands
- 29<sup>th</sup>** Oracle Projects SIG Meeting, Midlands
- 29<sup>th</sup>** RAC & HA SIG Meeting, London
- 30<sup>th</sup>** Scottish SIG Meeting, Edinburgh

## October

- 1<sup>st</sup>** Local Government CRM Customer Forum, Midlands
- 1<sup>st</sup>** Management & Infrastructure SIG Meeting, London
- 6<sup>th</sup>** Supply Chain & Manufacturing SIG Meeting, Midlands
- 6<sup>th</sup>** Apps DBA for OEBS SIG Meeting, London
- 7<sup>th</sup>** Oracle and .NET SIG Meeting, London
- 7<sup>th</sup>** Siebel SIG Meeting, Reading
- 8<sup>th</sup>** Local Government Applications SIG Meeting, London
- 13<sup>th</sup>** Criminal Justice SIG Meeting, London
- 13<sup>th</sup>** Education & Research SIG Meeting, Midlands
- 14<sup>th</sup>** Stellent SIG Meeting, London
- 15<sup>th</sup>** Development Engineering SIG Meeting, Midlands
- 22<sup>nd</sup>** HCM SIG Meeting, Midlands
- 22<sup>nd</sup>** Modelling, Analysis & Design SIG Meeting, London

## November

- 3<sup>rd</sup>** Oracle Government User Group SIG Meeting, London
- 30<sup>th</sup>** UKOUG 2009 Conference & Exhibition, Birmingham

## December

- 1<sup>st</sup> – 2<sup>nd</sup>** UKOUG 2009 Conference & Exhibition, Birmingham
- 2<sup>nd</sup>** UKOUG Partner Forum, Birmingham

All event dates are subject to change

# Q&A with Grant Ronald

## by Chris Muir

When talking about Oracle Forms and JDeveloper, one Oracle personality stands out among others - long time blogger Grant Ronald from Oracle Corporation UK. Grant has for a long time “pimped” Oracle Forms and its big brother JDeveloper at Oracle events and user groups events around the world. His popularity is shown by his blog receiving on average 2000 hits per day. Lately, to reassure Oracle customers that Oracle intends to keep on supporting Oracle Forms and show that Forms has a future inline with JDeveloper, Grant has been responsible for the Oracle’s Forms Modernization message.

Chris Muir from SAGE Computing Services Australia conducted the following Q&A session with Grant to get the low down and latest on Forms and JDeveloper, as well as a little about Grant himself.

**CM:** What role do you currently play at Oracle and what does your day job entail?

**Grant Ronald:** Well, my title says “Group Product Manager” and the products I cover are Oracle Forms and Oracle JDeveloper. As a Product Manager you are responsible for the success of the products in your area. That encompasses everything from working with developers on features, the marketing department on campaigns or delivering presentations at events like Oracle World. In the morning you can be rolling your sleeves up and getting into code with a developer, and in the afternoon you can be meeting with the CTO. It’s that varied.

**CM:** How did you get into this Oracle gig anyhow? What’s your background at Oracle and computing in general?

**Grant Ronald:** Back in the early ’80s, home computing was slowly starting to take off with computers like the Sinclair Spectrum, Vic20 and BBC home computers, and it seemed like a new and innovative field to get involved in when I left school. So I got my degree in Computing Science then joined a small IT outfit in the UK that eventually got consumed by EDS. It was a pretty typical development role for about seven years, mainly focused on military applications, and my last job was designing, developing and leading the team for the development of the user interface for a military email system.

“In the morning you can be rolling your sleeves up and getting into code with a developer, and in the afternoon you can be meeting with the CTO.”

### About the Interviewee

**Grant Ronald** is a 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 in various development roles at EDS Defence. Grant has a BSc. in computing science and has been working in the IT Industry since 1989.



This took me up to 1996 when I fancied a change, and Oracle was looking for people with development experience on Unix and Motif in their support organization. So I joined Oracle Support where I eventually headed up the group who supported the local EMEA (Europe, Middle East, Africa) teams in Forms, Reports and Discoverer. Given that I was working closely with the Oracle Product Management team in this role, I was eventually persuaded to make the jump into Oracle Development!

**CM:** Ok, now for some tough questions worthy of any Q&A: You’re currently known via your blog for discussions on Oracle development including Forms and SOA, and presentations in Oracle Developer Days around the world. Previously you were also known for your work on JDeveloper. Why the change? Has Oracle internally panicked about the impression (my emphasis) customers are getting that Oracle has killed Forms, and now the need for Forms advocates?

**Grant Ronald:** There has not really been a change. The thing is, we’ve never stopped talking about Forms. I’ve got the air miles and passport stamps to show that we were still presenting Forms at Oracle World, ODTUG (Oracle Development Tools User Group), UKOUG (UK Oracle User Group), DOAG (German Oracle User Group) and dozens of other events covering EMEA, APAC and the Americas.

The Forms OTN page (<http://otn.oracle.com/products/forms>) is still a hive of activity: news, events, whitepapers and how-to’s. Maybe people thought we had stopped talking about Forms because we were also talking about other technologies as well. Ten years ago if you developed on an Oracle database then you pretty much used Forms, simple as that. But the world has changed and there are other things to talk about now. Which makes sense, if you think about it; there is more need and more demand to be talking about the “new” stuff, especially when it is evolving at such a rate.

**CM:** On discussing Forms and considering that some Oracle customers are confused on the future of Forms, can you outline Oracle's commitment to Forms in terms of existing versions and Oracle Support?

**Grant Ronald:** I think the strongest statement we have is the fact that we published a statement of direction five years ago and that statement remains true today. We've always said that we are committed to Forms and that there have been no plans to desupport it. That line has never changed. Regarding support, we've recently just extended the support date for 10.1.2 (the latest release of Oracle Forms) and Forms 11g is in development, having already had positive reviews from our beta testers. So we are lengthening the support dates, we are working on the next release and we are also discussing enhancements and features for post 11g. I think that's all good news.

**"By following the "upgrade and integrate" roadmap, you can limit the risk to your business applications while still positioning yourself for your long-term strategic goals."**

**CM:** Could the problem with Oracle Forms just be an image problem? It's never been known for sexy development (a'la grey screens of boredom), and especially now that the web world, web rich clients, AJAX etc have taken off.

**Grant Ronald:** The sweet spot for Oracle Forms has always been the ability to rapidly develop rich, transactional business applications. So you see Oracle Forms applications in your government offices, airlines and bank back-offices etc. The need for visual "bells and whistles" is less at the fore than, for example, an online shopping application where a user makes a snap decision, often based on visual aesthetics, as to whether they will use the site.

But there is nothing to stop you pushing the boundaries of the visual aspects of Oracle Forms. We have customers who are using some of the features of Oracle Forms, like PJC's and Java beans, to really push the boundaries of the Forms UI. Like this story: <http://www.oracle.com/technology/products/forms/pdf/capula.pdf>. So there is nothing to stop you modernizing your Forms application, starting with an update of the user interface.

**CM:** So what plans do Oracle have in addressing Forms customers?

**Grant Ronald:** We are continuing to present at all the major events and user groups. In addition, we've launched a focus page <http://otn.oracle.com/goto/formsmodernize>. This includes recorded webcasts on Forms strategy, calling web services from Forms and Forms new features. There are also white papers and customer stories as well. This is also being backed up by a roadshow which to date has hit nearly 20 countries.

For those Forms customers who are taking a step into the Java world, we have a dedicated site on OTN <http://otn.oracle.com/formsdesignerj2ee> as well as dedicated developers guides, books and Oracle University courses.

**CM:** Consider an Oracle shop with a large legacy Oracle Forms application that is running well but in a desupported version of Forms. Should they have any intentions of upgrading their Forms installs and what are the risks if they don't?

**Grant Ronald:** Our roadmap for Forms customers is "upgrade and integrate". So the first point to consider is upgrade. There are, of course, benefits of upgrading but you also have to consider the risk of not upgrading: running your business applications on desupported software that is neither security nor bug patched, or being certified on newer OS or database versions. Are you managing the risk that some piece of this stack may change and destabilise your applications (e.g. a forced O/S upgrade), or are you just hoping that this software tower will hold up with no means of support. It's your call.

Which takes us to the next point: integration. By web deploying your Forms on the application server, you are positioning yourself on a platform on which you can integrate both your legacy applications, and new services and applications.

By following the "upgrade and integrate" roadmap, you can limit the risk to your business applications while still positioning yourself for your long-term strategic goals.

**CM:** Consider an Oracle shop with a large amount of SQL and PL/SQL programmers who are cognisant in Forms. Which Oracle development technology should they pick for maintenance and extension of the existing system: Forms, Apex or JDeveloper/ADF?

**Grant Ronald:** The simplest answer is really to pick the technology/tool that suits you best. If you are extending your existing Forms application it may be that you build new business logic in the database that could be shared between Forms, Java and Apex applications. Or you might decide that you really want to exploit the power of Java and so JDeveloper and ADF would be a natural choice. Many customers are closely aligned with Oracle's business applications and so the Oracle Fusion technology stack may drive the choice of development tool. I try to discourage customers to think in binary terms when choosing tools. The reality is that you will probably have a mix.

**"I try to discourage customers to think in binary terms when choosing tools. The reality is that you will probably have a mix."**

**CM:** You mention that JDeveloper and ADF would be the natural choice for an Oracle developer. Why?

**Grant Ronald:** As I mentioned earlier, I look after Oracle Forms and Oracle JDeveloper. One reason for this split in roles is to bring my 4GL Forms experiences into JDeveloper and Oracle ADF. When I first joined the JDeveloper team I was amazed how developers were willing to write lines of code for common actions that I set with the click of a checkbox in Forms. Part of my job is to ensure that the kind of rich features a Forms developer takes for granted are implemented in JDeveloper and Oracle ADF.



JDeveloper and Oracle ADF is also a natural choice because it's the route our own Applications Division is taking. Our next generation Fusion applications are being built using JDeveloper and ADF. So, as the technology choice for Oracle's own Fusion Applications, the technology is built with the Forms/Database and PL/SQL developers in mind. No other tool or framework can make this claim.

