Siebel CRM Customer Order Management on Engineered Systems
High-Performing Siebel Customer Order Management
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Executive Overview

Siebel Customer Order Management solutions provide organizations a means to quickly get new products, promotions and pricing to market, accelerate the lead to cash process and increase order accuracy rates to achieve greater operational efficiencies and large cost savings. It helps increase revenue and profitability through faster quote and order processing, greater pricing and margin visibility, targeted promotions and personalized up-sell and cross-sell recommendations. Also, it helps increase customer satisfaction and loyalty by understanding the customer needs, offering personalized bundles and pricing and providing a consistent buying experience across all channels.

Siebel Customer Order Management running on Oracle Engineered system is the culmination of Oracle’s “Engineered to Work Together” strategy. Customers realize immediate business and technical benefit and set the foundation for the next generation in-memory business applications. Outstanding performance and manageability offer immediate benefits for existing applications and business processes.

This white paper will explore how customers using Oracle’s Siebel Customer Order Management product suite can benefit with Oracle Engineered Systems, by significantly improving end user response to make Call Center agents more productive and handle high volume of calls. Synergies provided by the engineered systems are extremely advantageous for customers handling a large order volume requests on a daily basis, by utilizing the Siebel Customer Order Management suite for servicing their customer’s needs. The across-the-board improvement in performance, throughput and scalability achieved by deploying Siebel Customer Order Management on engineered systems will allow customers to improve agent productivity, minimize response times, drastically reduce SLA violations, and significantly improve customer satisfaction and retention.

For more information on Siebel CRM and Oracle Engineered Systems, please see the Benefits of Running Siebel CRM on Oracle Engineered Systems white paper.
Introduction

Siebel Customer Order Management solutions enable companies to better serve customers and reduce operational costs by efficiently processing new orders, updates, returns, and cancellations across front-office and back-office applications. This enables companies to achieve consolidated, customer-centric order management in near real time, allowing customers, partners, and employees to effectively manage interactions throughout the order lifecycle.

Siebel Customer Order Management - Core Capabilities

Some of the core capabilities include:

- Product & Catalog Management, to provide a comprehensive and effective ways to create products, promotions and catalogs;
- Pricing Management, to administer and execute pricing policies and procedures;
- Quote Management, to create quotes with and without product configurations;
- Order Management, to manage order lifecycle with and without product configurations;
- Asset-Based Ordering, to create quotes and orders based on customer assets;
- Industry Specific functionality, rich and powerful industry-specific Order Management functionalities;
- Order Analytics, to provide organizations with the tools needed to gain deep understanding of the order management process;
- Web Services Management, rich set of web services to enable integration with other Oracle and non-Oracle applications.

![Figure 1. Siebel Customer Order Management](image-url)
Organizations must conduct business the way their customers choose: anytime, anywhere, and across any channel. Oracle's Siebel Customer Order Management can be extended through integration to other Oracle products, to deliver even more value and support for other key aspects of Customer Experience CX for Commerce.

Extending Siebel Customer Order Management

Oracle’s Siebel Customer Order Management can be extended through integration to other Oracle products, to deliver even more value and support for other key aspects of CX for Commerce, such as:

- Customer Self-Service, via Oracle Commerce, to enable customers to place orders themselves via the web;
- Customer Self-Service, via RightNow, to enable customers to resolve issues themselves via the web;
- Customer Self-Service, via Oracle E-Billing, to enable customers to manage their bills via the web;
- Distributed Order Orchestration, via Fusion DOO, to provide an orchestration layer for order fulfillment to increase order fill rates and accuracy;
- Incentive Compensation, via Fusion CRM, to build compensation plans and manage payments.

Siebel Customer Order Management - Unique Capabilities

Oracle’s Siebel Customer Order Management also delivers a unique set of capabilities that differentiate it from other Commerce applications. Some of these key differentiators include:

- Industry Specific Capabilities, with embedded best practices tailored to industry requirements (Communications, High Tech and Industrial Manufacturing, Financial Services etc.)
- Complete End to End Business Process Support, for Opportunity -> Cash
- Cross-Channel Support, Call Center, Web, Partner, Field Sales and mobile channels
- Hybrid Deployment Options, On Premise, Hosted and BPO

With Oracle’s Siebel Customer Order Management solution, you can:

