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PeopleSoft In-Memory Real Time Bottom Line for Oracle Engineered Systems: A Revolutionary Solution for the Executive Suite
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Executive Overview

Executives have long regarded intuition, educated guesses and experience as the keys to formulating strategy and assessing risk. That thinking may have worked in times when information was scarce but it is insufficient in today’s world of information and technology revolution.

Today’s Chief Financial Officers (CFOs) face a multifaceted, high-speed and challenging business environment that necessitates a real time global view of the organization and the ability to quickly forecast the effects of the dynamic world in which the business operates. Key business decisions do not wait until the period is closed for further guidance. In this environment, innovation is a critical driver of excellence, and the finance department is no exception. The CFO’s office of Finance demands constant information on the health of the financial position. Streamlining operations functions that serve to reduce the critical close cycle is a given but it is not enough. At any point in the cycle, successful organizations require the CFO to accurately simulate the dynamic factors that directly affect the business and make strategic timely decisions that directly affect the performance of the business.

Oracle continues to support the Office of the CFO with a new suite of applications that are engineered from the ground up with in-memory processing on the Exadata platform. We call it the PeopleSoft Real Time Bottom Line, a one-of-a-kind solution designed to help the CFO drive business performance through faster, well-informed decisions based on real time simulation of business, organization, and regulatory changes before the changes actually occur. It is a game changer when it comes to strategically steering the ship.

This whitepaper describes how PeopleSoft Real Time Bottom Line uses Oracle Engineered Systems to deliver a new suite of applications. For more information about these systems, see the section “Overview of Engineered Systems” at the end of this white paper.
The Challenge of Modeling the Financial Position

CFOs at most companies are no longer content to manage just finances or operations. In order to become ‘strategic CFOs’, they must not only manage but improve performance while meeting ever rising shareholder demands. The Executive Suite and every management level demand constant information on the health of the financial position while expecting Finance to continue tracking daily activities, supporting the period close and automating regulatory and control imperatives.

ERP automation has made it possible to provide real time information with appropriate data point comparisons. In today’s economy and global reach, the CFO’s office needs much more than this. They need to easily and quickly evaluate the effect of the ever changing market trends, business conditions and organization directives.

What would happen, for example, if the following events occurred?

- Revenue expectations are not materializing in the current period
- Sales revenue mix between product lines shift significantly
- Regulatory changes that bring higher or lower operating expenses
- A re-organization is being contemplated
- A major acquisition is in process
- Expansion of IT Projects
- Low return on cash assets

Imagine if all these happened all at once and you have the perfect storm. The office of Finance has historically pulled ad-hoc information together and tried to simulate the effect to the bottom line. Their analysis and forecasts often are disconnected from the real time and active financial position. The Finance team needs to work through real time simulations of the perfect storm, analyze the results and then make decisions about the reorganization of sales or the upcoming material expense.

The headlines tell the story of missed earnings targets and months of restated financial results. Historically, it has been more difficult to assess the impact of events prior to closing the books. The current ERP systems don’t provide for what if analysis prior to the close since it would directly impact actual data. To avoid the missed targets, Finance needs to quickly and easily simulate multiple versions of the close much earlier than the actual event. Regulatory needs in some cases mandate this. For example, banking entities are further challenged with daily regulatory oversight of the organization’s balance sheet position and the need to improve the return on assets. The successful banking organization needs to estimate the balance sheet position and corresponding averages that must be reported to the regulatory agencies in order to maximize return on assets. Simply considering these issues often allows a business manager to perceive the business in a more strategic manner.
The Value of Accurately Modeling the Financial Position

Oracle’s PeopleSoft Financial Management is creating a solution that is the first of its kind; it will make the Finance team nimble and will provide the executive level suite the ability to make proactive decisions that are critical to the strategic management of the business. The ‘strategic CFO’ can now have the Finance team actually analyze simulated results and make decisions early on. Finance can provide information on the real time effect of decisions such as reorganizations, impact of material activity before it happens. They can also avoid the restatements of financial positions through simulations of the close. Early assessment of the close results can positively influence your ability to react to changing business events. Corrective action can be taken if the results are negative before the close. Positive results can act as a business opportunity that may otherwise not be apparent until after the close. Banking entities can limit the reserves maintained at regulatory agencies since the rate of return on funds is very low. They can alternatively invest the position in higher rate instruments.

