

Oracle E-Business Suite on Oracle SuperCluster M7

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“Oracle’s implementation of Oracle SuperCluster and Oracle Exadata storage is a compelling testament to the power of our engineered systems. We gained unprecedented scalability, reliability, and performance for our GSI database and enterprise application, Oracle E-Business Suite, while reducing costs and IT complexity, and we deployed in just three months.”

LARRY KLEIN

VICE PRESIDENT-PRODUCT DEVELOPMENT IT

ORACLE

Introduction

Oracle E-Business Suite is the world’s most comprehensive suite of mission-critical global business applications for enterprise resource planning (ERP), customer relationship management (CRM), supply chain management (SCM), human capital management, project management, and every other class of mission-critical or performance-sensitive enterprise application. Increasing revenue and cost-saving opportunities by lowering the technical barriers for rolling out real-time analytics, big data, mobile, and Internet of Things (IoT) applications; decreasing time to market; and improving the efficiency of business processes while remaining compliant with regulatory requirements are key objectives of every modern enterprise.

The Oracle SuperCluster M7 platform’s comprehensive security, performance, and efficiency advantages make it the best available platform for most enterprises, whether an organization is modernizing existing deployments or deploying Oracle E-Business Suite for the first time.

Oracle SuperCluster M7 is Oracle’s premier, secure private cloud infrastructure solution optimized for Oracle Database and applications. Oracle SuperCluster is a “smart platform” that combines compute, storage, networking, virtualization, OS, and management tools with unique hardware and software optimizations for Oracle Database, Java applications, middleware, and many Oracle business applications, making it the ideal infrastructure for Oracle E-Business Suite environments.



Benefits of Oracle SuperCluster M7 for Oracle E-Business Suite

Oracle E-Business Suite is the most comprehensive suite of integrated global business applications, enabling organizations to make better decisions, reduce costs, and increase business performance. Oracle E-Business Suite provides support for an exceptionally wide range of business processes, organizational roles, end-user access options, and integration and customization options—including online patching, simplified user flows, mobile applications, simplified user interfaces, standard Java APIs for extensibility, and Oracle Application Testing Suite and Oracle Flow Builder.

Oracle In-Memory Applications leverage the power of both the Oracle Database 12c In-Memory option and engineered systems to transform enterprise data into actionable information through a set of critical, robust and real-time analytical features. Oracle In-Memory Applications running on Oracle Database In-Memory 12c and Oracle SuperCluster are a direct result of Oracle's "Engineered to Work Together" strategy, and they are built to exploit the combined capabilities of both software and hardware to deliver transformative solutions.

Oracle SuperCluster is the only secure cloud infrastructure system that integrates Oracle's SPARC M7 microprocessor, the world's fastest microprocessor. The SPARC M7 is the only microprocessor engineered specifically for Oracle Database. The combination of the SPARC M7 processor, Oracle's InfiniBand I/O fabric, Oracle ZFS Storage Appliance, Oracle VM Server for SPARC, Oracle Solaris, and Oracle Exadata Storage Servers makes Oracle SuperCluster the most technically advanced platform of its type.

"Thanks to a high-performing Oracle SuperCluster, we gained the highest availability and reliability for our mobile-user authentication system and deployed the new platform in just a few months. With Oracle SuperCluster, we improved overall system performance by 12x, simplified system management, and reduced the total cost of ownership, enabling us to support explosive growth in our mobile business and improve customer service."

TOSHIO KATO

GENERAL MANAGER, NETWORK TECHNICAL DEVELOPMENT DIVISION

KDDI CORPORATION

Oracle SuperCluster M7 Security

Oracle SuperCluster M7 is the most secure cloud infrastructure on the market today, with a range of unique runtime and management security features and an end-to-end security architecture complimented by automated compliance reporting tools and out-of-the-box security controls that implement established security best practices for mission-critical deployments.