"Fusion applications are being built using JDeveloper and ADF... So, the technology is built with the Forms/Database and PL/SQL developers in mind. No other tool or framework can make this claim."

**CM:** What skills do you see a Forms developer needing in moving to ADF, and what approach do you suggest to a development team in minimising this learning curve?

**Grant Ronald:** There is a learning curve in moving to any new technology but with JDeveloper and ADF we are really smoothing out that learning curve and lowering the barrier at which you can start to become productive.

Of course, the bottom line is that you will need some Java knowledge, but how much depends on how far you want to get below the covers and customize the behaviour of the framework.

With an overview of ADF and some basic Java language skills, you can go a long way: building business services, validation, page flow, rich UI interaction, LOVs, graphs – stuff that you couldn't even consider if you weren't using ADF.

But if you have made a strategic choice to develop on the Java platform, I'd expect you to still have some members of your team who have a more advanced knowledge of the platform so they can make architectural decisions and set up best practices. We are also working on giving you the learning aids to get up to speed. We have developed a number of Oracle University

courses specifically targeted at the Forms audience moving to Java. There are a number of books already published and more in the pipeline that are aimed at opening up the platform. And of course, we have a dedicated focus page on OTN <http://otn.oracle.com/formsdesignerj2ee> and the essential ADF developer guides for 4GL developers.

**CM:** Recently you've been focusing on SOA technology integration with Forms. Why advantages do you see this combination providing? What challenges do Forms programmers face with integration?

**Grant Ronald:** The benefits of a service based approach are already well documented: loosely coupled, reusable implementations of business processes gives a more flexible, agile architecture that is better aligned to the business.

Much of the work we are doing with Oracle Forms now is to allow your existing Forms application to hook into the SOA world. The ability to call out to web services and for those services to call back asynchronously is one example.

"... I think there is a great comfort in knowing that the technology choices you are making are the ones Oracle is betting its business applications on as well."

**CM:** Grabbing your crystal ball, given your long-term experience in development, where do you see Oracle development in 10 years time?

**Grant Ronald:** I think the clearest view of the future can be seen in Oracle's own business applications. Oracle's Applications Division have upgraded to the most recent version of Forms, while looking to exploit the benefits of a services oriented architecture and a standards based platform. Using JDeveloper and Oracle ADF, they are taking developers from a background including Forms, PL/SQL and Peopletools, and making them productive on the Java platform.

I think this gives the clearest indication of where Oracle development is heading and I think there is a great comfort in knowing that the technology choices you are making are the ones Oracle is betting its business applications on as well.

**CM:** Finally, moving out of the Oracle arena, what keeps you kicking out of work? I know you play in a band.

**Grant Ronald:** I play a bit of keys in a band, and that mixed with a few weekends out biking helps balance out all the fun I have at Oracle!

## About the Interviewer

Blogger **Chris Muir** [<http://one-size-doesnt-fit-all.blogspot.com>] is an Oracle ACE Director for the Fusion Middleware program and a senior consultant and trainer for SAGE Computing Services [<http://www.sagecomputing.com.au>] in Australia. With more than 10 years working in traditional Oracle development, he has more recently earned battle scars working with, training with, and promoting Oracle JDeveloper and ADF. Chris Muir is a frequent presenter on Java and Oracle JDeveloper on the Australian Oracle User Group scene.



# Advanced Topologies – A real world example

by James Ball, independent Oracle Consultant  
and Crispin Caws of Sapient

Increasingly in an E-Business Suite implementation it is necessary to provide access to different groups of users. Customers and suppliers are now as likely to have a login to your ERP suite as the guys in Accounts Receivable.

Oracle provide a series of techniques that allow us to deploy the e-Business suite to these groups. These areas were immature and tricky to implement in earlier releases but with the ubiquity of 11.5.10.2, the technology is now established and reliable. This article will look at a real world example where an 11.5.10.2 implementation made available to three groups of very different users across three networks. The database version is 10.2.0.3 and the platform is IBM p-Series running 64-bit AIX.

The groups needing access are:

- A. Internal users. This set of users come to a secure office and connect to the office local area network. They can access a full range of responsibilities; there is no requirement for the traffic to be encrypted.
- B. Remote users. They have access across an extended WAN, which is shared with other organisations. The users need access to a full set of responsibilities and traffic must be encrypted.
- C. Internet Suppliers. Access is to be provided across the internet to a highly restricted set of responsibilities and must be encrypted.

## Architecture and Technologies Used

The diagram below shows the hardware used to reach these users. There are three farms of application servers, one for each of the three user groups. Each farm is held within a network cell where only known and trusted ports are opened. The database server is held within a further cell. (See Diagram 1.)

The technical solutions used during the install along with the Metalink references are:

SSL for eBusiness Suite:  
Metalink 123718.1  
Shared Applications Tier:  
Metalink 233428.1  
e-Business Suite in a DMZ:  
Metalink 287176.1  
Advanced Configurations:  
Metalink 217368.1

## Step One – Split application server types

We start with a two node installation in the internal application server and the database server. The application server install will be the root from where we will clone out all other nodes.

Following a successful two node install, the next step is to change the profile hierarchy from “security” to “server/responsibility” this means that we will be able to set profile options based on the server the user initially logs in on rather than on the normal site, responsibility, application or user. This is important so that the pages which make up the framework, all have the correct referential links in them, otherwise users accessing one application server farm could find themselves clicking a link to a server they do not have access to and seeing browser errors. (See Figure 1.)

Figure 1

```
cd $FND_TOP/patch/115/sql
sqlplus apps/<password>
@txkChangeProfH.sql SERVRESP
```

Run autoconfig and then restart and connect to the application server. When querying back profile options, you should have the option to specify the server name. These should be populated with the properties of the internal application server just configured.

## Step Two – Create External and Internet nodes

We can clone out the node we just configured to create the first nodes in the External and Internet farms. To do this we preclone, copy and post clone. (See Figure 2.)

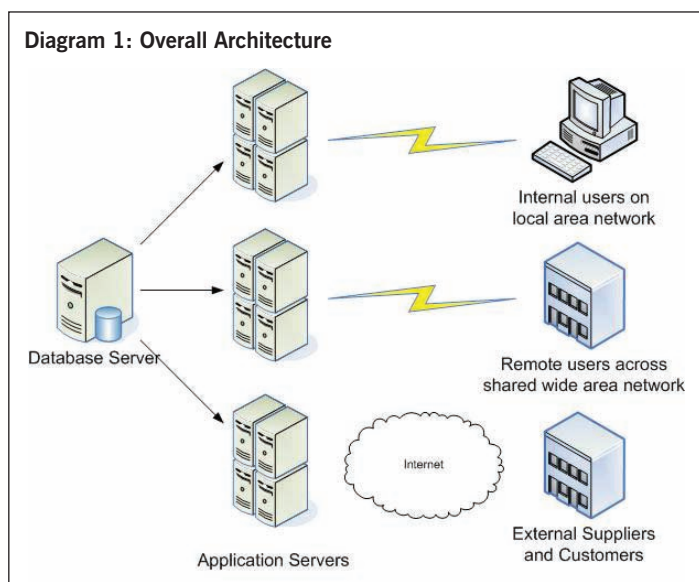
Figure 2

```
cd $OAD_TOP/admin/scripts/<context>
./adpreclone.sh appsTier
```

Copy the APPL/COMN/ORA file systems to the target nodes. (See Figure 3.)

Figure 3

```
cd $OAD_TOP/clone/bin
perl adcfgclone.pl appsTier
```



At the end of this step, we should have a single node in each application server cell. We can check connectivity for the user groups with access to each domain, although it may be unwise to open up access to the internet facing application servers at this point as Apache is still running unencrypted HTTP. (See Diagram 2.)

### Step Three – Add resilience in application tier

To maintain a good level of service to all users in each domain, we run at least two nodes in each farm. A shared file system utility allows us to present the Oracle file systems to each node in each domain at the same time. We can then use Oracles shared application tier technology to deploy the software to the additional nodes.

On the primary node in each domain, run the shared application tier script and then preclone the node. (See Figure 4.)

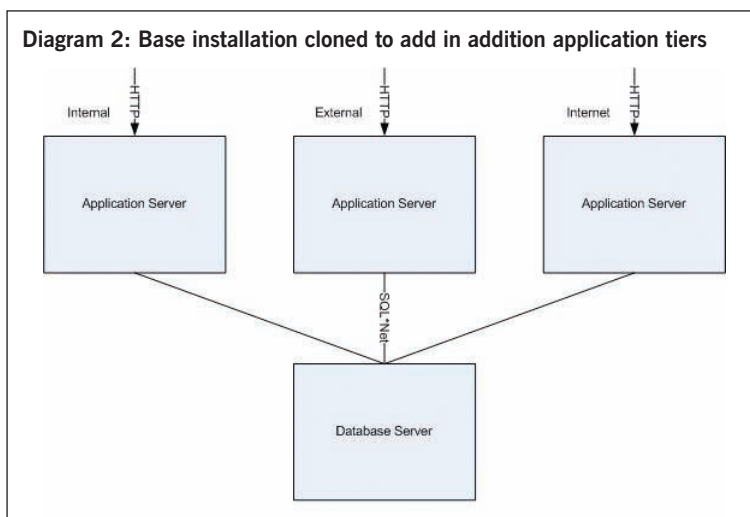
**Figure 4**

```
cd $FND_TOP/patch/115/bin
perl txkSOHM.pl
perl adpreclone.pl appsTier
```

On each secondary node in each domain, clone the primary context file and then run the shared application tier script. (See Figure 5.)

At this stage, it is important to check that the `s_server_ip_address` is set correctly in the `context.xml` file for each of the nodes and then run `autoconfig`. This parameter is very important as this IP address is used to

create the `server_id` value in the `dbc` file for the node. This file is used each time a user makes a connection and it is this `server_id` value, when compared to `find_nodes`, which is used to identify the server a user is connected to make sure they stay in the correct domain. If the `server_ip_address` parameter is incorrect, then the user will find themselves directed to the wrong domain. (See Diagram 3.)