Real Time Bottom Line: A Revolutionary Executive Solution

The PeopleSoft Real Time Bottom Line is a robust In-Memory solution set that takes large volumes of production data and business configuration and then simulates the effect of changes without touching the actual financial position. Based on simulation analysis and comparisons, changes that make sense for the financial period can be deployed to the production environment. Using real time operational data, the solution allows Finance to execute simulations of the close process that consider the relevant business factors before the actual close. The Real Time Bottom Line solution is designed to allow strategic analysis and decision making at any point before and during the period close. Financial Services that own or run a banking entity can benefit from early simulations of daily average balance sheet position with actual return on assets advantage when deciding on reserve positions at the regulatory agencies.

The initial focus of the PeopleSoft Real Time Bottom Line suite of applications will be in two areas:

- PeopleSoft In-Memory Financial Position Analyzer
- PeopleSoft In-Memory Financial Allocations Analyzer

- The Real Time Bottom Line makes the Finance team highly efficient through a step by step walk through of simulations as follows:
- Create a scenario, easily select configurations and version them so they can individually model out different possibilities.
- Through the power of in-memory technology, graphically view the many steps chosen for the model.
- Process the hundreds of rules with lightning speed.
- Review and compare scenario results in real time.
Oracle Engineered Systems Advantage

Exadata Smart Flash Cache uses Flash memory to dramatically reduce the time to read production data and write to the Real Time Bottom Line tables. The new solution will take advantage of flash memory to speed up log writes. The intelligence in Smart Flash Cache transparently moves active Real Time Bottom Line database blocks from disk to flash in real time, thus ensuring that "hot" scenario data is in Flash memory when the next access occurs. Exadata Smart Scan speeds up data-intensive queries by leveraging the processing power of Exadata Storage Servers to scan and move production data into Real Time Bottom Line tables. By moving queries to storage instead of moving the data to the database server nodes for filtering, long-running queries often complete much faster than on conventional systems. The use of InfiniBand as the networking fabric within Exadata ensures the lowest latency for messages and the highest bandwidth for data transfers between production and the Real Time Bottom Line tables. The data-intensive queries of scenario modeling can similarly reap the benefits.

The processing and analysis of financial scenarios will be significantly faster using Exadata Smart Flash Cache, Smart Scan and InfiniBand.

As financial analysts expand their use of modeling the financial position, the database can grow very quickly. Exadata Scale-Out Storage enables the full performance of Exadata to be realized against large and growing databases, without fear of bottlenecks. As the production and Real Time Bottom Line tables' size grows and storage capacity is added to Exadata, storage performance and networking bandwidth scale in equal proportion.

Oracle SPARC SuperCluster has many equivalent attributes and customers can realize similar benefits.

PeopleSoft on Exalogic

Customers running PeopleSoft applications on Exalogic enjoy some unique advantages over other hardware platforms. Using Oracle Virtualization capabilities on Exalogic, customers will benefit from the Oracle VM Templates provided by PeopleTools.

Faster Deployment

The templates provided by Oracle contain fully configured web application and batch servers as well as the operating system on which they run. They enable new environments to be deployed in minutes, versus the days it could take before. Preconfigured and pretested, PeopleSoft middle-tier components are always at the right release level with the required patches installed. No longer, do you need to procure a server, install and patch the operating system, install and patch Tuxedo, install and patch WebLogic Server, or configure your application and web servers; the templates do it for you, saving valuable time and effort while providing a fully tested environment.

Easier Patching

Patching your PeopleTools environment on Exalogic just got easier, too. With new VM templates being provided with new PeopleTools patches, updating the PeopleTools middle tiers is as easy as downloading a new template and booting the new virtual machine.

Better Scaling
Scaling your PeopleSoft environment was simplified as well. When the system gets busy, new application servers or web servers can be brought online and dynamically added to the environment. No configuration or downtime is required. As the spike subsides and the additional resources are no longer needed, the resources are transparently removed and the virtual machine is shut down until the next time. The system resources used by the added virtual machine during the spike can be used by other projects instead of sitting idle. The VM templates provide a great way to respond to usage spikes while ensuring the most efficient use of hardware resources.
PeopleSoft In-Memory Financial Position Analyzer

Finance needs to stay abreast of the financial position and help guide the organization as the perfect storm develops. The CFO should no longer have to depend on educated guesses when it comes to forecasting expected events in the near term.

Finance needs to quickly simulate the effect of the perfect storm as they develop on the financial position.