TABLE 1. ORACLE SUPERCLUSTER M7 SECURITY FEATURES

| Feature | Description |
|--|---|
| SPARC M7 processor's Security in Silicon | Silicon Secured Memory prevents software programs from unintended or unauthorized access of physical system memory. Cryptographic acceleration provides near-zero overhead, end-to-end data encryption with no performance compromise. |
| Secure Oracle VM Templates | The I/O Domain Creation tool provides the ability to create I/O domains through prepared templates, including the domain configuration for Oracle VM Server for SPARC virtual machines. |
| Compliance Reporting Automation | Security experts and system administrators can quickly and easily verify that IT systems are secure and compliant with mandated security standards and best practices. |
| Transparent Data Encryption | Oracle SuperCluster M7 delivers a comprehensive data protection environment with a high-degree of assurance for security at all layers. The confidentiality and integrity of data are protected with support for the use of encryption through stronger cryptographic algorithms in all tiers. |
| Secure Boot and Firmware | Oracle Solaris "verified boot" secures a system's boot process. The feature protects the system from threats such as corruption of kernel modules, insertion or substitution of malicious programs that masquerade as legitimate kernel modules (such as Trojan viruses, spyware, and rootkits), and the installation of unauthorized third-party kernel modules. |
| Network Encryption | Oracle Database provides the Advanced Encryption Standard (AES), DES, 3DES, and RC4 symmetric cryptosystems for protecting the confidentiality of Oracle Net Services traffic. Oracle Database supports the Federal Information Processing Standard (FIPS) encryption algorithm and Advanced Encryption Standard (AES). |

"Specialized Bicycles is a brand that innovates. That is why we work with Oracle. Our proof of concept showed performance gains up to 17x with Oracle E-Business Suite. An account reconciliation report that took 20 hours ran in 20 minutes on Oracle SuperCluster; that's huge. We were always I/O-bound managing 60 TB of data. With the full integration ZFS, it was a huge upgrade for us on top of the flash memory side of the database."

RON POLARD
CIO
SPECIALIZED

Oracle SuperCluster M7 Performance

Oracle SuperCluster M7 is built with the world's faster microprocessor, the SPARC M7, with integrated performance acceleration built directly into the processor design, making it the ultimate platform for Oracle enterprise applications. Oracle E-Business Suite's concurrency profile requires linear scaling for very large deployments and multiple applications to run simultaneously while maintaining consistent response times. With Oracle SuperCluster M7 and the SPARC M7 processor's In-Line Decompression feature, SQL performance is accelerated up to 11 times for enterprise applications¹.

¹ <https://www.oracle.com/servers/sparc/openworld-hardware-software-together.html>

TABLE 2. ORACLE SUPERCLUSTER M7 PERFORMANCE

| Component or Feature | Description |
|--|---|
| SPARC M7 processor with Data Analytics Accelerators coprocessors and on-chip cryptographic acceleration | <p>SPARC M7 is the world's fastest processor with 32 cores at 4.13 GHz clock speed with 64 MB of L3 cache.</p> <p>SPARC M7 In-Line Decompression for Oracle Database In-Memory 12c provides up to 6x faster in-line memory decompression, accelerates SQL queries, and frees memory resources².</p> <p>SQL acceleration for Oracle Database In-Memory 12c provides up to 11x faster SQL acceleration for simultaneous real-time analytics and transaction processing.!</p> <p>Cryptographic acceleration provides near-zero overhead, end-to-end data encryption with no performance compromise.</p> |
| Oracle Exadata Storage Servers | <p>The Exadata Smart Flash Cache feature dramatically improves I/O response times.</p> <p>The Exadata Smart Scan feature optimizes transfers from storage cells to database servers.</p> <p>The Exadata Hybrid Columnar Compression feature dramatically improves performance of data warehousing queries.</p> |
| Large Memory and Memory Bandwidth | <p>Oracle SuperCluster provides contiguous memory up to 2 TB using standard low-cost 32 GB ECC DIMM memory for better overall application performance and in-memory performance.</p> |
| Near-Zero Overhead Virtualization | <p>Oracle Database In-Memory 12c in-memory database acceleration and SPARC M7 In-Line Decompression to accelerate queries 11x faster!.</p> |
| Linear Scale-up and Scale-out | <p>Oracle's InfiniBand fabric provides exceptionally low database and storage response times and data throughput.</p> |
| Full-Stack Tuning and Patching | <p>Extensive end-to-end testing and patching ensures all components work seamlessly together with quarterly maintenance update patching.</p> |

Performance for Oracle E-Business Suite

Faster End-User Response Times

Employee productivity, customer satisfaction, customer retention, and revenue recognition opportunities increase as a result of faster application responsiveness to end users. Employee productivity is critical for manufacturing, shop floor operations, order processing, and customer service.