**Figure 5**

```
export PERL5LIB=/ias_oracle_home/Apache/perl/lib/5.00503:/ias_oracle_home/Apache/perl/lib/site_perl/5.005:/appl_top/au/11.5.0/perl
cd /appl_top/ad/11.5.0/bin
/ias_oracle_home/Apache/perl/bin/perl adclonectx.pl sharedappltop contextfile=/appl_top/admin/SID_nodename.xml
cd /appl_top/fnd/11.5.0/patch/115/bin
/ias_oracle_home/Apache/perl/bin/perl txkSOHM.pl
```

**Figure 6**

```
cd $OAD_TOP/admin/certs/apache_$(hostname)
$IAS_ORACLE_HOME/Apache/open_ssl/bin/openssl genrsa -des3 -out apache_1024.key 1024
```

**Figure 7**

```
cp apache_1024.key apache_1024.key.bak
$IAS_ORACLE_HOME/Apache/open_ssl/bin/openssl rsa -in apache_1024.key.bak -out apache_1024.key
```

**Figure 8**

```
cd $OAD_TOP/admin/certs/apache_$(hostname)
$IAS_ORACLE_HOME/Apache/open_ssl/bin/openssl req -config $IAS_ORACLE_HOME/Apache/open_ssl/bin/openssl.cnf -new -key apache_1024.key -out apache_1024.csr
```

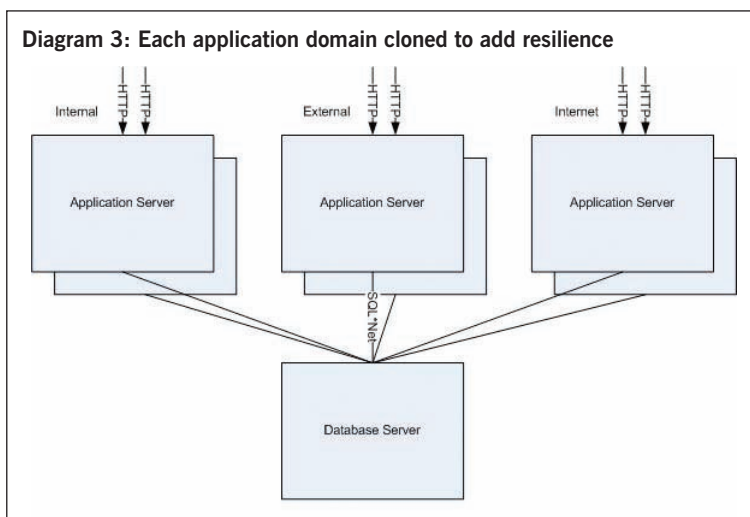
**Figure 9**

```
$OAD_TOP/admin/certs/apache_<hostname>/ssl.crt/server.crt
```

**Figure 10**

```
$OAD_TOP/admin/certs/apache_<hostname>/ssl.crt/ca.crt
```





### Step Four – Secure HTTP

On untrusted networks, we need to encrypt the traffic between the user and the application server. For this reason we need to convert the nodes in the internet and remote user networks to HTTPS. This step is lengthy because it must be completed on each node and because we rely on a third party service to provide the SSL certificate for each node.

Generate an apache key, (see Figure 6).

Decode this key so that passcode is not necessary to start the software each time (otherwise it would not be possible to automate the starting and stopping of the software). (See Figure 7.)

Generate the signing request, (See Figure 8.)

This signing request is submitted to a signing authority such as Verisign, when the authority responds they will provide a certificate. This should be stored in, (see Figure 9).

The certificate also needs to be converted into a PEM encoded version (using Microsoft Internet Explorer – the process is shown in Metalink note 123781.1) and stored in (see Figure 10).

**Figure 11**

```
/u01/app/oracle/sprdcomn/admin/certs/apache_<hostname>/ssl.crt/intermediate.crt
```

**Figure 12**

```
cd $IAS_ORACLE_HOME/Apache/open_ssl/bin
./openssl s_client -connect localhost:8012
```

The email from the signing authority will contain a link to the intermediate certificate. Download this and store in, (see Figure 11).

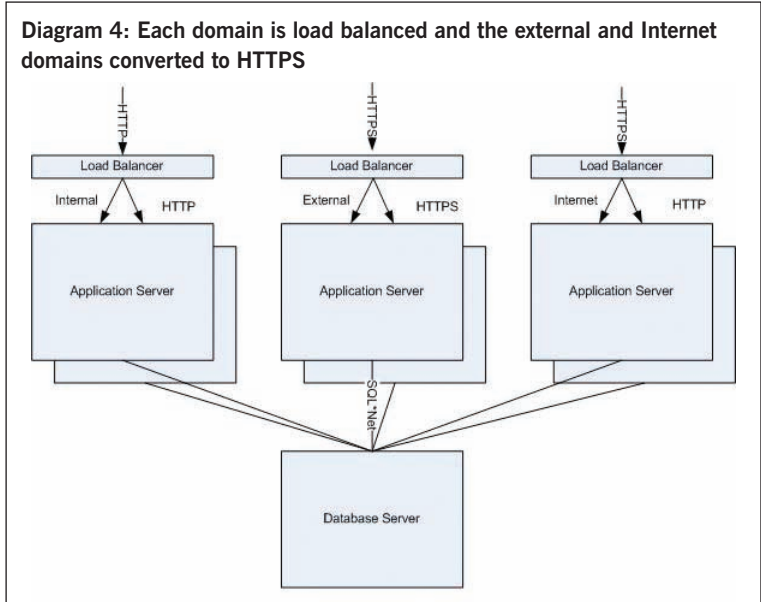
The changes in Apache configuration will all be taken care of by autoconfig so the following amendments in the context.xml file and a run of autoconfig, will implement the new certificate (see Table 1).

**Table 1**

Variable	Value
s_url_protocol	
	https
s_local_url_protocol	https
s_webentryurlprotocol	https
s_frmConnectMode	
	https
s_webssl_port	8000
s_active_webport	8000
s_webport	8000
s_web_ssl_directory	\$OAD_TOP/admin/certs/apache_<hostname>
s_web_ssl_keyfile	\$OAD_TOP/admin/certs/apache_<hostname>/ssl.key/server.key
s_web_ssl_certfile	\$OAD_TOP/admin/certs/apache_<hostname>/ssl.crt/server.crt
s_web_ssl_certchainfile	\$OAD_TOP/admin/certs/apache_<hostname>/ssl.crt/ca-bundle.crt
s_apps_portal_url	<a href="https://www.domain.com/pls/&lt;SID&gt;_portal30/portal30.home">https://www.domain.com/pls/&lt;SID&gt;_portal30/portal30.home</a>

When autoconfig is complete, we can start the apache server and test from the server with the command (see Figure 12).

This should return the certificate to the command prompt.



### Step Five – Configure Web Entry Points

A hardware load balancer in each network cell is used to direct traffic to the application servers and make sure the load is balanced across the available nodes. Another run of autoconfig on each application server after making these changes in the context file will implement this. This will need to be completed in each application server farm changing the values of web entry host and domain so that they correspond to the load balancer name for the farm. (See Table 2.)

### Step Six – Set Application Server Types

To increase the level of security on the internet facing servers, we can specify that they are “External”. To Oracle this means that the server is a higher risk and only certain responsibilities (also marked as available externally) can be used.

From the system profile options form, query each internet application server for the profile option “Node Trust Level” and set the value for this to “External”. To make a responsibility available on these servers use the same form to query the “Responsibility Trust Level” profile and set this to “External”. A run of autoconfig on each node in the Internet farm implements this change. Making this change also introduces the URL firewall to the Apache servers effectively disabling all URLs aside from those specified. If there are any pieces of custom code which need to be deployed on the internet, this file will need to be reviewed and amended. Note that this file is always overwritten by autoconfig, so it’s worth considering putting in a customised version of the file so that changes don’t always need to be reapplied. (See Diagram 4.)

That completes the process. From the starting point of a base two-node installation of 11i we now have six nodes available to a range of users across different networks and accessed via different URLs. There is, of course, a great deal more which could be discussed. The architecture depends completely on the configuration of networks, load balancers and storage area network which will differ from site to site but hopefully this article gives an insight into how a number of different Oracle technologies can be used together.

Table 2

Variable	Value
s_webentryhost	www
s_webentrydomain	domain.com
s_login_page	<a href="https://www.domain.com/OA_HTML/US/ICX_INDEX.htm">https://www.domain.com/OA_HTML/US/ICX_INDEX.htm</a>

### About the Authors

**James Ball** and **Crispin Caws** implemented this solution as part of an IT transformation project by Sapient for a central government department.



James is an independent Oracle consultant and can be contacted on [james@jamesballconsulting.com](mailto:james@jamesballconsulting.com)



Crispin is Oracle Technical Architect for Sapient and can be contacted on [ccaws@sapient.com](mailto:ccaws@sapient.com)

# Partitioning in Oracle Database 11g Release 1 – Part 2

By Tony Hasler, Anvil Computer Services Ltd

Oracle Partitioning has been extensively improved in Oracle Database 11g Release 1 and now has a new manual almost entirely to itself. Last time we discussed most of these new features but one important feature, interval partitioning, was left out. This article covers that gap with a dedicated discussion.

Documentation for partitioning has moved to the “VLDB and Partitioning Guide”. This is a new manual dedicated almost entirely to partitioning and you can find much more information about this topic in this manual.

## What is Interval Partitioning?

Here’s a scenario that some of you may be all too familiar with. You have a table partitioned by range using a date column. Each month you drop the oldest partition and create a new partition for the coming period. However, you went on holiday and your colleague did something you would never do: he/she forgot to create the new partition. As a result, there was a service outage and all the associated post-mortem hoo-ha that usually accompanies such events.

Interval partitioning is designed to make such problems a thing of the past. You tell Oracle how big your ranges are (one month in the previous example) and Oracle will automatically create the partition for you when someone tries to insert a row into it. You may well ask whether Oracle will drop the old partition automatically as well. Not surprisingly the answer is: no it won’t. So you had better not make your holidays too long or the tablespace will fill up!

