



ORACLE

Oracle Coherence

Coherence Marketplace



Fusion Middleware Market Overview

Fusion Middleware market

Fusion Middleware summary

•64% of CIOs asked in a Q4 2006 Survey said that they planned to implement service orientated architectures in 2007

•For the second year in a row, IBM, Oracle, BEA Systems, Microsoft and Tibco held the top worldwide market share positions in the portal, process and middleware market in 2006. Software vendors have begun to shift their product mix away from traditional products and toward enterprise services buses.

In terms of growth from 2005 to 2006, Oracle showed the most growth (45%) because of market demand for its SOA Suite, ESB, application server and portal offerings, which leverage its enormous installed base of databases and applications.

5 year forecast on *Fusion Middleware* spend

• >25% Growth, YoY set to continue.

•Recent acquisitions will drive additional growth

•Oracle Fusion Middleware business overtook BEA's total business in FY07 (>\$1b)

•SOA Market is maturing and organisations are starting to evolve SOA Strategies. Analysis of OSO reveals an increase in spending on SOA Suite and additional SOA products

•Fusion Applications, and Fusion Architecture will have a positive impact on revenues associated with Fusion Middleware



Fusion Middleware Proof Points (World, UK)

Strengths

•Credibility as a provider of business-critical software infrastructure coming from success, technical excellence and the installed base of Oracle databases

•Comprehensive Oracle Fusion Middleware product suite, including portal, EAS, composition and orchestration, ESB, development tools, metadata management, registry, security and management

•Oracle Java EE container often used for running large-scale, SOAbased custom applications and supporting Oracle packages

Source: Gartner

"Oracle and Microsoft lead the pack; IBM is a borderline Leader."

Oracle scores extremely well on the current offering criteria, including both current features and advanced topics like event management, realtime processing, and metadata management.

Microsoft...falls short of Oracle on some of the advanced features, as well as some architectural coherence criteria (common logs, for example).



FMW Product Focus: Addressable Market



Acquisition Background



2007 Tangosol Acquisition

- About Tangosol
 - Leading provider of reliable in-memory data grid technology
 - Headquarters in Somerville, MA
 - 100+ customers globally over 1,500 deployments
- Why Oracle Acquired Tangosol in April 2007
 - Leading Best-of-Breed In-Memory Grid Vendor
 - Proven Technology
 - Experienced World Class Organization
 - Extreme Transactions Market Segment Rapidly Emerging
 - Complements Oracle's Existing Strengths
 - Competitive Differentiation



Fundamental Shift in Infrastructure

Extreme Transaction Processing



Tangosol Coherence for Extreme Transaction Processing



- Guaranteed Data Reliability
- Designed for Massive Application "Scale Out"
- Dynamic, Distributed In Memory Data Grid
- Parallelized Transaction Processing



Product Overview



Tangosol Product Line



Coherence Caching Edition

- Customer Value Proposition
 - Enable faster access to frequently accessed data
 - Reduce load on shared data sources
 - Provides Data Grid Edition Clients Java, .NET
- Sample Applications
 - Offloading reference data from backend to memory, reducing backend load
 - Accelerating business logic with frequently used data in memory
- Customer Benefits
 - Manageable and scalable host for the cache
 - Guarantees consistent data and data integrity
 - Broad industry support as a plug-in cache





Coherence Application Edition

- Customer Value Proposition
 - Offload and accelerate application servers
 - Enables massive scaling of stateful Web applications
 - Co-locate business logic and data for efficiency
 - Transactional data processed in real time
- Sample Applications
 - Online travel booking session state in-memory data grid
 - Online insurance broker in-memory transactional system of record
- Customer Benefits
 - Reduce Web tier costs
 - Accelerate application business logic
 - Offload backend transaction processing