Here are examples of where Oracle SuperCluster improves end-user responsiveness:

- » Processing orders quickly and responding to customers promptly is an essential business need for ecommerce and online vendors. Large numbers of customers concurrently submitting orders or requests for information expect an instant response. The superior performance of Oracle SuperCluster helps facilitate such response times and helps to retain customers, increase revenue, and increase customer referrals.
- » The ability to respond quickly is critical for businesses relying upon customer service or call centers. In order to deliver timely responses to customers, customer service representatives must be able to retrieve all the relevant information in real time to provide the critical information that customers are looking for.

² <https://www.oracle.com/servers/sparc/openworld-hardware-software-together.html>

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- » Accounting departments can reduce invoice processing costs and improve the predictability of cash flow by increasing the speed of the receivables' invoice entry.
 - » Procurement professionals using the system with high intensity can benefit from increased productivity. A buyer who can quickly access relevant details about a supplier—including recent transaction history—can be more effective in negotiations. A supplier sales administrator can more efficiently update large documents with thousands of lines in the Supplier Portal due to faster response times. This can lead to higher efficiency between suppliers and buyers, resulting in increased purchases.

Faster Batch Processing

Improvement in batch processing or concurrent programs aids on-time completion of critical business processes, thereby improving productivity for day-to-day operations and increasing the ability to meet service level agreements (SLAs) and regulatory reporting needs.

Here are some of the examples of where these resource-intensive batch programs can benefit from the performance of Oracle SuperCluster:

- » Faster financial period “close” helps businesses with timely regulatory reporting, early visibility of revenue, and margin and profit information for real-time decision making. Financial period close comprises several highly resource-intensive batch programs that involve the gathering of up-to-date information from numerous divisions, cost centers, and other stakeholders. Businesses often struggle to close financial periods on time. Oracle SuperCluster can increase the speed of these batch programs enabling a faster period close.
- » Frequent running of batch processes for supply chain operations increases the timeliness and accuracy of information required to complete manufacturing planning.
- » Service providers or companies engaged in delivering customer warranties can realize cost savings in fuel expenses and increase revenue by performing more service calls when the field service technicians use optimized trip routes.
- » Almost all corporations need to complete payroll processing within a time-critical window in order to ensure employees are paid on time and accurately, payment transfers to banks are completed on time, and legal and compliance issues are prevented. Improved time in transferring payroll data to General Ledger also helps in a faster period close.

Faster Report Generation

There are hundreds of reports within Oracle E-Business Suite to meet the needs of business users. Increasing the performance of these reports can help to increase the accuracy and timeliness of decisions and reduce the risk of noncompliance.

Here are examples of reports:

- » Global payroll year-end reporting is needed as part of statutory reporting. Data from this report is further used by various processes such as generating paper W2 for employees and reporting to federal and state authorities.
- » Understanding up-to-date information regarding the health of a project is critical for any project-centric company. By improving the performance of reports that provide details about project performance, burden rates, and revenue impact, project managers can gain quick insight into the health of a project to make critical decisions to change the project scope, cost, or time.
- » Parts usage analysis reports provide instant information regarding components by maximizing reuse of parts. Manufacturing organizations can realize significant design and manufacturing cost savings, reduce duplicate parts inventory, and lower inventory carrying costs with these timely reports.

Faster Data Loads



There are many business processes within Oracle E-Business Suite that facilitate importing of massive amounts of external data. Increasing the performance of these programs can help to increase the overall performance of the business process flow.

Here are some examples of data imports and loads:

- » High order-volume processing and order import programs are designed to process large numbers of orders and fulfillment rapidly. In certain industries such as retail, this is an extremely time-sensitive process where orders are received in the morning from thousands of stores and have to be delivered from the warehouse to the stores the same day.
- » Manufacturing cycle time plays a very critical role in make-to-order environments because it directly contributes to the customer commitment time frames. By reducing the cycle time in manufacturing and administrative processes, companies are finding that they can respond faster to customers and become more flexible in dealing with marketplace changes. Work order import is an example of such a data load program.
- » Manufacturers can reduce the risk of costly product recalls, loss of productivity, and damage to brand reputation by identifying and resolving quality problems quickly. By increasing the frequency and performance levels of quality data imports, employees can perform more rapid root-cause analysis and identify manufacturing defects.