- Quickly bring new products, promotions, and pricing to market
- Rapidly capture orders
- Ensure the perfect order
- Offer personalized, accurate pricing
- Improve cross-sell and up-sell conversions
- Understand pricing using price waterfall

Effective management of the quote and order lifecycle will allow companies to realize benefits that include:

- Reduced operational costs through faster order entry and reduced order errors
- Increased revenue through targeted promotions, margin maximization and faster order processing
- Enhanced customer experience through selection of right product at the right price, personalized catalogs and accurate order promising

Introduction to Engineered Systems

Oracle Engineered Systems combine best-of-breed hardware and software components with game-changing technical innovations. Designed, engineered, and tested to work best together, Oracle Engineered Systems can power the cloud or streamline data center operations to make traditional deployments even more efficient. The components of Oracle 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 pre-built 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-down-time maintenance.

Exalogic dramatically improves performance of Oracle Applications, Fusion Middleware, and third-party applications without requiring code changes and reduces costs across the application lifecycle, from initial set-up to on-going 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 Oracle’s 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 pre-configured, pre-tuned, and pre-tested 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 read and write 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.
Siebel Customer Order Management on Exadata & Exalogic

Improved Scalability & Performance

Siebel Customer Order Management solution is used extensively in various industries such as Telecommunication, High Tech, Industrial Manufacturing, Financial Services, Retail etc. In some of these industries, especially for customers with global deployment, there is a need to process large numbers of orders in any given day. During peak hours, there could be a few thousand concurrent users. Besides processing large numbers of orders/day, systems should also support many synchronous transactions which can run into several hundred thousand. Yet, the expectation is that these transactions can be processed quickly often in sub seconds.

To meet such high demands, customers often have to invest significantly in hardware resources. Call Centers operating in high call volume environments will accumulate millions of pieces of transactional data throughout the day (contacts, opportunities, Orders, activities, agent assignment, field service engineer), all in very short amounts of times.

Engineered Systems are specifically designed to deal with these storage challenges. For instance, Exadata Hybrid Columnar Compression technology will reduce the size of data storage by providing significant reductions in cost over time. Additional business benefits include less frequent archiving and longer access to historical data.

The scalability and performance benchmarks for Siebel Customer Order Management were done with 11,000 order management users - simulating a large Order Management usage patterns throughout the day.

- Create Order:
  - Create Account and Address
  - Lookup Catalog and Price List
  - Create Order and Asset

- Update Order:
  - Lookup Account and Asset
  - Lookup Catalog and Price List
  - Modify Order and Asset

![Payload Composition Diagram](image-url)
Siebel CRM Customer Order Management on Oracle Engineered Systems

Figure 2. Payload Composition

Oracle Applications
On Exadata & Exalogic

- Siebel CRM
  - 2x better Response Time
  - 2x better Scalability
  - Siebel Call Center

- Siebel CRM
  - 2x better Response Time
  - 2x better Scalability
  - Siebel Order Management

Figure 3. Exalogic and Exadata Performance: Two times faster on Oracle Engineered System

- Oracle’s benchmark performance testing indicates the Order Management processes runs up to 2 times faster or more on Oracle Engineered Systems with 11k users on three nodes of Exalogic. Siebel DB Server on Exadata demonstrate 2 times less CPU usage compared to standard HW.

Reducing the Total Cost of Ownership

Customers often use multiple applications to support their end-end business needs. Oracle Engineered Systems provide multiple configurations supporting growth the data center needs. These systems allow the ability to consolidate other applications in your Siebel Call Center ecosystems such as E-Business Suite, Peoplesoft, Billing and middleware components such as Oracle Business Intelligence, SOA Suite. Deploying these common components consolidated together on Exalogic and Exadata allows customers to achieve both high scalability and high performance across all applications along with a dramatically lower total cost of ownership.

Business Benefits

Extreme performance delivered by Exalogic and Exadata translates into concrete benefits across a number of categories for Siebel CRM deployments.

Increased Customer Satisfaction

- Faster response time: With Exalogic and Exadata, Siebel CRM deployments offer unprecedented response time, which translates to business value. Not only will knowledge workers be more efficient, customers will
be satisfied; whether they call into a call center or use self-service, they will get a response quicker. Efficiency reduces bottom-line, while customer satisfaction is proven to drive top line.