Coherence Data Grid Edition

- Customer Value Proposition
 - Enables transactional in-memory system of record
 - Enable complex analytics through massive parallel processing across the grid
 - Enable query rates beyond what a database can handle
- Sample Applications
 - Financial Services: Real time risk management
 - Online Gaming: Real time event matching
- Customer Benefits
 - Multi-site data grid infrastructure
 - Cross-platform real time client support
 - Queries, transactions, write-behind caching, compute grid features
 - Once-and-only-once processing for external events
 - Real-time handling for data-driven events

Coherence **Data Grid** Edition SOA ORACLE

Oracle Coherence Data Grid

Distributed in Memory Data Management



- Provides a reliable data tier with a single, consistent view of data
- Enables dynamic data capacity including fault tolerance and load balancing
- Ensures that data capacity scales with processing capacity



How Does Oracle Coherence Data Grid Work?

- Data load-balanced in-memory across a cluster of servers
- Data automatically and synchronously replicated to at least one other server for continuous availability
- Single System Image: Logical view of all data on all servers





- Servers monitor the health of each other
- In the event a server fails or is unhealthy, other servers cooperatively diagnose the state
- The healthy servers immediately assume the responsibilities of the failed server
- Continuous Operation: No interruption of service or loss of data due when a server fails



Data Grid Uses



Caching

Applications request data from the Data Grid rather than backend data sources



Analytics

Applications ask the Data Grid questions from simple queries to advanced scenario modeling



Transactions

Data Grid acts as a transactional System of Record, hosting data and business logic

Events

Automated processing based on event



Complimentary Product Lines



Oracle Coherence: Positioning

- Enabler for Application tier Scale Out
- Foundation for SOA Suite Scale Out
- Bridge .NET and Java to the desktop
- Brings power of Grid Computing to the middle tier





Shared Infrastructure Service for Oracle Fusion Middleware



Oracle Coherence in Maximum Availability Architecture



Coherence & Other Oracle Products

RAC, Times Ten, Coherence, Web Cache





Competitive Positioning



Coherence & TimesTen – Where Both Are Best Used



Oracle Value Proposition & Differentiators

Across RAC, Times Ten, Coherence, Web Cache

- Oracle's Competitive Differentiators
 - Complete Suite of Solutions to Solve Performance & Scalability Challenges across DBMS, Application Server, Web Server
 - Solutions are Integrated to further Improve Performance & Scalability across Three Tiers
 - All Solutions have High Availability, Redundancy, & No Single Points of Failure
- Examples of Cross-Product Integration
 - Cross-Tier Cache Invalidation Messages for Optimized Data Changes in Memory - TODAY
 - Cross-Tier Fast Connection Failover with Workload Distribution & Routing - TODAY
 - Integrated Clustering Frameworks with Cross-Cluster Event Notification & Workload Management – 11g
- Oracle is only Vendor that Offers Complete Solution

Coherence Value Proposition Key Differentiators vs. Other Solutions

- Coherence's Competitive Differentiators
 - Primary Competitors: Gigaspaces, Gemstone, JBOSS Cache
 - Neither IBM or BEA offer such a Product Solution
 - Many Application Developers create Custom-Built Caches
 - All alternative solutions have significant technical limitations
- Three Primary Differentiators offer Superior QOS
 - Transactionality to Data across Mid-Tier Java Grid
 - Guaranteed Reliability with Zero Data Loss across Mid-Tier Grid
 - Predictable Scalability with no Reduction in Throughput as Nodes added to Mid-Tier Grid
- Value to Customers
 - Allow In-Memory Java Data (State) & Workloads to be relocated across Mid-Tier Grid with Guaranteed QOS
 - Enable XTreme Transaction Processing with Commodity Hardware

Sales Positioning



Sales success in FY08 with Coherence

- New entrée for prospects in SOA and java marketplace
 - Complements Oracle's current SOA / integration message
- End-run winner for customers looking for transaction processing scalability with java applications
 - Unique competitive position
- Natural add-on for all SLA contracts and SOA deals

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• TSMs and FMW reps comp'ed in FY08

Oracle: Dramatic Advances in Transaction Processing





Why go outside the database to scale java applications?