Faster Extraction, Transformation, and Load

In order to deliver business intelligence to executives, transactional data has to be aggregated and loaded into data warehouses. This process is called extract, transform, and load (ETL). By speeding up these processes and running them frequently, customers can ensure that intelligence provided to decision makers is current and accurate, thereby aiding them to make timely and informed decisions.

The performance gains from Oracle SuperCluster help to enable ETL processes to be executed more frequently without impacting the performance of other processes and without impacting online users. Oracle Incentive Compensation Analytics is an example of where increased frequency of incentive insights will help better alignment of selling behaviors to corporate goals.

Faster Time to Value and Improved Supportability

Oracle SuperCluster is a preassembled system with limited variations for customer configuration. Preassembly saves thousands of hours spent by customers in researching and building a system to scale to the demanding needs of Oracle E-Business Suite. Preconfigured systems allow customers to spend less time and fewer resources on implementation and realize the value of the production systems quickly. A reduced number of customer configurations (uniform operating system, CPU, memory, network, and storage) enables Oracle to replicate customer issues easily and maintain consistent patch sets across components, reducing regressions and simplifying diagnosis and, hence, resolving problems faster³.

“The advantages of having the database and applications, including Oracle E-Business Suite, running on SuperCluster are huge, because it is optimized to run on Oracle Database and Oracle SuperCluster. With Oracle SuperCluster, we were able to reduce operational costs by 80 percent, and we scaled down and consolidated by a factor of 5x. Quarterly patching was really time-saving for my staff. With Oracle SuperCluster, we have one partner for the whole stack.”

HALLGRIMUR G. SIGUROSSON
MANAGER OF ENGINEERING

³ <https://www.oracle.com/servers/sparc/openworld-hardware-software-together.html>

Oracle SuperCluster M7 Efficiency

Oracle SuperClusterM7 is extremely cost effective and efficient, and it can be easily integrated, deployed, scaled, and managed to reduce costs and services downtime, in addition to reducing the impacts of security breaches. Across-the-board business and technical benefits of Oracle SuperCluster M7 with Oracle E-Business Suite include faster time to value, increased scalability, more standardization, increased security, and improved supportability.

TABLE 3. ORACLE SUPERCLUSTER M7 EFFICIENCY

| Feature | Description |
|--|---|
| Extreme Performance | Reduces costs by requiring less hardware, space, power, software, and administration effort than other infrastructures |
| Secure Multitenancy | Provides maximum flexibility in provisioning system resources to tenants' databases and applications while maintaining maximum isolation from other tenants |
| Elastic Configurations | Provides the ability to seamlessly add compute, memory, network, and storage capacity in increments as business requires |
| Subcapacity Software Licensing | Allows software to be licensed for only specific processors, significantly reducing costs |
| Infrastructure as a Service (IaaS) and Database as a Service (DBaaS) Self-Provisioning | Enables administrators to provision and manage their databases and tenant authority, with minimal operational complexity, thereby reducing risks |

Oracle SuperCluster secure cloud deployments with Oracle E-Business Suite have been rapidly deployed in weeks, rather than months, including large-scale data center consolidations. Oracle SuperCluster M7 is a single preintegrated system from compute and storage to virtualization. Operating system and management are integrated, with centralized patch sets across components, significantly reducing services costs and business risks.

Oracle SuperCluster is designed for highly efficient, secure multitenancy deployments, and integrates scale-up virtualization and a scale-out InfiniBand fabric to provide maximum flexibility and scalability with Oracle E-Business Suite.

By incorporating Oracle SuperCluster M7 into Oracle E-Business Suite IT environments, customers can meet SLAs consistently, reduce IT management costs, and deploy applications and databases rapidly. Oracle SuperCluster offers flexible software licensing for Oracle enterprise software, licensing the database based only on the cores used in the Oracle Solaris domain or zone. This significantly decreases initial acquisition costs, because software licensing and services represent typically 70 percent of total costs of ownership. This allows for sub-capacity licensing to control how software licensing costs increase based on required capacity over time.