- Revenue expectations versus recognized in the current period
- Sales revenue mix between products shifts significantly
- Regulatory changes that bring higher operating expenses

Currently, Finance simulates these events outside of the ERP system in a myriad of spreadsheets using many resources, a method that has a high overhead cost and potential security breaches. High level assumptions take place of real time operational data. Finance needs a way to drive decision support for management across the organization in a more precise manner without increasing costs.

Oracle plans to offer the PeopleSoft In-Memory Financial Position Analyzer, a dynamic solution that utilizes all of the power of PeopleSoft General Ledger and its differentiating capabilities and goes the extra mile. The Position Analyzer is a new standard for effective decision support allowing users to model out the impact of material activity through the inclusion of ‘what if’ scenarios and analyzing results at organization or more granular levels. Information can be analyzed by Finance and shared with the stakeholders and line managers to expedite business course changes. With this new solution, guesswork is taken out of the equation. The CFO can make sound business decisions based on real time trial balance, pro-forma financial statements and P&L positions by business, region, product, and so on.
PeopleSoft In-Memory Financial Allocations Analyzer

One of the largest tasks of every finance and accounting group is to make sure that every dollar of costs and revenues is accounted for. All organizations make changes to the administrative costs and to the structure of the organization on a more regular basis. These have profound impact on the financial world. Finance has to quickly determine the effects of costing out:

- Reorganizations of any and all parts of the company.
- Acquisitions that must be implemented.
- New IT projects.

Large multinationals that produce goods and services have to manage complex allocations to drive everything from revenues to operating costs, and in many cases, require data from third party systems in conjunction with core financials data to accomplish these objectives. Some allocations are hundreds of steps deep and they cascade results from one step to another like a waterfall. Imagine having to modify that complexity in order to reflect a new labor rate that will occur with a new acquisition, the relocation of a production facility, or having to change steps 3 to 10 in the midst of 300 steps to reflect a new product rollout. This is not an imaginary situation; it happens frequently and Finance has the tough job of making it happen as quickly and as effectively as possible.

Today, most organizations have adopted one of two approaches for dealing with this challenge:

- They make a copy of the production environment, change the configuration, run allocations and view the results. When the changes meet the objective results, they manually make the modifications again in the production environment, or task IT with programmatically updating production for the changes.
- Another approach takes the allocations and mirrors them using spreadsheets.

Both approaches are fraught with manual efforts and errors, loss of control of the data and the veracity of the configuration changes. The Finance team cannot afford to operate in this old reality; they need a whole new way of managing this critical and time-consuming task. They need the “new standard for productivity”.

Oracle plans to offer a revolutionary solution: the PeopleSoft In-Memory Financial Allocations Analyzer. The new solution will allow users to take what is in their production environment in terms of allocation rules, balances as well as third party data and model scenarios of possible changes. They can compare scenarios to establish which is most beneficial to meet the stated need. The old reality can be replaced by the revolutionary solution whereby Finance can meet the challenge of modeling complex allocations quickly and easily as business needs arise.

More to Come in the Revolution

Oracle plans to work with customers on additional in-memory solutions to continue to revolutionize the office of Finance. Part of the revolution will focus on the critical period close while another will focus on the average balance sheet position of Financial Services organizations that manage banking entities.

The Executive suite and all organization managers can be more proactive when they have a good understanding of the full financial position before the actual close. Oracle will work with customers to allow Finance to simulate the full close based on different scenarios of configuration and activity.

Successful banking organizations can benefit from early simulations of the daily average balance sheet position. They can limit the reserve funds to what is needed and invest the excess in higher yield instruments. This capability
can have a direct positive effect on profitability. Oracle will work with its expansive Financial Services base to proactively manage balances and reserve positions.

Conclusion

The executive suite can vastly improve its ability to make strategic decisions early in the financial period. The Office of the CFO can provide more accurate decision options if they can simulate the business drivers, the market trends, and regulatory decisions within the financial environment. The PeopleSoft Real Time Bottom Line suite of products uses Exadata and in-memory technology to empower the Finance team and allow the simulation of changes to business rules, the effect of material activity, and the assessment of the full financial position early in the financial period. With an intuitive interface and powerful processing throughput, users can process data, analyze, and compare financial results faster than ever before. With this capability, organizations should be able to improve their profits as well as their financial position, avoid financial obstacles, and improve their return on assets.