## Management Extension or Partitioning Strategy?

Officially, Oracle still has only three partitioning strategies: range, hash, and list. This has always been a little bit confusing as composite partitioning options provide additional options by combining the strategies. In 11gR1, “Reference Partitioning” and “System Partitioning” have been introduced and were discussed in detail in the last issue. To my mind, these are certainly new partitioning strategies but officially they are not.

“Interval Partitioning” is, in my opinion, not a new strategy: it is a management extension to range partitioning. The VLDB manual does introduce it that way.

However, one paragraph heading in the manual is “Adding a Subpartition to a [Range | List | Interval]-Hash Partitioned Table”. This is typical of many references and reflects the ambivalence (or confusion) Oracle has as to whether this is a new strategy or not. To my mind, we should refer to “Range Partitioned Tables with Interval Partitioning Enabled”. However, for the remainder of this article, I will use the term “Interval Partitioned Table” freely – as Oracle themselves do.

## Creating an Interval Partitioned Table

You can create an interval partitioned table in two ways. You can use the CREATE TABLE statement or you can use the ALTER TABLE statement to change an existing range partitioned table into an interval partitioned table. You can also use the ALTER TABLE statement to remove the interval partitioning extension and to revert an interval partitioned table to a traditional range partitioned table. Interval partitioning can be enabled on single-level

range partitioned tables or on range-range, range-hash, or range-list composite-partitioned tables.

Let us take an example. (See Example 1.)

This composite-partitioned table is created using the SALES tables in the SH example schema. The table is created with one partition (there must be at least one initial partition specified) and this partition has 16 subpartitions. These 16 subpartitions are stored in tablespaces TBS4, TBS5, and TBS6 using a round-robin algorithm. The partition P2000 contains any rows with a TIME\_ID prior to this millennium.

All this is exactly the same as a standard range-hash partitioned table. However, we have not yet discussed the impact of the line in bold. It is the addition of this line in the syntax that changes the SALES\_INTERVAL table into an interval partitioned table. Without this line the CREATE statement would fail, as there are rows in the original SALES tables with TIME\_IDs in the years 2000 and 2001.

### Example 1: Creating an Interval Partitioned Table

```
CREATE TABLE SALES_INTERVAL  
  
PARTITION BY RANGE (TIME_ID)  
  
INTERVAL (NUMTOYMINTERVAL(6,'MONTH')) STORE IN (TBS1,TBS2,TBS3)  
  
SUBPARTITION BY HASH (CUST_ID,PROD_ID)  
  
SUBPARTITIONS 16 STORE IN (TBS4,TBS5,TBS6)  
  
(  
  
PARTITION P2000 VALUES LESS THAN (TO_DATE('1-1-2000','DD-MM-YYYY'))  
  
)  
  
ENABLE ROW MOVEMENT  
  
AS SELECT * FROM SH.SALES;
```



Because of this line, four new partitions are created for the first and second halves of 2000 and 2001. Each of these four partitions has 16 subpartitions. The four partitions will be automatically named something like SYS\_P9999. The digits will change to make the name unique. The subpartitions will be automatically named as well. As you might expect, they are named something like SYS\_SUBP9999 with a unique suffix that is typically four digits.

These interval partitions are actually different beasts from the standard range partitions and we will go through the differences shortly. One difference that pops up straight away is the tablespaces into which the partitions or subpartitions are stored. There is an entirely separate `STORE IN` clause for the interval partitions. One curiosity is that, in a composite partitioned table like ours, the subpartitions are not allocated to the tablespaces in a round-robin fashion. Indeed, all the subpartitions for a particular partition are all allocated to the same tablespace! Subpartitions from different partitions are allocated to different tablespaces but even this is not strictly round robin; if you leave a gap in your intervals, as I will explain shortly, then you will skip a tablespace. All this looks unlikely to be the intention and may well change, so I won't dwell on it here.

## Restrictions

There are one or two things that you cannot do with an interval partitioned table:

- You can only specify one partitioning key column, and it must be of `NUMBER` or `DATE` type.
- Interval partitioning is not supported for index-organised tables.
- You cannot create a domain index on an interval-partitioned table.
- A table partitioned by reference cannot refer to an interval partitioned table.

Can you live with that? Ok read on.

## Range Partitions Versus Interval Partitions

There are two key differences between these two types of partitions. All interval partitions in a table must cover the same sized interval – in example 1 this is six months but it could be anything. Range partitions, on the other hand, can vary in size; you can have one partition that is a day long another that is a month long and another that is unlimited as `P2000` is in Example 1. The other difference between interval and range partitions is how the lower bound of the range is calculated. In the case of a range partition, it is determined by the upper bound of the

### Example 2: Gaps in Interval Partitioned Tables

```
insert into sales_interval
(prod_id,cust_id,time_id,channel_id,promo_id,quantity_sold,amount_sold)
values (1,1,to_date('1-3-2008','DD-MM-YYYY'),1,1,1,1) ;

commit ;

select partition_name, high_value,
partition_position from
user_tab_partitions where table_name='SALES_INTERVAL'
order by partition_position;
```

previous range, if any. In the case of interval partitions, it is calculated by subtracting the interval size from the upper bound. What this means is that there could be gaps. Consider what happens if we add a row to the table created in Example 1, see Example 2.

The above example inserts a single row into the table for March 1st 2008. A new partition will be created with a `HIGH_VALUE` of July 1st 2008. The lower bound is not shown but is of course January 1st 2008. What about the years 2002-2007? Partitions will not be created for these dates until and if rows are inserted that require them.

If we were to create a range partition using the `ALTER TABLE` statement and specified a `HIGH_VALUE` of July 1st 2008, this partition would cover the entire range of dates from January 1st 2002 to July 1st 2008. Unfortunately, you cannot tell the difference between a standard range partition and an interval partition by looking at the `{USER|ALL|DBA}_TAB_PARTITIONS` views or, indeed, any documented view that I know of. You can, however, look at the underlying `TABPART$` or `TABCOMPART$` data dictionary tables to distinguish these two types of partitions. We will discuss this later but first we have to introduce a crucial concept. The Transition Point.

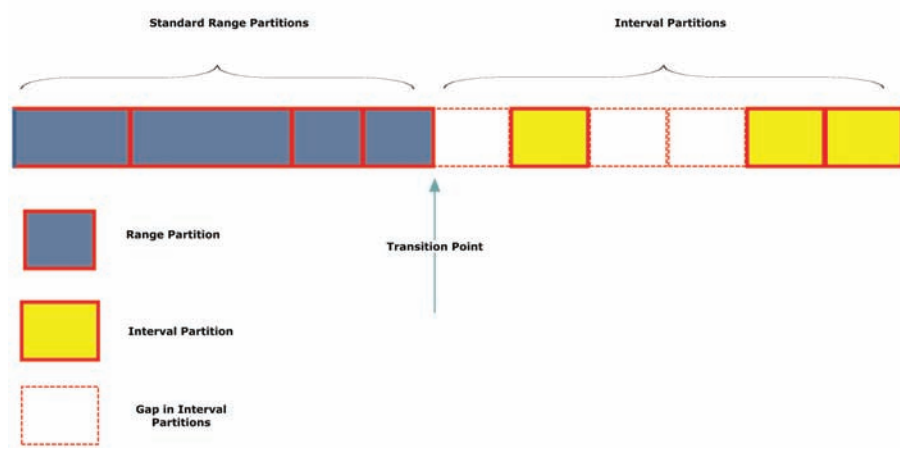
## The Key Concept: The Transition Point

We now know that an interval partitioned table must have one or more standard range partitions and zero or more interval partitions. It turns out that, if there is a mixture of range and interval partitions in a table, (and there usually will be) then all the range partitions must precede the first interval partition. The largest `HIGH_VALUE` of the range partitions is known as the *transition point*. A picture speaks a thousand words, see Figure 1.

We can see that the range partitions together cover all possible values of the partitioning key up to the transition point. After that, there can be gaps but these gaps must be exact multiples of the interval size so that interval partitions can be created later if needed. That leaves us with the question of determining what the transition point is. Well, I worked out that you can do this with the following query, see Example 3.

This example is for composite partitioned tables only. Use the `SYS.tabpartv$` instead of `SYS.tabcompartv$` for single-level interval partitioned tables. The transition point will be the `HIGH_VALUE` of the last range partition displayed. The output of this query in our example is as follows, see Example 4.

Figure 1: The Transition Point



**Example 3: Identifying Range and Interval Partitions – Query**

```

set sqlbl on
set echo on
SET LINES 100
set pages 100
column high_value format a20
set wrap off

SELECT partition_name, high_value,
       CASE BITAND (flags, 32768)
         WHEN 32768
           THEN 'INTERVAL'
         ELSE 'RANGE'
       END TYPE,
       partition_position
FROM user_tab_partitions JOIN user_objects
  ON subobject_name = partition_name
 AND object_name = table_name
 AND object_type = 'TABLE PARTITION'
 JOIN SYS.tabcompartv$ ON obj# = object_id
 WHERE table_name = 'SALES_INTERVAL'
 ORDER BY partition_position;

```

This shows that there is only one range partition and that the transition point is the start of the millennium. What happens if we insert a row with a `TIME_ID` in March 2005? We'll now we get the following, see Example 5.

We can see that one of the gaps has been filled in and that the `PARTITION_POSITION` of the 2008 partition has been shuffled up to accommodate it.

**Partition Maintenance Operations and Partition Extended Naming**

A complete description of what maintenance operations are allowed and which are not is detailed in chapter 3 of the VLDB and Partitioning Guide and there is little point in me repeating that here. What may be of benefit is a little explanation of what happens to the Transition Point when we perform some of the operations. Let us see what happens if we merge the third and fourth partitions, see Example 6.