- Higher Throughput: The faster response time means that it becomes possible to put more transactions through a core and scaled to support more users compared to comparable hardware. Scaling for peak loads becomes easier and overall hardware footprint reduces.
- Operational Efficiency: Reduced call handling time.

Consolidation and Cost Reduction

- Reduction in DB server CPU leads to increased scalability.
- Improved Consolidation: Reduce number of instances by aggregating more business applications and databases. Reduce effort needed to administer & optimize databases.
- Reduced number of servers resulting in meaningful cost savings.
- Enhanced performance resulting in additional productivity.

Engineering Advances That Enable Siebel Customer Order Management Performance Results

Below is a list of the technical features in Exadata and Exalogic that were key aspects of driving the performance improvements in Siebel Customer Order Management stack. It is through these significant engineering advances that the results were achieved in our evaluation:

Exadata

Exadata Smart Flash Cache

Exadata Smart Flash Cache uses Flash memory to dramatically reduce the time to read and write database and log records. The intelligence in Smart Flash Cache transparently moves active database blocks from disk to flash in real time, thus ensuring that "hot" data is in Flash memory when the next access occurs. Blocks that should not be in Flash are similarly recognized, maximizing the amount of space in Flash for active data.

Exadata Smart Scan

Exadata Smart Scan speeds up data-intensive queries by leveraging the processing power of Exadata Storage Servers to scan and filter out results. By moving queries to storage instead of moving the data to the database servers, long-running reports and queries often complete 10x faster than on conventional systems.

InfiniBand

The use of InfiniBand as the networking fabric within Exadata ensures the lowest latency for messages and the highest bandwidth for data transfers. High-speed transactions as well as data-intensive queries and reports reap the benefits.

Exadata Scale-Out Storage

Exadata Scale-Out Storage enables the full performance of Exadata to be realized against large and growing
databases, without fear of bottlenecks. As the database size grows and storage capacity is added to Exadata, storage performance and networking bandwidth scale in equal proportion.

**I/O Resource Manager (IORM)**
IORM allocates I/O bandwidth across different applications and databases, based on a prioritized allocation plan, to ensure that the most important applications get the performance they need when they need it.

**Hybrid Columnar Compression (HCC)**
Hybrid Columnar Compression dramatically reduces the storage space consumed by the database, while at the same time speeding up queries against the compressed data through reduced I/O. Compression often reduces the data storage by a factor of 10x or more, storing a petabyte scale database in 100TB of disk. Since compressed tables remain compressed in Flash memory as well as on disk, very large databases often fit entirely in Flash memory when compressed.

**Exalogic**

**Exalogic Exabus**
Applications running on Exalogic utilize Exabus, the underlying Infiniband fabric, which provides low latency and high throughput eliminating I/O bottlenecks in every application layer. Applications components are typically deployed in more than one server and Exabus provides low latency for I/O across nodes on same Exalogic rack. Access to ZFS storage device over Exabus greatly reduces latency for log file writes and other file access operations. For applications running on Exalogic and accessing database tier on Exadata, Exabus delivers faster I/O, reduces CPU usage on both the mid-tier and DB-tier and provides higher connection pooling efficiency.

**Oracle VM for Exalogic**
Exalogic Oracle VM can be used to sub-divide a physical compute node into multiple virtual machines to increase application deployment efficiency while maintaining application performance. Oracle VM has been engineered for tight integration with Exalogic Exabus I/O backplane using a technique called Single Root I/O Virtualization (SR-IOV) ensuring Oracle VM significantly outperforms comparable hypervisors from other leading vendors. The benefit of this approach is unmatched application performance. In an Exalogic configuration, the impact of virtualization on application throughput and latency is negligible.
Conclusion

Oracle Siebel Customer Order Management enables organizations to sell the right solutions, negotiates the best price and to capture the perfect order while achieving maximum profitability and higher customer satisfaction.

Customers are pushing Oracle Siebel Order Management to its limit to meet their business needs. Thus far, Siebel performance has been a function of tuning the various tiers or following innovations in hardware. With the arrival of Oracle’s Engineered Systems, there is a new way to accelerate application performance to deliver business needs.

Oracle Engineered Systems offer unequaled performance gains and time reduction for transactional data that scales up to thousands of users that are at the heart of large scale Siebel deployments resulting in:

- Lower Costs
- Reduced Complexity
- Improved Performance