Overview of Oracle Engineered Systems

Oracle’s engineered systems combine best-of-breed hardware and software components with game changing technical innovations. Designed, engineered, and tested to work best together, Oracle’s engineered systems can power the cloud or streamline data center operations to make traditional deployments even more efficient. The components of Oracle’s engineered systems are preassembled for targeted functionality and then—as a complete system—optimized for extreme performance. By taking the guesswork out of these highly available, purpose-built solutions, Oracle delivers a solution that is integrated across every layer of the technology stack—a simplicity that translates into less risk and lower costs for your business. Only Oracle can innovate and optimize at every layer of the stack to simplify data center operations, drive down costs, and accelerate business innovation.

Oracle Exalogic

Oracle Exalogic is an Engineered System on which enterprises deploy Oracle business applications, Oracle Fusion Middleware, or third-party software products. Exalogic comes prebuilt with compute nodes, memory, flash storage, and centralized storage; all connected using InfiniBand in a high redundancy architecture delivering five-nines availability, with fault tolerance and zero-downtime maintenance.

Exalogic dramatically improves performance of Oracle Applications, Fusion Middleware, and third-party applications without requiring code changes and reduces costs across the application life cycle, from initial setup to ongoing maintenance, as compared to conventional hardware platforms. Oracle has made unique optimizations and enhancements in Exalogic firmware, Exalogic software, and in Oracle’s middleware and applications. These include on-chip network virtualization based on near zero latency InfiniBand fabric, high-performance Remote Direct Memory Access, workload management in Oracle WebLogic Server, and optimizations in Oracle Coherence and Oracle Traffic Director. Exalogic includes support for a highly optimized version of the Oracle VM, which significantly outperforms comparable virtualization solutions and is an ideal consolidation platform for Oracle Applications. Templates to simplify install, deployment, and configuration of applications on Exalogic are available.
Oracle Exadata Database Machine

Oracle’s Exadata Database Machine is Oracle’s database platform delivering extreme performance for database applications, including Online Transaction Processing, Data Warehousing, Reporting, Batch Processing, or Consolidation of mixed database workloads. Exadata is a preconfigured, pretuned, and pretested integrated system of servers, networking, and storage all optimized around the Oracle database. Because Exadata is an integrated system, it offers superior price performance, availability, and supportability. Exadata frees users from the need to build, test, and maintain systems and allows them to focus on higher value business problems.

Exadata uses a scale out architecture for database servers and storage. This architecture maintains an optimal storage hierarchy from memory to flash to disk. Smart Scan query offload has been added to the storage cells to offload database processing. Exadata implements Smart Flash Cache as part of the storage hierarchy. Exadata software determines how and when to use the Flash storage for reads and writes as well as how best to incorporate Flash into the database as part of a coordinated data caching strategy. A high-bandwidth, low-latency InfiniBand network running specialized database networking protocols connects all the components inside an Exadata Database Machine. In addition to a high performance architecture and design, Exadata offers the industry’s best data compression to provide a dramatic reduction in storage needs.

Oracle SPARC SuperCluster

Oracle’s SPARC SuperCluster is the world’s most efficient multi-purpose engineered system, delivering extreme efficiency, cost savings, and performance for consolidating mission critical applications and rapidly deploying cloud services. Oracle’s SPARC SuperCluster represents a complete, pre-engineered, and pre-tested high-performance enterprise infrastructure solution that is faster and easier to deploy than a collection of individual database and application servers. The system combines innovative Oracle technology—the computing power of Oracle’s SPARC servers, the performance and scalability of Oracle Solaris, the Sun ZFS Storage Appliance, the optimized database performance of Oracle Database accelerated by Oracle Exadata Storage Servers, and a high-bandwidth, low-latency InfiniBand network fabric—into a scalable, engineered system that is optimized and tuned for consolidating mission-critical enterprise applications.

Oracle’s SPARC SuperCluster provides both the capacity for growth, as well as the fine-grained server virtualization needed to isolate individual application components. With multiple layers of enterprise application infrastructure consolidated onto a high-performance, highly available SPARC SuperCluster system, deployment speed, application performance, and availability can all be optimized. Designed as a pre-configured, pre-tested, and ready-to-deploy SPARC SuperCluster engineered system, the solution provides a complete and optimized infrastructure solution for applications, built around robust compute, networking, storage, virtualization, and management resources. The result is a system that is orders of magnitude easier to manage, and up to five times faster to deploy than alternatives, all while occupying considerably less real estate requiring less power. Furthermore, the SPARC SuperCluster system provides full built-in redundancy resulting in a highly reliable infrastructure without single point of failure. An issue with one component will not impact other components of the system offering true isolation. Customers can consolidate multiple environments with minimum disruption, without fear of performance degradation, and the ability to achieve required service levels.