**Example 4: Range and Interval Partitions – Results**

PARTITION_NAME	HIGH_VALUE	TYPE	PARTITION_POSITION
P2000	TO_DATE(' 2000-01-01	RANGE	1
SYS_P1725	TO_DATE(' 2000-07-01	INTERVAL	2
SYS_P1742	TO_DATE(' 2001-01-01	INTERVAL	3
SYS_P1759	TO_DATE(' 2001-07-01	INTERVAL	4
SYS_P1776	TO_DATE(' 2002-01-01	INTERVAL	5
SYS_P1793	TO_DATE(' 2008-07-01	INTERVAL	6

This merge operation demonstrates another new 11g feature: Partition Extended Naming. Rather than using these horrible system generated names we can simply specify the value of the partitioning column in a theoretical row. What this construct says is this: *Identify the partition that a row with a `TIME_ID` of March 3rd would go into and merge it with the partition that a row with a `TIME_ID` of September 3rd would go into.*

**Example 5: Range and Interval Partitions – Results after row inserted from 2005**

PARTITION_NAME	HIGH_VALUE	TYPE	PARTITION_POSITION
P2000	TO_DATE(' 2000-01-01	RANGE	1
SYS_P1725	TO_DATE(' 2000-07-01	INTERVAL	2
SYS_P1742	TO_DATE(' 2001-01-01	INTERVAL	3
SYS_P1759	TO_DATE(' 2001-07-01	INTERVAL	4
SYS_P1776	TO_DATE(' 2002-01-01	INTERVAL	5
SYS_P1814	TO_DATE(' 2005-07-01	INTERVAL	6
SYS_P1793	TO_DATE(' 2008-07-01	INTERVAL	7

**Example 6: Merge Operation on Interval Partitions**

```

ALTER TABLE SALES_INTERVAL MERGE PARTITIONS FOR(TO_DATE('3-3-2000','DD-MM-YYYY')),FOR(TO_DATE('3-9-2000','DD-MM-YYYY'))
INTO PARTITION PMERGED;

```

**Example 7: Results After Merge Operation**

PARTITION_NAME	HIGH_VALUE	TYPE	PARTITION_POSITION
P2000	TO_DATE(' 2000-01-01	RANGE	1
SYS_P1725	TO_DATE(' 2000-07-01	RANGE	2
PMERGED	TO_DATE(' 2001-07-01	RANGE	3
SYS_P1776	TO_DATE(' 2002-01-01	INTERVAL	4
SYS_P1814	TO_DATE(' 2005-07-01	INTERVAL	5
SYS_P1793	TO_DATE(' 2008-07-01	INTERVAL	6

The result of the merge operation is a new partition that covers a 12 month period including the second half of 2000 and the first half of 2001. Since this is not the specified size of the interval for the table, it is not surprising that the new partition is setup as a range partition. However, because this implies a movement of the Transition Point we can see that SYS\_P1725 has been converted to a range partition as well.

Let's try something else:

#### Example 8: Altering the Tablespace for New Interval Partitions

```
ALTER TABLE sales_interval SET STORE IN (tbs1,tbs2) ;
```

The above command prevents any new interval partitions being created in tablespace TBS3. It has no impact on the Transition Point. **N.B. There is a documentation error in the SQL reference manual here. The keyword SET must NOT be repeated.**

#### Example 9: Altering the Interval Size

```
ALTER TABLE sales_interval SET INTERVAL (NUMTOYMINTERVAL(3,'MONTH')) ;
```

This is the command that changes the interval size for an interval partitioned table. It can also be used to enable interval partitioning for a standard range partitioned table. Let us see what impact this has on the Transition Point, see Example 10.

#### Example 10: Results After Changing the Interval Size

PARTITION_NAME	HIGH_VALUE	TYPE	PARTITION_POSITION
P2000	TO_DATE(' 2000-01-01	RANGE	1
SYS_P1725	TO_DATE(' 2000-07-01	RANGE	2
PMERGED	TO_DATE(' 2001-07-01	RANGE	3
SYS_P1776	TO_DATE(' 2002-01-01	RANGE	4
SYS_P1814	TO_DATE(' 2005-07-01	RANGE	5
SYS_P1793	TO_DATE(' 2008-07-01	RANGE	6

The consequence is that all partitions have been changed to range partitions. In other words, if a row was inserted with a TIME\_ID in 2007 it would be placed in SYS\_P1793.

My final example is the command to disable Interval Partitioning:

#### Example 11: Disabling Interval Partitioning

```
ALTER TABLE sales_interval SET INTERVAL () ;
```

Once disabled, any attempt to insert a row with a TIME\_ID later than or equal to July 1st 2008 will result in an error. Interval partitioning can always be re-enabled later.

## A Summary of the Pros and Cons of Interval Partitioning

Interval partitioning automates the process of partition creation that otherwise would have to be done manually or scripted. It also allows, for the first time, gaps between partitions. These don't sound like bad things but it does mean that you could get a bunch of partitions that you don't want if bad data is supplied. You may also still need to write scripts to drop obsolete partitions.

## About the Author



**Tony Hasler** is an independent software consultant specialising in helping companies improve Oracle related services. During his thirty years of experi-

ence Tony has led operating systems development teams, represented the British Standards Institute internationally, and filed a patent relating to optimisations of distributed transactions.

He can be reached at [tony@aberdour.demon.co.uk](mailto:tony@aberdour.demon.co.uk)



# Over-indexing

By Jonathan Lewis, JL Computer Consultancy

TOP TIP

One of the strengths of a relational database is that you should be able to throw any reasonable query (and even some unreasonable queries) at it and it will be able to return the right answer without being told how to navigate through the data.

There's no guarantee, though, that you'll get the answer quickly unless you've given the database some help by turning your logical model into a sensible physical implementation. Part of the physical implementation will be the choice of indexes – and this article reviews one of the commonest indexing issues that I see in OLTP systems.

## Costs and Benefits

Why do we create indexes? There are three main reasons as far as Oracle is concerned. We need some indexes to help Oracle enforce uniqueness; we need some indexes for performance reasons to supply a high-precision access path to important data; and we may need some indexes to help Oracle enforce referential integrity constraints.

Theoretically, of course, we don't need any indexes to ensure data correctness, so you could say that the **only** reason for having indexes is to improve performance. For example, you could enforce primary key constraints simply by locking tables on every insert, update or delete and then doing a tablescan to make sure that there is no conflicting data – but having an index “for” the primary key allows you to check just one block in the index without locking the table, so you get better performance and better concurrency. (In passing, an index that covers a primary key or unique constraint need not be a unique index, and the index definition need not be an exact match for the constraint – provided it starts with the relevant columns.)

“...having an index “for” the primary key allows you to check just one block in the index without locking the table, so you get better performance and better concurrency.”

So indexes can be a massive aid to performance and concurrency – but indexes have a price – you have to maintain them, usually in real-time, and that can cause problems. Roughly every two weeks, someone writes into the Oracle Forums with a question like: “I have a batch process that inserts 1million rows of data into a table every night. But it's very slow and I see lots of waits for 'db file sequential read' while it's going on. Why is this happening?”

If you insert 1M rows into a table, you might have to create and (eventually) write something in the region of 25,000 table blocks (assuming a row size of about 200 bytes – 40 rows per block). If you have one index on that table then, in principle, you might have to do a random read for an index leaf block for every single

row you insert – and you may have to write the updated block out very soon afterwards to make space for the next random read. If the table is large and you have a couple of dozen indexes, this “in principle” threat very soon becomes a real one.

There is a very important difference between (heap) tables and their indexes – a row can go into a table wherever the next empty space happens to be; a row has to go into an index in exactly the right place, and finding that place can be expensive. Things get worse if you are doing updates – you can update a row in the table “in situ”, but if you change the value of an indexed column, you have to find an index entry for the old value, delete it, and then insert an index entry for the new value in the right place.

So don't create indexes unless they really pay for their existence when you come to query the data – and when you do create an index make sure you maximise the payback.

## The Commonest Error

There are a number of subtle ways in which you can create too many indexes, but there is one error that is easy to spot – the foreign key index.

When you create a referential integrity constraint (foreign key), you do not need to create an index to support it and (unlike the unique constraint and primary key constraint) Oracle will not create such an index automatically. However, if you are going to update the primary key or unique key at the “parent” end of the referential integrity constraint, Oracle will lock the “child” table to check for committed and uncommitted child rows if a suitable index does not exist. So many people (and some application generators) automatically create a matching index for every foreign key they create.

**Rule 1:** don't create “foreign key indexes” unless they are really necessary, or unless they are sufficiently useful that you would have created them any way even if there hadn't been a referential integrity constraint to protect.

If you do have a foreign key constraint that needs an index, though, remember that the index does not have to be an exact match for the constraint – the critical feature is that it should start with the same columns (not necessarily in the same order) as the constraint definition. This means that you can always ‘add value’ to a “foreign key index” that might otherwise be just a technical overhead.

**Rule 2:** consider adding columns to foreign key indexes to make them useful to high precision queries.

Moreover, when you think about the parent/child relationship, remember that you often see one parent row with several child rows – think orders/order\_lines, or currency\_codes/payments. In cases like this, there may be an opportunity for saving a lot of space (and reducing the impact on the buffer cache) by compressing the index on the foreign key column(s).

## Case Study

So here's a list of indexes (with a little camouflage) from a system I was looking at recently. It's typical of the over-indexing problems that I see fairly frequently. I got this list by running a query similar to Figure 1.

**Figure 1**

```

select
        index_name, column_name
from
        user_ind_columns
where
        table_name = 'XXXXXX'
order by
        index_name, column_position
;

```

You could enhance this by querying `dba_ind_columns`, of course, then add all sorts of extras by joining to `dba_tab_columns`, `dba_indexes`, and `dba_ind_expressions` to pick up details about non-null columns, column types, uniqueness, index types, and functions involved in function-based indexes. In the case of my example, I used a slightly more sophisticated query to show you the expression used in a function-based index – and here's the list of indexes I found on one table, see Figure 2.

**Figure 2**

```

ap_fun_fk_i ( fun_id )
ap_grp_fk_i ( grp_id )
ap_grp_fun_id_i( grp_id,fun_id )
ap_org_ap_i ( org_id,ap_id )
ap_org_fk_i ( org_id )
ap_per_ap_i ( per_id,ap_id )
ap_per_fk_i ( per_id )
ap_pk ( ap_id )
ap_ud_i ( trunc(update_date) )

```

PK in a name indicates the primary (meaningless) key, and FK indicates foreign keys. You can see immediately that we seem to have several redundant indexes as far as protecting foreign keys is concerned.