Object-Relational translation → Performance bottleneck

Problem



Grid computing with java applications Solution: Oracle Coherence

- Automatically maintains data integrity and redundancy of objects across the grid
- Caches are optimized for performance and availability
- Linear Performance Improvements:
 - N_x servers $\rightarrow N_x$ performance



Coherence: High Availability



Data is never lost, the data grid is never down, administration is not required – Even when:

- Servers go down
- Network sections go down
- Servers are brought down and up for maintenance or upgrades
- Servers are added for performance



Why the Excitement?

- Addresses a highly-strategic market: Extreme transaction processing for java applications
- Paradigm shift / end-run technology lead over all competitors
- New entrée into big deals in big accounts
 - Complements Oracle's current SOA / integration message



Oracle Coherence Value Proposition

- Continuous Availability for application data and processing
- Provides instant data access while reducing load on backend data sources
- Scales out linearly, whether 2 or 2,000 servers
- Power to perform massive Data Grid based analytics, transaction and event processing

Oracle Coherence simultaneously addresses: **Reliability, Scalability and Performance**

Recognizing Coherence Opportunities

- 1. High-end transaction processing for java applications
 - Banks, Insurance, Gaming, Telco, Health Care, Travel, Trading, Large Government and Services
- 2. Mainframe modernization with java
- 3. Dot-coms
- 4. Customers with large web initiatives
- 5. Organizations like trading firms with strategic power users

Coherence Positioning

	Standard Edition	Enterprise Edition	Grid Edition	
What to look for	Backend data systems maxed out due to excessive hits	Maxed out data intensive or analytic applications	Enterprise wide high availability infrastructure for data sharing	
			and Web 2.0 technologies	
Examples of solutions	Offloading reference data from backend to memory	Online travel booking: in memory session state Online insurance broker: in-memory transactional system of record	Financial Services: Real time risk management Online Gaming: Real time event matching	

Low hanging fruit: Times Ten customers

Other potential opportunities: RAC and/or SOA Suite customers

Pricing & Services



Coherence License Bundle

	List License Price	Coherence Pricing Package			
Production Environment:					
4 CPU Coherence Grid Edition	\$80,000	\$40,000 (3 year term)			
5 Coherence Real Time Client	\$10,000	\$ 5,000 (3 year term)			
Development & Test Environment:					
40 NU Plus Coherence Grid Edition	\$16,000	\$ 8,000 (3 year term)			
10% Ebiz Discount	(\$10,600)	(\$ 5,300) .			
Aggregate Price	\$95,400	\$47,700			
Licensing Notes: 3 Year Term licenses may be migrated to perpetual licenses.					

Oracle Consulting Coherence Accelerator

Oracle Coherence Accelerator Service

The Oracle Coherence Accelerator Service, a member of our Oracle SMART Services family, exists to ensure you have a successful application of Oracle Coherence technology, right out of the gate. The service covers initial discovery, an architecture activity, and a "prove it" implementation, large enough to mitigate risk but small enough to allow for quick completion. Oracle has the expertise and experience to get you moving in the right direction quickly, and we're eager to make sure you gain the most possible benefit from your investments. Oracle Coherence is a powerful set of tools, but it can be applied in a number of ways and at various levels of your enterprise architecture to solve many data availability, scalability, and access issues.

Features: Key features include:

- Professional Oracle Coherence installation and configuration, providing a solid foundation to develop highly performant and scalable applications.
- Timeboxed, low risk service providing exceptional cost entry to a potentially expensive and complicated venture.
- Rapid deployment package that provides all information needed to deploy highly available and scalable applications that take
 advantage of the new delivery platform.
- Full knowledge Sharing from highly trained and experienced Oracle consulting personnel.
- Enable candidate application with Coherence for performance and caching.