Benefits for Specific Oracle E-Business Suite Modules

All of the performance achieved with the integration and optimization of Oracle engineered systems with Oracle Exadata and Oracle Exalogic running Oracle E-Business Suite can be similarly achieved with Oracle SuperCluster.



The following sections provide business benefits and tested performance information from Oracle engineered systems for specific Oracle E-Business Suite modules.

Supply Chain Management

The following sections highlight the benefits derived when the following Oracle Supply Chain Management key functionalities are deployed on Oracle SuperCluster:

- » Manufacturing, cost management, and product information
- » Order management and advanced pricing
- » Procurement and contracts: Spend classification and analysis
- » Warehouse management system

Manufacturing, Cost Management, and Product Information

Manufacturing enterprises perpetually deal with complexity and variability. Raw materials, production resources, and delivery schedules are prone to constant change in today's increasingly complex supply chains and manufacturing processes. In such an environment, manufacturers need real-time visibility across operations and their value chain for greater synchronization and predictability in order to get the "3 Rs": right products to the right customers at the right time.

Manufacturers generate massive amounts of information from their production facilities, machinery, point of sale (POS), and quality systems. As businesses ramp up and transaction volumes exponentially increase, manufacturers must ensure that their IT systems are able to scale accordingly to accommodate future demand and growth, while ensuring enhanced operational excellence and user productivity. The ability to make timely decisions based on the analysis of massive amounts of ERP and non-ERP data becomes a critical success factor in gaining a competitive edge and preempting potential downstream impacts to other dependant business processes.

The following list highlights some of the significant benefits that manufacturers achieve when they run Oracle E Business Suite manufacturing and cost management applications on Oracle SuperCluster.

- » Faster period closing helps to comply with statutory reporting and understanding the overall health and profitability of the business for the period.
- » Rapid product cost or rate change impact analysis allows business owners to quickly react to changes and incorporate measures to reduce costs and adjust price lists as needed.
- » Instant product genealogy and parts reuse analysis allows businesses to react quickly to service calls, which will reduce costs and increase customer satisfaction.
- » Reduced manufacturing cycle times allow businesses to fulfill customer needs quickly, be more flexible in dealing with marketplace changes, and stay competitive.

In today's business climate, the old adage "time is money" has evolved into "time is a competitive weapon." Empirical evidence gathered from companies in the US and Canada shows that companies that reduce total manufacturing cycle time by 75 percent will double productivity, reduce the break-even point of a facility by 20 percent, grow at three times the industry average, and have two times the industry-average margin. One major reason to reduce cycle time is to get more of the manufacturing process out of the make-to-forecast mode and into the make-to-order mode, without demanding that customers wait longer between their order and their receipt of a product. Oracle SuperCluster delivers the performance levels that help to process cost information and close periods faster than any tier 1 hardware.

There are many factors that contribute to the length of this cycle but performance of IT systems does not need to be one. Whether it is a new highly engineered system, processing and releasing voluminous supplier feeds on an ecommerce site in retail, or designing and testing of a new telecommunications bundle in multiple operating systems



and business support systems stacks, the unprecedented computing power of Oracle SuperCluster reduces product processing time, increases efficiency, and enables organizations to easily scale as the number of products, attributes, and rules grow.

Order Management and Advanced Pricing

As a result of superior performance, deploying order management on Oracle SuperCluster helps organizations to perform real-time order execution regardless of underlying complexities. Oracle SuperCluster is successful in delivering fast end-user response times allowing companies to perform quick order execution and prevent order losses due to slow order processing times.

Oracle SuperCluster dramatically improves load times for deploying order management and advanced pricing by having a multiplier effect that dramatically improves end-user response times across multiple applications in Oracle E-Business Suite. This also dramatically decreases the batch processing time, thus having a direct impact on the bottom line by increasing revenue and improving customer satisfaction.

Procurement and Contracts: Spend Classification and Analysis

The high performance of Oracle SuperCluster allows the ETL processes required for data consolidation to be much faster and at reduced cost and effort. Internal comparisons have shown that resource-intensive processes required to perform spend classification are up to ten times faster on Oracle SuperCluster. The Oracle Procurement and Spend Analytics application includes prebuilt data models with more than 100 preloaded metrics and best practices enabling organizations to implement more quickly, with less risk, and at a fraction of the cost required to build traditional business intelligence (BI) solutions.