`AP_GRP_FK_I` is made redundant by `AP_GRP_FUN_ID_I`,  
`AP_ORG_FK_I` is made redundant by `AP_ORG_AP_I`,  
`AP_PER_FK_I` is made redundant by `AP_PER_AP_I`.

On top of this, we might decide that since there are only a few organisations (**org\_id**), we could benefit by compressing the index on (**org\_id**, **ap\_id**) on its first column. We might also compress the index on functions (**fun\_id**) as well – although we might go one step further and decide that we will never delete functions or update the key values, and drop the index altogether.

Following the thought about compression, we could also consider compressing the index on (**trunc(update\_date)**) – a fairly large amount of data gets updated each day, so the value is quite repetitive, similarly (**grp\_id**, **fun\_id**) is also fairly repetitive, so we might compress on both columns. This leaves us with Figure 3.

**Figure 3**

```

ap_grp_fun_id_i ( grp_id,fun_id )  compress 2
ap_org_ap_i ( org_id,ap_id )       compress 1
ap_per_ap_i ( per_id,ap_id )
ap_pk ( ap_id )
ap_ud_i ( trunc(update_date) )     compress 1

```

The reduction in the number of indexes is likely to reduce the **undo** and **redo** by about 40% as we insert (single row) data into this table, as well as reducing the possible I/O demand by the same sort of percentage. At the same time, the effect of the compression could (in this case) eliminate a further 10% to 15% of I/O related to this table because of the reduction in size of the indexes.

## Further considerations

The only remaining issue to consider is whether there is anything about the nature of our processing that suggests the need for housekeeping on these indexes – and the index on **trunc(update\_date)** is an ideal candidate for consideration.

As we update data, we are going to delete entries from blocks in the left hand end of the index and insert them at the right hand end of the index. Depending on the rate and pattern of updates it is possible that a large number of blocks at the left hand end of the index will become close to empty – this could have a significant impact on the effectiveness of the buffer cache and might encourage us to use the coalesce command on the index every few days.

Having thought about that, you might then wonder why we have an index on **trunc(update\_date)** at all. A query that tries to find all rows updated on a certain date, or range of dates, may have to jump around all over the table to acquire a lot of data. Who wants to do this, and how often? It's possible that the index exists for a particular report that runs just once per day – perhaps there is an argument for dropping this index as well.

“A query that tries to find all rows updated on a certain date, or range of dates, may have to jump around all over the table to acquire a lot of data. Who wants to do this, and how often?”

## Conclusion

It's very easy to create more indexes than you really need, and indexes can be very expensive to maintain. Sometimes you can spot “obviously” redundant indexes simply by inspecting index names and column names. A few reasonable guesses may allow you to drop some indexes and make others more efficient with a minimum of risk and effort.

**Jonathan Lewis** is a freelance consultant whose experience with Oracle goes back just over 20 years to version 5.1a (though he does try to forget that when dealing with modern systems). He specialises in physical database design, the strategic use of the Oracle database engine and solving performance issues.

Jonathan is the author of *Cost Based Oracle – Fundamentals* published by Apress, and *Practical Oracle 8i – Designing Efficient Databases* published by Addison-Wesley, and is one of the best-known speakers on the UK Oracle circuit, as well as being very popular on the international scene.

Further details of his published papers, presentations, tutorials and seminars can be found at <http://www.jlcomp.demon.co.uk> and his blog is at <http://jonathanlewis.wordpress.com>



# Oracle Restructures Support for Customer Success

By Debbie Wynne-Owen, Oracle

## Transformation in Action – The Oracle Customer Services Journey

Oracle has reinforced its commitment to increasing business value and cutting cost of ownership by making its comprehensive support, training, and educational solutions available to customers from a single new entity – Oracle Customer Services. This restructuring is strengthened by innovations in the delivery and availability of Oracle's offerings that empower customers with greater choice over how they access support and enable them to tailor it to their own needs and preferences. At the same time, a renewed focus on customer advocacy, that has long been central to the Oracle community, is strengthening Oracle's reputation as a trusted business partner for both medium and larger-sized businesses in all industries.

## Pioneering Support Leadership

World-class coverage with more than 7,500 dedicated customer service staff in 18 global hubs and support in 27 languages has long since made Oracle support unrivalled among tier one software vendors. More recently, the company's commitment to lifetime support for its entire solutions suite eliminates forced upgrades and maximises solution value for customers. Unlike some of its competitors, Oracle includes enhancements and upgrades at no extra charge and extends support to independent solution vendors and third-party systems.

"At Oracle we are delighted that our long-standing commitment to customer success has delivered such outstanding results, but our work continues."

Jean Reiczky, senior vice president  
EMEA Customer Services

## Towards Embedded Supportability

As IT support matures from product-based to solution-based, Oracle has migrated from reactive trouble-ticket based support to a proactive customer-driven service model. Automatic notification of new patches allows customers to download, install and apply updated functionality electively to minimise the risk of system outages or performance degradation. The advent of Oracle Database 11g heralds a new era of embedded supportability with self-healing capabilities that enable advanced, automated fault detection, prevention, diagnosis and resolution. Time-consuming, manual administrative tasks are eliminated, allowing technical teams to work on enhancing IT's contribution to business goals instead of simply striving to meet service level agreements to users.

## New for 2009 – Personalised Prevention for all Oracle Customers

Oracle's Software Configuration Manager Dashboard gives an at-a-glance graphical view of system health and patches based on each customer's environment. Developed by

Oracle's engineers as part of Oracle's drive for continuous performance innovation, the Dashboard will be available free of charge to all Oracle customers as a simple download. It is set to revolutionise support by enabling users to personalise system configurations, service requests and IT projects to their specific needs and manage their systems via an intuitive interface. Initial trials have indicated that some 56% of day-to-day user problems can be prevented through proper use of the Software Configuration Manager Dashboard.

"Oracle welcomes suggestions from all customers as to how we can improve service still further."

Jean Reiczky, senior vice president  
EMEA Customer Services

## Customer Advocacy – Value Through Partnership

Oracle works with key customers to leverage the value of their software assets to deliver their business vision via the Customer Success Index programme. A dedicated customer services manager uses Oracle's proven processes and toolset to explore problem areas, deliver findings and make recommendations. A collaborative action plan is drawn up to maximise the customer's existing IT investment and propose new Oracle solutions where needed to generate improvements in the most cost-effective way. Customer feedback shows that the programme, which is free of charge to customers, helps organisations to identify weaknesses, highlight priorities, incorporate best practice into processes and build a stronger relationship with Oracle.

In addition to one-on-one reviews, Oracle promotes collaboration between all customers in the UK through the Oracle User Group (OUG) [www.ukoug.org](http://www.ukoug.org) that serves customers of the extended Oracle community, including PeopleSoft, JD Edwards, BEA, Siebel, Stellent and Hyperion. The OUG sponsors conferences, forums, special interest groups, workshops, Webseminars, and podcasts featuring expert speakers from all industry groups.

Oracle – the Thought Leader in Customer Support Innovation Customer advocacy continues to be central to Oracle's focus on increasing customer value and loyalty. Recent surveys reveal that customer satisfaction with the handling of service requests, problem resolution times and the knowledge of Oracle's support analysts is rising steadily each year.

"At Oracle we are delighted that our long-standing commitment to customer success has delivered such outstanding results, but our work continues," says Jean Reiczky, senior vice president EMEA Customer Services. "We encourage customers to take full advantage of the Software Configuration Manager Dashboard to optimise system performance, improve service levels to users and cut IT support costs. Oracle welcomes suggestions from all customers as to how we can improve service still further."



# UK Oracle User Group – A Year in Review

By Simon Corbett, Managing Director, Jargon Public Relations

2008 has been an historic year for UK Oracle User Group (UKOUG) as it marked the organisation's 25th anniversary. UKOUG has celebrated this anniversary with a determination to continue to offer its members the highest quality services, including events, Conferences and Special Interest Groups.

Simon Corbett, managing director of Jargon Public Relations, looks back at UKOUG throughout the past 12 months and reflects on the organisation's 25th anniversary as it prepares for its biggest user Conference to date.

"The past 25 years have seen the industry change more than anyone could ever have imagined."

Ronan Miles, chairman of UKOUG

## 25 years young & going strong

UKOUG occupies a strong position within the international Oracle eco-system and is in a unique position as a User Group due to the way it includes all Oracle products and services and associated communities. Operating as a not-for-profit organisation and with the sole remit to help existing Oracle customers, you could be forgiven for thinking that UKOUG operates on the periphery of the industry. In fact, UKOUG has been at the centre of some of the most significant industry changes.

"The past 25 years have seen the industry change more than anyone could ever have imagined" comments Ronan Miles, chairman of UKOUG. And the past few years have certainly been no exception. Prior to 2004, Oracle had focused on developing its product organically, but the purchase of PeopleSoft and JD Edwards marked a change to development by acquisition and integration. Looking back at the events of 2004, Miles comments, "The purchase of JD Edwards by PeopleSoft at that time was huge news for the industry, but when Oracle then bought PeopleSoft we knew the repercussions would permanently change the global market" recalls Miles. "Each organisation had its own User Group and its own individual sub-groups focused on specific technology areas."

Looking back it has been a significant challenge, but every sub-group and every user was absorbed into UKOUG, separate communities were set-up for each company and unique Special Interest Groups were started to accommodate each new community."

Testament to this is the sheer scale and volume of events that have taken place during the past year, a total of 32 Special Interest Group meetings and over 120 events. By the time the UKOUG 2008 Conference & Exhibition finishes, separate JD Edwards and PeopleSoft Conferences will also have concluded, attracting record numbers of users.

"In a time of budget cuts and corporate downsizing, UKOUG has seen a record number of new corporate members join in 2008" comments Miles. With over 1,800 corporate members to satisfy, UKOUG has continued to build its membership services and by running tailored events and special interest groups, extending the annual Conference to

five days and running new streams such as the Executive Summit, UKOUG shows its pedigree as a driving force within the Oracle community."