Price: \$25,000

** The above cost is exclusive of any travel and living expenses that may be incurred during the delivery of this effort. All travel and living expenses will be invoiced separately. Based on a 2 week engagement.

Deliverable:

- Conduct initial discovery workshop to determine your application performance enhancement, caching and overall data access needs
- Install and configure Coherence within your preferred application server environment



Customer Case Studies





Oracle Coherence in:

Capital Markets



GEICO Insurance



Profile

- 4th largest private auto insurance company
- 3rd largest P&C insurer in US
- \$22 Billion in assets

Deal Details

• \$1 Million in new licenses for FY07

150 CPUs in production

Scenario

- One of the largest online insurance providers in the US with selfservice website for customers
- Scaled out application tier built to handle high volume and high growth customer traffic

Problem

- Large Database was heavily loaded by persistence of enormous user profiles (>1MB each) for thousands of concurrent users
- Challenge expanding environment for spikes in usage or additional services offered
- •Maintaining desired service levels was becoming a serious problem

Solution

- Oracle Coherence allows all customer data to be managed inmemory for consistent high performance; meeting SLAs
- Updates to profiles are actively held in the Data Grid and only persisted to the database once, less load on DB / Mainframe

Over 10X increase in application tier capacity while reducing load on back office resources by over 50%



Wells Fargo



Profile

- 41st on Fortune 500 list
- About 6000 locations
- \$540 Billion in assets

Deal Details

12 CPU Enterprise
 Edition configuration

Scenario

• Enterprise Service Bus for in-branch client relationship management application had slow performance

Problem

- The performance of their in-branch applications is critical since most of the time a customer is either waiting across the desk of the financial consultant or on the phone.
- The data access latency is the main variable in the performance of this system and is largely dictated by the availability of various legacy data sources which are hosted in a couple of datacenters.

Solution

•Harmonize the access to their data sources thru the deployment of web services in an SOA

• Offload their backend system by processing the majority of their operations in the Coherence data grid

• Consistently meet SLAs resulting in improved employee and customer satisfaction and reduced customer and employee turnover

Wachovia



Profile

- 46th on Fortune 500 list
- About 3400 locations
- \$754 Billion in assets

Deal Details

 \$1.5 Million in new licenses for FY07

 300 CPUs in production

Scenario

- Wachovia Investment Bank introducing "Service Oriented Infrastructure (SOI)"
- Requires absolute data availability for complex Grid Computations

Problem

- Existing Compute Grid infrastructure suffering from data latency and throughput problems
- Complex calculations so lengthy as to be outdated

- Data Grid overlay on Compute Grid
- Enable risk calculations to fully utilized the grid hardware by having real time access to in-memory data as well as parallelization .
- Reduced critical risk computation from several days to under 1 hour



Advanced Financial Applications



Profile

- Financial Services Applications
- Integrated Order Processing solutions for trading systems

Deal Details

\$38,000 initial deal

• Financial Trading system

Problem

- Existing infrastructure needs to be streamlined to keep the cost of operations low
- Need for better performance for the trading system and workflow management

- Coherence data grid solution provides better application platform for high performance and streamlining workflow management
- •Reduced cost of operations; higher gross margins.



Large Mutual Fund

Profile

- About \$190 billion in assets
- 200 institutional clients
- 9 million retirement plans and share holders

Deal Details

• \$250,000 initial order

Scenario

- Financial trading systems
- Fixed income trading (Mortgage electronic pool transactions)
- Derivatives Trading

Problem

- Trading systems cannot handle the volume of transactions
- Slow trading platform was causing many incomplete trades; loss of revenue, high interest costs
- Long time to cancel complex trades; traders were not as productive

- Coherence data grid solution transactions to go from 3000 complex trades per day to 120,000 trades per day
- System could handle \$40 billion worth of transactions per day from \$1 billion
- Cancellation of complex trades used to take 1 hour, now under 4 minutes. Better productivity for traders.