Oracle SuperCluster can be configured to run these analytics as in-memory applications for faster execution. Oracle Procurement and Spend Analytics is available today for use in conjunction with Oracle SuperCluster without application changes. This winning combination allows users to extract relevant business insight from massive amounts of data at the speed of thought. Similarly Oracle Spend Classification deployed on Oracle SuperCluster M7 with In-Line Decompression runs analytics and accelerates spend management. Data collection and classification processes can be automated allowing spend data to be refreshed in real time at any desired frequency for business analysis. Oracle Spend Classification rebuilds dashboards to enable business decisions that lead to significant overall cost savings.

Oracle Exadata Storage Server provides a very advanced compression capability called Exadata Hybrid Columnar Compression for data warehousing applications. Exadata Hybrid Columnar Compression enables the highest levels of data compression and provides tremendous cost savings and performance improvements due to reduced I/O operations. This is especially useful for the many companies that like to maintain up to 10 years of data in their data warehouse. The added storage costs that occur as the size of the database grows in traditional systems can, thus, be eliminated. Compressing data can provide a dramatic reduction in the amount of storage that is consumed.

Oracle Spend Classification and Oracle Procurement and Spend Analytics deployed on an Oracle SuperCluster system provide a cost-effective, high-performance solution for spend management. Data collection and classification processes can be automated, allowing spend data to be refreshed periodically at any desired frequency. Prebuilt dashboards allow for faster deployment at a lower cost. Hardware and software engineered together ensures that the solution is not only high performing but is also scalable to accommodate growth.

Warehouse Management System

Besides providing high performance and high availability, deploying warehouse management systems on Oracle SuperCluster can help to achieve the following business benefits:

- » Efficient use of warehouse space resulting in cost savings
- » Shortened order fulfillment processes resulting in increased customer satisfaction and customer retention
Subsecond end-user response times, despite intensive analysis and data validations, thereby removing any bottlenecks in the supply value chain process
- » Improvements in the shipping confirmation process by 50 percent, ensuring shipments occur within a short period of time at the end of the day
- » Improvements in invoicing process and intercompany invoice processing of 100 percent

Oracle Financials

Deploying Oracle Financials and Oracle Financials Accounting Hub on Oracle SuperCluster addresses business requirements through the following benefits:

- » Performance-proving tests for the accounting process in Oracle Financials Accounting Hub on Oracle SuperCluster showed faster batch runtime, reducing batch runtime from up to over 3 hours to 30 minutes. In addition to generating accounting for external legacy systems, this process is also used to generate accounting for Oracle E-Business Suite subledgers such as Oracle Payables, Oracle Receivables, and Oracle Assets. Therefore, faster batch runtimes result in overall faster processing to address the time-critical process windows for the financial period close.
- » Very high volumes of batches can be processed much faster for the Oracle Financials and Oracle Financials Accounting Hub products when they run on Oracle SuperCluster M7. Increasing the number of Oracle Real Application Clusters (Oracle RAC) nodes helps increase the scalability even further. Performance-proving tests have shown faster processing of high-volume batches for programs such as Create Accounting, Journal Import, and Journal Post in Oracle General Ledger, which help customers who have growing volumes address scalability and time-critical windows.
- » Two times faster invoice processing is possible by using Oracle Receivables on Oracle SuperCluster. Faster Forms applications for Oracle Financials aids the financials close process by alleviating delay for invoice entry clerks entering hundreds of invoices in the last few days of a period close. This enables organizations to considerably reduce their invoice processing cost and predict cash flow based on customer orders.
- » Internal productivity gains can be achieved on Oracle SuperCluster by enabling employees to very easily enter their expense reports through self-service Oracle Internet Expenses. Even an asset manager can increase productivity by entering asset data at least twice as fast when Oracle Assets is deployed on Oracle SuperCluster.