"As a not-for-profit, UKOUG must not only run as a prudent business in order to support its members into future years, but must also measure its success in terms of customer satisfaction and engagement" comments Miles.

## Development by the members – for the members

"One of the highlights each year is the user group annual survey" comments Miles, who has personally overseen the annual survey and feedback to Oracle since it began in 2001. "Historically the annual survey has been a very powerful tool for change. In 2005, Oracle scheduled significant changes to its support desk as a direct consequence of the survey. The following year's survey discussed the JD Edwards honeymoon, the results of which caused Oracle to heavily invest in the JD Edwards community."

JD Edwards and PeopleSoft started a trend that has continued to the present day as the community of Siebel, BEA and Stellent can testify. The continuation of the UKOUG policy of inclusion with these large users groups was hailed by Oracle as 'a model for other user group's to follow' when in 2005 Oracle HQ expressed their thanks to UKOUG for the value the organisation brings internationally.

Development within UKOUG is ongoing and the UKOUG 2008 Conference & Exhibition demonstrates this. This year's event has been extended to five days offering over 20 unique streams tailored to the diverse needs of the community. The launch of the Executive Summit has also attracted significant interest as Miles comments.

"We pride ourselves on listening to our members, and C-level executives were telling us they need to meet their peers face to face, to network, and to learn from a management rather than technical perspective. We listened and responded and there has been a lot of interest especially as the entire agenda has been set by the C-level delegates themselves."

"...we must continue to ensure UKOUG is at the forefront of the industry, shaping the development of the wider eco-system to ensure our members continue to lead the industry."

Ronan Miles, chairman of UKOUG

## The Year Ahead

After a record-breaking anniversary year surely 2009 might be quieter? "There's no chance of that" jokes Miles. "In some respects the work is only just beginning. As ICT continues to be the major driver of business value, and Oracle continues to become one of the most powerful forces pushing UK plc, we must continue to ensure UKOUG is at the forefront of the industry, shaping the development of the wider eco-system to ensure our members continue to lead the industry."

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## Paper selection day for UKOUG 2008

Blog by Niall Litchfield, Maxima Managed Services

A good day today. I was privileged enough to be at the paper selection day for the UKOUG 2008 Conference in December. For those who don't know what happens, and perhaps suspect some sort of elite giving themselves presentation slots, here is roughly how it works.

Firstly a reasonably large group of reviewers from around the world, though naturally UK biased, score your abstract on a scale from 1 (very poor) to 6 (excellent). They also have an opportunity to comment. These scores are then collated and a small team review the scores and allocate presentations to available slots. The purpose of the 2nd review is twofold. Firstly it allows the team to review the agenda for balance of both topics and target audience – this year for example you will be especially well-served if you are a relatively new DBA – and secondly it allows for the moderation of some of the scores, where, for example, only a very few people have scored a particular abstract. Finally, because some presenters get consistently high scores (Jonathan Lewis being the obvious prime example) then there is the opportunity to ensure that other, maybe lesser known presenters get a look-in as well.

So what did this mean this year? Well, we had 212 submissions for the Server Technology arena (Apps DBA submissions are separate). We needed to fill 64 slots. So that means we needed to eliminate 7 out of 10 submissions. The average score for this stream was 4.5 (that's halfway between good and very good) and on average over 18 review-

ers would have scored each submission. To get into the Top Quartile (more or less to be guaranteed a place) then you needed to score 4.93 (Very Good) on average. To restate – to stand a good chance of getting in, your abstract needed to show a group of nearly 20 Server Technology specialists that it was either very good or excellent. The bar to present at UKOUG 2008 is extremely high. Those who will be receiving congratulations communications should feel justly proud.

<http://www.owin.info/services/node/83>

## UKOUG Director becomes Oracle ACE Director

Back in spring this year, we ran a news item announcing that Debra Lilley, Deputy Chair of UKOUG, had been awarded Oracle ACE status.

Since then, Oracle has extended its Oracle ACE Program to cover Applications as well as Technology and Debra was one of four inaugural Applications ACE Directors to be appointed in August. Our congratulations go to Debra who was selected for her significant contribution to, and activity in, the Oracle Applications community.

The Oracle ACE Program recognises and rewards members of the Oracle Technology and Applications Communities for their contributions to these communities. More information about the Program can be found at:  
[http://www.oracle.com/technology/community/oracle\\_ace](http://www.oracle.com/technology/community/oracle_ace)



## JD Edwards Update

This has been an exciting year for the JD Edwards community within UKOUG since the acquisition by Oracle nearly four years ago.

The beginning of 2008 saw a meeting between Oracle, JD Edwards Partners and UKOUG JD Edwards Committee, who discussed the situation within the community and how we can work together to build a thriving User Group community once again.

The main result of that meeting was the decision for an independent UKOUG JD Edwards Conference. To read the review from JD Edwards Conference 2008, 4th-5th November 2008, Ascot Racecourse, go to:

[www.oug.org/readjdedwards](http://www.oug.org/readjdedwards)

At this link you will also find articles from Oracle.



## PeopleSoft Update

This has been a very positive year for PeopleSoft. We have seen the PeopleSoft community come together and move forward to develop the community further.

Back at the UKOUG Conference 2007, UKOUG received a lot of feedback stating that PeopleSoft should have a Conference of their own. UKOUG took this feedback and introduced UKOUG PeopleSoft 2008 Conference & Exhibition.

Please check the link below after UKOUG 2008 Conference & Exhibition to read the review from the PeopleSoft Conference, 4th – 5th December 2008, ICC:

[www.oug.org/readpeoplesoft](http://www.oug.org/readpeoplesoft)



## UKOUG Partner of the Year Awards 2008/2009 Ceremony Dinner

This year saw the launch of the UKOUG Partner of the Year Awards, the first set of awards voted for by Oracle users to recognise Partners within the Oracle community.

UKOUG members were given the opportunity to vote for their preferred Partners from award categories. The winners were announced at the prestigious Awards Ceremony Dinner held on 16th October 2008 at Claridge's, London.

The evening commenced with pre-dinner drinks at 7pm followed by an exquisite three-course meal after which the winners were announced by Debra Lilley and Tracey Bleakley, two members of the UKOUG Board of Directors.

Guests cheered in support of the winning Partner organisations which included the likes of IBM, Fujitsu and Edenbrook.

An entertaining and humorous after dinner speech by ex-Home Secretary David Blunkett MP, left guests amused and lead quite nicely to the after dinner socialising and networking.

With the majority of guests ushered out by midnight the evening was a great success.

To view a full list of winners and photos from the event please go to: [www.oug.org/results](http://www.oug.org/results)

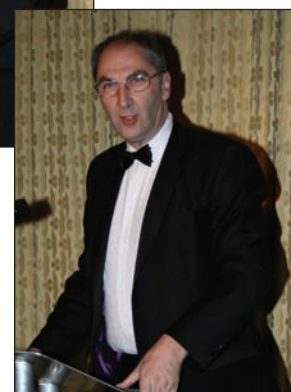


left: Debra Lilley and Tracey Bleakley, UKOUG Board of Directors



left: ex-Home Secretary, David Blunkett MP

below: UKOUG staff



below: Ronan Miles, Chairman of UKOUG



# UKOUG Partner of the Year Awards 2008/2009 winners

## UKOUG Applications Partner of the Year is:

1st Concentric Solutions  
2nd Application Lynx  
3rd Beoley Mill Software

## UKOUG Business Intelligence Partner of the Year is:

1st Rittman Mead Consulting  
2nd Edenbrook  
Joint 3rd Accenture  
Joint 3rd Capgemini

## UKOUG Consulting Partner of the Year is:

1st Business & Decision  
2nd Beoley Mill Software  
3rd Concentric Solutions

## UKOUG Cost-efficient Partner of the Year is:

1st IBM  
2nd Edenbrook  
3rd Global Software

## UKOUG Customer Service Partner of the Year is:

1st IBM  
2nd Beoley Mill Software  
3rd Edenbrook

## UKOUG Database Partner of the Year is:

1st JoraPh Consulting  
2nd Capgemini  
3rd Quest Software

## UKOUG Hyperion Partner of the Year is:

1st ReportSource  
2nd Paragon  
3rd Analitica

## UKOUG Innovative Partner of the Year is:

1st Patech Solutions  
2nd Edenbrook  
Joint 3rd Application Lynx  
Joint 3rd 2e2

## UKOUG JD Edwards Partner of the Year is:

1st Beoley Mill Software  
2nd DWS  
3rd Q Software

## UKOUG Managed Services/Support Excellence Partner of the Year is:

1st Beoley Mill Software  
2nd Mokum Change Management  
3rd Capgemini

## UKOUG Middleware Partner of the Year is:

1st Edenbrook  
2nd Fujitsu Services  
3rd Atos Origin

## UKOUG PeopleSoft Partner of the Year is:

1st Documation  
2nd Quest Software  
3rd 2e2

## UKOUG Project Management/Project Delivery Partner of the Year is:

1st inOApps  
2nd Mokum Change Management  
3rd Oracle Consulting

## UKOUG Public Sector Partner of the Year is:

1st Fujitsu Services  
2nd Capgemini  
3rd Patech Solutions

## UKOUG Shared Services Partner of the Year is:

1st Oracle Consulting  
2nd Fujitsu Services  
3rd Edenbrook

## UKOUG Siebel Partner of the Year is:

1st Business & Decision  
2nd Cognizant  
3rd Atos Origin

## UKOUG Small Business Partner of the Year is:

1st IBM  
2nd Application Lynx  
3rd inOApps

## UKOUG Training Partner of the Year is:

1st Business & Decision  
2nd Projected Consulting  
3rd inOApps

## UKOUG Technology Partner of the Year is:

1st Griffiths Waite  
2nd Documation  
3rd JoraPh Consulting

# UKOUG

PARTNER OF THE YEAR  
AWARD WINNER 2008/2009



# Debra's diary

I am writing this entry from my hotel in San Francisco where I spent a fantastic weekend after Oracle Open World. The sun is streaming in through the window but not quite as radiant as my nose, which got burnt whilst

cycling over the Golden Gate Bridge on Saturday – I was not aware you can get sunburnt through the Fog!