Deutsche Bank

Deutsche Bank

Profile

- Leading global investment bank
- About \$45 Billion in revenues

Deal Details

- 24 CPU Enterprise Edition initial configuration
- Expect configuration to grow rapidly in accordance with expected demand

Scenario

• Financial trading systems

Problem

- Trading systems cannot handle the volume of transactions in spite of using expensive SMP servers and competitive grid product.
- Slow trading platform causing delay in transactions and loss of revenues.

- Coherence data grid solution enabled 500 orders per second (twice the volume from previous solution)
- System could handle in excess of 1000 TPS; giving them confidence for future growth on the same platform to several times that simply by expanding the grid with more commodity servers
- Reduced cost of operation by moving to low cost commodity hardware -\$500K
- Grow the top line business (\$1 trillion a day) by simply adding more low cost hardware and Coherence Grid.



YellowJacket Energy



Profile

- Energy derivatives trading
- 80% of the weather derivatives trades on their platform

Deal Details

\$30,000 initial deal

Scenario

• Trading system

Problem

- Existing system is not performing and meeting the SLAs
- Poor customer satisfaction
- Trading volumes are increasing and performance is decreasing

- Coherence data grid solution provides better trading platform
- Trades execute with-in the SLAs
- Traders are happy and volumes are increasing
- Reduced cost of operations; higher gross margins.





Oracle Coherence in:

Telecommunications



America Online



Profile

- Leading global ISP
- 114 million unique visitors per month
- 52 billion pages viewed per qtr.
- 1.5 billion instant messages per day

Deal Details

- \$500K in new licenses for FY07
- 1 year ULA
- 48 CPUs

Scenario

- AOL moving their email Portal from a subscription to advertising-based model.
- Need to focus more on value-add data and services through this portal
- Legacy Portal already supporting 90M Accounts

Problem

- No effective way to scale their apps without writing it themselves.
- Desire to standardize in J2EE and move away from home grown C/C++ apps.

- Coherence Grid Edition + Real time client
- Most effective and reliable way for AOL to scale their new Java Apps
- Easy answer to reduce AOL's time to market
- Cost effective vs. developing their own caching in house.
- Coherence reliability, performance, and scalability are a perfect fit for their high-end Production Environment demands





Oracle Coherence in:

Logistics



FedEx



Profile

- One of the top logistics company
- About \$36 Billion per year revenues
- 270,000 employees worldwide

Deal Details

 \$400,000 Enterprise License Agreement

Scenario

• On-line package tracking system

Problem

- Huge volumes of tracking activities as business grew
- Slow system performance; customer satisfaction down 24%
- Seasonal peaks required more hardware deployment
- Cost of operations going up

Solution

- Coherence data grid solution provided instant reply on tracking queries
- Reduction in phone based staff; lowering the cost of operations.
- Page refresh time reduced by 68%
- Predictably scale out their environment between off-peak periods and peak periods
- Reduced cost of operations; higher gross margins.



Oracle Coherence in: Travel and Entertainment

Delta Airlines



Profile

- Third largest US airline company
- About \$19 Billion per year revenues
- 55,000 employees worldwide

Deal Details

\$240,000

Scenario

• On-line reservation system

Problem

- Huge volumes of on-line bookings
- Slow system performance; customer satisfaction down
- Need to offer better service to their on-line bookers
- Cost of operations going up

Solution

- Coherence data grid solution provided instant result on booking queries
- Reduction in phone based staff; lowering the cost of operations.
- Richer on-line booking experience
- Reduced cost of operations; higher gross margins.

Hotwire.com



Profile

- One of the large online travel services provider
- Parent company is IAC Interactive

Deal Details

• \$300,000

Scenario

• Online travel reservation system

Problem

- Existing infrastructure performance is slow
- Customers move to competitor sites for travel needs
- Cost of operations are high since each query to the partner sites cost money.