Human Capital Management (HCM)

Oracle SuperCluster can dramatically improve end-user response times to ensure large number of employees can complete the following mandatory tasks in a short time period. This will boost employee and manager productivity, and reduce help desk calls and other administration overheads. The performance of HCM tasks such as the following can be improved:

- » Performance appraisals
- » Employee benefits enrollment
- » Time card entries required for payroll processing
- » New applicant response
- » Hiring procedures

Payroll is a resource-intensive process with very complex calculations that are ideally suited for deployment on Oracle SuperCluster due to its high CPU speeds and fast memory. Faster payroll cycles help to reduce costs and



improve compliance. Most global organizations have operations in multiple countries and many continue to run local human resource systems in multiple countries. Oracle SuperCluster can scale and deliver the desired availability and performance levels to consolidate all these environments into a single global instance. This allows companies to operate shared HR service centers and reduce overall IT costs, implement standardization across the company, reduce complexity, and deliver critical information to C-level executives quickly from a single source of truth.

Customer Relationship Management (CRM) and Field Service

The across-the-board improvements in performance, throughput, and scalability can be achieved by deploying Oracle Advanced Scheduler on Oracle SuperCluster, which delivers several benefits in the daily operations performed by field service personnel. For example, the Dispatch Center dashboard can perform eight times faster providing real-time GPS information based on location tracking and mapping capabilities and other aggregated information to dispatchers in a field organization. This allows companies to handle exceptions and meet their service level agreements (SLAs) with customers, thus increasing customer satisfaction, while reducing operational costs. Oracle Advanced Scheduler processes a vast amount of data related to geospatial attributes, territories, technician calendars and work shifts, spare parts availability, and scheduler rules. Then it presents this information in an intuitive format in its user interface. This process can run 6 to 10 times faster on Oracle SuperCluster, thereby boosting employee productivity. Several resource-intensive batch processes within Oracle Advanced Scheduler benefit from the high performance of Oracle SuperCluster. These include

- » Autonomous scheduling with cost-based business rule enforcement
- » Timely release of tasks to field technicians
- » Real-time organization of wide trip optimization
- » Enhanced scalability of Oracle Advanced Scheduler operations by scaling for increases in personnel, global expansions, and transaction volumes

Service providers can expect to get substantial ROI and remain competitive and profitable only if they achieve significant operational advantage. Deploying Oracle Advanced Scheduler on Oracle SuperCluster to increase performance by 6 to 10 times allows customers to execute Scheduler Optimizer more times to get the best schedule that will lead to direct cost savings in fuel and in vehicle maintenance. Optimization will increase the number of jobs done per day to transform the field service organization into a customer oriented profit center.

Oracle Incentive Compensation

Incentive costs can represent a sizable cost component in many organizations. The data within disparate incentive programs are the most accurate sources of sales performance data, because it has been vetted by each and every sales rep and partner. When organizations recognize the business value of consolidating incentive systems and associated sales performance analytics on a single enterprise platform, they have a framework for continual sales force or partner alignment.

Strategic alignment benefits via frequent insight, agile plan changes, and modeling include

- » 1 percent to 3 percent sales growth and improved margins
- » Increased customer experience
- » Increased market share

These strategic benefits are predicated on performance and scalability, because if customers cannot consistently finish calculation and report processing within tight SLAs, it is impossible to obtain the analysis and insight into

information that will help to keep sales organizations aligned and motivated. The nature and performance characteristics of Oracle Incentive Compensation are a perfect match for Oracle Super Cluster's extreme performance architecture for the consolidation and warehousing of sales performance data.

When deployed on Oracle SuperCluster, Oracle Incentive Compensation delivers 8 to 10 times the transactional throughput of an end-to-end commissioned processing function compared to deployment on a non-Oracle SuperCluster platform. This ensures a timely feedback loop for aligning sales behavior with corporate goals. Oracle SuperCluster's return on investment to an organization includes strategic alignment benefits and cost savings in the form of reduced risk, reduced performance testing time, reduced time to deploy Oracle Incentive Compensation, and reduced IT resources.

"[Oracle SuperCluster] is the ideal platform to achieve our targets: optimized use of resources, great agility and high quality of services, improved information security, reduced risk, and less capital expense."

SUBHI TELLO AL NASHWATI
DATABASE ADMINISTRATOR
PUBLIC PENSION AGENCY

Customer Implementations of Oracle E-Business Suite on Oracle SuperCluster

The following sections provide summaries of Oracle SuperCluster customer implementations of Oracle E-Business Suite, including a description of the business solution and performance results. These summaries focus on the security, performance, and scalability advantages achieved with Oracle SuperCluster for Oracle E-Business Suite.