I hope you have been following my blog, but if not and you have waited patiently since the last episode here is what I have been up to.



In the last magazine I promised to give you an update on ODTUG. This took place in New Orleans and is the user group in the US for developers. The conference started with a

community day where we painted a school that had previously been condemned but reopened after Katrina, as it was still standing. Visiting New Orleans was quite an eye opener – the tourist part was everything I expected and more but visiting the wider area showed me how much devastation there was and how little has been done to help the ordinary people.

The conference was great. I like to say I am not technical but my area of expertise is Business Intelligence against E Business Suite and it is getting very technical. There was an entire stream dedicated to Essbase and was to be addressed by John Kopcke but as there were 300 delegates in the UKOUG event the same week he decided to come over to the UK. Unfortunately airport problems in New York meant he was unable to attend either, but both events had great stand-ins.



Those from UKOUG who attended ODTUG were very impressed by the hospitality and would like to thank their entire board; in this photo you can see four of them. In the back left Bambi Price from Australia, and in the front the three

wise monkeys, Mike Riley (VP), John Jeannette (Their President) and John King, a frequent speaker at our own UKOUG. Why doesn't our board have such exciting shirts? I also got to meet Mark Armstrong-Smith, author of the Discoverer Handbook.

Mike Riley, the ODTUG VP, is a very special person to me. As I said in the first sentence, Oracle Open World has just finished and Mike and I always intended to catch up during the event. As OOW is you and 43,000 of your closest friends it is not always possible to have quality time together, but Mike and I spent 92 minutes in a lift – sorry elevator – on the first evening. Were our respective colleagues worried – no, they sat in the bar whilst we blogged about our situation from the elevator. I also posted a message on Oracle Mix, which was heavily pushed during Oracle Open World, and someone from Oracle phoned the hotel to let them know. To be fair, the hotel already knew but it was a great story and one Oracle maximised – check out the full story on YouTube.

Other 'off piste' events were a select invite to brunch with Michael Phelps, and a fantastic concert with Seal, Elvis Costello and UB40 (where I am sad to say I knew every word) set in a fairground under the Bay Bridge. All user group leaders also had another day of meetings once OOW had finished.

What were the main messages from OOW? Well, lots, but in some ways I was disappointed. The main theme was Complete, Open and Integrated so no change since my last diary entry, but subtly they added Infrastructure to the Applications, Middleware and Database categories. Within Infrastructure they had VM and Linux – a little light perhaps until the big announcement that they were going into the hardware business with HP. It was an odd keynote from Larry, he was obviously very excited by it but I, like at least half the audience, would have liked him to mention a few other things. Fusion Apps perhaps? It was the biggest exodus part way through a Larry speak I have ever seen – were they disappointed Apps people or other hardware vendors?

Since Oracle first launched Project Fusion I have campaigned on your behalf to ensure that Oracle listen to users and I have accepted two awards related to this recently. Last year at OOW the first Oracle ACEs were announced for Applications and in August they awarded just four of us the title of ACE Directors. This is recognition not only by Oracle but by your peers for your knowledge and community impact. I was then awarded 'User Group Evangelist of the Year' by Oracle Magazine which you may have seen in their current edition. I was also asked to be part of the Inner Circle that met prior to Open World and had a preview of the first Fusion Applications Suite. I had seen some modules a few weeks earlier when taking part in a promotional video for OOW, but I have to say it is really exciting. The user experience is phenomenal and the technology integration seamless, I would love to tell you more but as I write this it is still under non disclosure.

I presented three times – an update on the IOUC, Expanding EBS with Hyperion and a joint presentation with Oracle on Fusion Readiness where I launched the online tool. Other UKOUG speakers included Graham Smith from the PeopleSoft Technical SIG; Carl Dudley, a fellow Board member and Mark Rittman, our BIRT SIG chair and fellow Oracle ACE Director.

The other big message at OOW was about Beehive, the replacement for Oracle's Collaboration Suite. This is also exciting and looks great, and we will have content relating to this in our conference in December, so come along and see for yourself.

But being a director is not just about attending conferences and putting on our own. The credit crunch affects us, as it does any small business. For a few years it has been harder to get sponsorship for our events and with many acquisitions in IT (it is not just Oracle shopping) there are less sponsors available. Extending the conference to fit in all the content also costs and we are working very hard to meet our budgets. We will have to make changes in the future, but the board is made up of members that represent you all and we continue to strive to 'Serve the Oracle Community' in the most cost effective way.

I would like on behalf of the board and staff of UKOUG to wish you all a very Happy Christmas and successful 2009.

**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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-Scott Spendolini, Sumner Technologies

**TOPICS**

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Hyperion

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## Look for Oracle PIM Data Hub R12.1 Release

By **Bob Barnett**

Are you considering going live with PIM? Are you going to R12?

Based on some research I have been doing with Oracle, I would seriously consider going to the R12.1 release of PIM if I were implementing R12 E-Business Suite. Many thanks to Mike Ger from Oracle for assisting me with my research.

The hard part about going to R12.1 release is that it is NOT Released yet. If you would like to prove out 12.1 then you will have to go through Oracle to obtain permission to see this version of the software.

It is now in prerelease mode – Oracle names this version 12.C.

I like what they have done in this version simply by the addition functionality added to defining "User-Defined Attributes". Prior to this version of the software, we could only define attribute groups at the item or item/revision level.

- 1) 12.C allows users to define attribute groups at the item and item/org level as can be done with the "operational" attributes in the legacy `mtl_system_items` table. A lot of users wanted attribute groups specific to child organizations. We worked around this in 11.5.10 by adding the organization code to the attribute group for many row attribute groups or called the attribute group itself by the organization name to distinguish it from other organizations.
- 2) Customer and Supplier specific attribute groups: We can now add attribute groups to items that are specific to customers or suppliers.
- 3) Style attribute groups: Item specific attribute groups that are specific to a style item with many common SKUs. This is primarily used in the retail industry but it could really help other people (configurator users) to have attribute groups specific to models and ATO items if completely integrated. Imagine a style item is "Model A Cowboy Jeans" and a sku is a combination of that jean in size and color. The SKU would be item number "Model A Cowboy Jeans3834BLUE". I can now define an attribute group specific to that "Model A Cowboy Jeans" item and it's SKUs.

**Bob Barnett** is an Oracle Applications Expert with over ten years of experience implementing Oracle Distribution and Oracle Manufacturing modules from a functional perspective. He is also a Global Editor for the Oracle Product Lifecycle Management Track.

In the months to come, I hope to be doing a lot of "hands on" research on this prerelease version so that I can offer the readers of this blog some insight on different approaches to this new "style" of attribute group definition offered by Oracle.

Oracle MDM is a suite of products that allow the user to synchronize all their customers, suppliers and product data bases from multiple systems into one source of truth. Since Oracle bought Agile, Oracle PLM is now referenced as PIM Data Hub and information about it can be found at the following link: [http://www.oracle.com/master-data-management/pim\\_data\\_hub.html](http://www.oracle.com/master-data-management/pim_data_hub.html)

Do yourself a favor and read up on this because if you are planning to roll out Oracle E-Business suite in stages but want to keep everything synchronized across multiple legacy systems, then this is the way to continue sharing common customers, suppliers and product information.

There are architectural advantages to considering 12.1 as your PIM Data Hub version on which to go live. Please consult your Oracle sales team as well as the fine technical architects that Oracle Contractors have at their disposal (sales pitch...sorry).

Another benefit to this version of the software is that you can get some new functionality on the "New Item Request" Change mgt type such as:

- A) Multiple items on same NIR.
- B) NIR types can be inherited by child item catalog categories.

Since I haven't physically touched this "prereleased" version of the software, it is obvious that I cannot guarantee the functionality but I will verify and confirm it in the months to come.

Bottom line: For this blog, my purpose is to persuade you into considering going live with PIM Data Hub R12.1 if you are either planning or implementing an R12 PIM currently. There is no "official" release date but I have been assured "unofficially" that this version will be released by end of first quarter next year. Prereleased software can be accessed from Oracle on a situational basis. An important point: you must be willing and committed to spend the time communicating to Oracle when working with pre-released software. It can be buggy and you, "the user", are the primary way to resolve bugs in any software from any software provider.

See you in December in Birmingham, England for UKOUG. I will be speaking on Thursday afternoon and will be physically at the Oracle Contractors booth on the other days. Come by and let me know what you think!





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# The Business Intelligence & Performance Management Specialists



SolStonePlus is one of Oracle's most experienced Business Intelligence (BI) partners. Over the last 25 years, we have built our reputation and credibility on delivering BI solutions that enable our customers to achieve vast improvements to their business performance - including more proactive decision-making through access to higher quality, readily available data as well as better long-term planning through budgeting, forecasting and timely, accurate reporting solutions.

At SolStonePlus, we are renowned for our expertise in the following areas:

## Business Intelligence

- BI Suite Enterprise Edition Plus
- BI Applications
- BI Standard Edition One
- BI Publisher
- Hyperion Essbase
- Real-Time Decisions
- BI Standard Edition (Discoverer)
- Portal
- Application Server/Fusion Middleware

## Enterprise Performance Management

- Hyperion Performance Management Solutions
- BI Applications
- BI Suite Enterprise Edition Plus
- OFA Migration to Hyperion Planning

## Data Warehousing

- Database 9i/10g/11g
- Data Mining
- OLAP
- Secure Enterprise Search
- Data Integrator
- Warehouse Builder

## Business Integration and Process Management

- Business Activity Monitoring
- Business Process Execution Layer Process Manager
- Data Integration Suite
- Service Oriented Architecture Suite

## Master Data Management

- Master Data Management Suite



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For intelligent advice on your business needs, please contact:

t: +44 (0) 1273 206 555 | e: [info@solstoneplus.com](mailto:info@solstoneplus.com) | w: [www.solstoneplus.com](http://www.solstoneplus.com)