Solution

• Coherence data grid solution provides better caching solutions, letting Hotwire.com keep more data in cache and preventing from individual queries to the partner sites. Significantly reduces cost.

• Faster site performance means happy customers and higher profitability.



Interactive Corp.

Profile

- Fortune 500 company
- 60 different brands (TicketMaster, HSN, Ask.com etc.)
- Largest on-line ads purchaser
- 680 million visits among all the sites per month

Deal Details

\$60,000 initial deal

Scenario

• Building next generation of infrastructure

Problem

- Existing infrastructure has some performance issues
- Poor customer satisfaction
- Users often move to competitor sites, potential loss of revenues

Solution

- Coherence data grid solution provides better IT platform for high scalability and performance
- Richer user experience
- Higher user retention, more revenue
- Reduced cost of operations; higher gross margins.



Oracle Coherence in:

Retail



Gap Inc.



Profile

- One of the largest clothing retailer
- 3100 Stores
- FY2006 revenue \$16 Billion
- Gap, Banana
 Republic, Old Navy,
 Piperlime

Deal Details

• \$400,000

Scenario

- Online retail store
- High availability of the web site , shopping cart

Problem

• Many times on-line store shopping cart would lose connections to back-end servers, causing users to re-selct the items and add to shopping cart, causing loss of sales and low customer satisfaction

• Slow on-line store performance

Solution

• Coherence data grid and Coherence Web solution provides better caching for the data and no loss connections to the back-end systems

• Q1 2008, customers can shop between different brands (Gap, banana Republic, Old Navy and Piperlime) without having to check out between sites.



J Crew

J.CREW

Profile

- Started as catalog business
- 186 stores, 57 outlets
- \$1.25 Billion in revenue

Deal Details

 7 CPU Enterprise Edition Configuration

Scenario

- On-line catalog application
- Retail front for on-line store

Problem

- Slow performance for their on-line store during peak business hours and holiday season.
- Slow user experience causing poor customer service and loss in revenues.
- Tried fixing it with more hardware and databases; under utilized in off-peak times.

- Coherence data grid solution helped by loading the critical catalog data in memory for faster access and less load on databases
- Predictably and dynamically scale out their environment between offpeak periods and peak periods to maintain consistent high performance
- Reduced cost of operation and improved customer satisfaction
- Higher revenues and control on costs.



Overstock.com



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Profile

- One of the large online retailer
- Online auctions

Deal Details

• \$170,000

Scenario

- Online retail business
- Auction platform

Problem

- Poor user experience due to high latency on searches
- Customers move to competitor sites like eBay, Amazon.com
- Loss of revenues , customers

Solution

• Coherence data grid solution provides better caching for the data. Searches are now done against in-memory data, improving performance by 40%

• Cyber Monday sales were up, revenue up 3% over the previous year



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US Federal Governmen	Connecticut (CT)	Alaska (AL) Arizona (AZ)	Ameritrade Bank of America	New Jersey			
Alabama (AL)	Illinois (IL)	California (CA)	CitiGroup				
Arkansas (AR) Florida (FL)	Indiana (IN) Iowa (IA)	Colorado (CO) Hawaii (HI)	Deutsche Bank (US) Goldman Sachs				
Georgia (GA)	Massachusetts (MA)	Idaho (ID)	Lehman Bros				
Kentucky (KY) Lousiana (LA)	Miane (ME) Michigan (MI)	Kansas (KS) Montana (MT)	Morgan Stanley Standard and Poors				
Maryland (MD)	Minnesota (MN)	Nebraska (NÉ)	SunTrust,				
Mississippi (MS) Missouri (MO)	Ohio (OH)	Nevada (NV) New Mexico (NM)	wacnovia				
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Tennessee (TN)	West Virginia (WV)	South Dakota (SD)					
Virginia (VA) Washington DC	GEICO	Utah (UT)					
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	Marriott webMethods	Wyoming (WY)					
	Eastern Canada	Western Canada					