Advania HF



Advania hf is one of the largest Nordic IT service provider corporations with business operations in four countries serving over 10,000 corporate clients. The main objective of their project was to transform their data center infrastructure and multiple Oracle E-Business Suite instances onto a single, highly available architecture for future growth scalability, increased performance, reduction in OpEx, and simplified multitenancy management.

Customer business and technical challenges included end-of-life for existing equipment, lack of scalability of the existing architecture, slow backup and recovery, and poor response times. The cost of system administration operations were high due to managing the existing disparate servers and storage across data centers, and the lack of scalability was hindering innovation and business growth. Another key requirement was high availability for business continuity and customer support.

The complete Oracle solution included Oracle SuperCluster, an Exadata Storage Expansion Rack from Oracle, the use of Oracle Optimized Solution for Oracle E-Business Suite, and services from Oracle Consulting including Oracle Migration Factory. Existing SPARC-based systems and multiple storage infrastructures were consolidated onto a single Oracle SuperCluster system.

Business results included up to a 60 percent improvement for Oracle E-Business Suite user response times to Advania customers hosted on the Oracle SuperCluster system. Administration and maintenance costs were reduced

by 3x. Operational expenses are projected to be reduced by up to 80 percent over four years due to centralized administration and efficiencies. The Oracle solution was transformational and highly scalable for future business growth as a growing service host provider.

Public Pension Agency (PPA), Saudi Arabia Ministry of Finance



The Public Pension Agency (PPA), an entity of Saudi Arabia's Ministry of Finance, is responsible for administering the pension schemes of public sector and military retirees, ensuring financial resources for retirees. The project requirements were to maximize long-term availability for core applications, to ensure scalable financing of public sector and military pension schemes, and to establish a very high quality of service to nearly 1 million users.

PPA faced the challenge of reducing time to market for the development of new pension applications that were managed on disparate development systems in various data centers. In addition, performance would not meet requirements for large-scale, transaction-intensive applications. As a public sector entity, PPA also was working for a solution to lower administrative costs and data center expenses to reduce public operational expenses. The existing environment consisted of IBM P Series running IBM AIX and IBM WebSphere and EMC storage, which was decentralized and costly to maintain.

Oracle SuperCluster provided an integrated architecture that provided massive scalability to consolidate development to house business-critical core applications such as Oracle E-Business Suite. Performance results included a 10x increase in database throughput and 4x faster queries, delivering a high level of service to public sector users. Oracle Database licenses were reduced by 40 percent by leveraging built-in virtualization using Oracle VM Server for SPARC and Oracle Solaris Zones. ROI is projected to be reduced significantly, with a projected hardware investment payback time frame of 2 years. With rapid time to deployment, the project was a significant success for the entity.

Volksbank AG



Volksbank AG is a consortium of independent credit unions, which represents the banks as Germany's largest banking group. Volksbank required a platform for a new core banking system with high availability to house multiple applications with rapid time to deployment. The previous hardware that was replaced due to lack of scalability and complexity was IBM- and EMC-based. Vendors considered were IBM, HP, and Oracle. Only Oracle could provide single-vendor support.

The platform for Volksbank's core banking system is now Oracle SuperCluster, with Oracle providing integrated patching and updates. Two Oracle SuperCluster systems were designed for high availability using Oracle best practices with Oracle Active Data Guard and ZFS replication. Massive scalability enabled the multitenancy of Oracle Database, Oracle WebLogic, Oracle SuperCluster, Oracle E-Business Suite, Oracle SOA Suite, and Oracle FLEXCUBE Universal Banking. Oracle Solaris Zones were implemented to create separate instances for multiple



applications for efficient multitenancy. Oracle, as a single-service vendor, provided an integrated, optimized, complete solution.



Conclusion

Oracle SuperCluster M7 security, performance, and efficiency innovations solve enterprise IT architecture complexity for Oracle E-Business Suite deployment environments. Oracle SuperCluster M7 uniquely provides extensive security compliance automation, the world's fastest processor (SPARC M7), secure multitenancy, and performance with In-Line Decompression optimized for Oracle Database In-Memory 12c database acceleration. Oracle delivers proven transformational solutions to customers with Oracle SuperCluster, which is unique in the industry with proven substantiated business results.



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Integrated Cloud Applications & Platform Services

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