Real Time Summarization
Safe Harbor Statement

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Program Agenda

1. Oracle Database In-Memory: What’s the big deal?
2. A big deal for JD Edwards customers
3. Q & A
Program Agenda

1. Oracle Database In-Memory: What’s the big deal?
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Oracle Database In-Memory Option

Powering the Real-Time Enterprise

Available in Release 12.1.0.2 Now
Oracle Database In-Memory Goals

Real Time Analytics

Accelerate Mixed Workload OLTP

No Changes to Applications

Trivial to Implement

100x

2x
Row Format Databases vs. Column Format Databases

- Query a single sales order in row format
  - One contiguous row accessed = \textit{FAST}

- Query a sales order in Column Format
  - Many columns accessed = \textit{SLOW}

Until Now Must Choose One Format and Suffer Tradeoffs
Breakthrough: Dual Format Database

- BOTH row and column formats for same table
- Simultaneously active and transactionally consistent
- Analytics & reporting use new in-memory Column format
- OLTP uses proven row format
Complex OLTP is Slowed by Analytic Indexes

- Most Indexes in complex OLTP (e.g. ERP) databases are only used for analytic queries
- Inserting one row into a table requires updating 10-20 analytic indexes: Slow!
- Indexes only speed up predictable queries & reports
Oracle In-Memory: Simple to Implement

1. Configure Memory Capacity
   • `inmemory_size = XXX GB`

2. Configure tables or partitions to be in memory
   • `alter table | partition ... inmemory;`

3. Later drop analytic indexes to speed up OLTP
Oracle In-Memory Requires Zero Application Changes

- **Full Functionality**: ZERO restrictions on SQL
- **Easy to Implement**: No migration of data
- **Fully Compatible**: All existing applications run unchanged
- **Fully Multitenant**: Oracle In-Memory is Cloud Ready

Uniquely Achieves All In-Memory Benefits With No Application Changes
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Oracle Database In-Memory Goals

 ✓ Certified with JD Edwards EnterpriseOne Tools 9.1.4+
   Linux and Solaris (other platforms planned)

1. Install Oracle Database 12.1.0.2

2. Configure the Database In-Memory Option
   
   - `inmemory_size = XXX GB`
   - `alter table | partition ... inmemory;`

   ```sql
   ALTER TABLE CRPDTA.F0006 INMEMORY MEMCOMPRESS FOR QUERY DUPLICATE;
   ALTER TABLE CRPDTA.F0911 INMEMORY MEMCOMPRESS FOR QUERY DUPLICATE;
   ALTER TABLE CRPDTA.F4211 INMEMORY MEMCOMPRESS FOR QUERY DUPLICATE;
   ...
   ```

Trivial to Implement
Oracle Database In-Memory Goals

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Oracle Database In-Memory Goals

✓ JD Edwards EnterpriseOne “Day-in-the-Life” Benchmark kit ran with Applications 9.1 / Tools 9.1.4.4 with **ZERO** application changes.

1. Install JD Edwards EnterpriseOne Applications 9.1+
2. Update to Tools 9.1.4.+
Oracle Database In-Memory Goals

- Real Time Analytics
- Accelerate Mixed Workload OLTP
- No Changes to Applications
- Trivial to Implement

100x
2x
Oracle Database In-Memory Goals

Accelerate Mixed Workload OLTP

2x
Oracle Database In-Memory Goals

Accelerate Mixed Workload OLTP

Node 1: HTML Avail
Node 2: Logic Avail

- JD Edwards EnterpriseOne Apps 9.1.2
- JDE E1 IM-SA
- JDE E1 IM-PA
- JDE E1 IM-PPA
- JDE E1 Tools Prerelease

Test Configuration

JD Edwards EnterpriseOne Logic and Web Tiers

Exalogic X3-2 ¼ Rack

Exadata X3-2 ¼ Rack

Oracle Database 12.1.0.2 with Database In-Memory

Node 1: JDE E1 Data
Node 2: JDE E1 Data

RAC
**Oracle Database In-Memory Goals**

- **Real Time Analytics**: 100x speedup
- **Accelerate Mixed Workload OLTP**: 2x performance improvement
- **No Changes to Applications**: No code changes required
- **Trivial to Implement**: Easy to set up and use
Go-To-End

Prior to Enhancements

- You need quick access to totals
  - Total supplier open amount
  - Posted and un-posted G/L totals
  - Forecast totals by forecast type
  - Total quantity shipped by item
  - Spend by Supplier
- Many apps show totals after the last grid row...go-to-end
  - Millions of rows to process....slow
  - Time-outs, multiple queries, batch jobs
Real-Time Summarization with Oracle Database In-Memory

From Batch to **Real-Time**

- Click on summation icon for totals
- No need for go-to-end!
- Incredible response time
- Balances by customer, line of business, and currency over 10 million invoice lines in 4 seconds
- Eliminate multiple queries, batch jobs, data exports

**Real Time Analytics**

10 million invoice lines

From 244 Min to 4 Secs

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Real-Time Summarization

- Enabled in key applications
  - Customer Ledger Inquiry
  - Account Ledger Inquiry
  - Account Ledger by Category Code
  - Account Ledger by Object
  - Supplier Ledger Inquiry
  - Forecast Inquiry
  - Customer Service Inquiry
  - Purchase Order Inquiry
JD Edwards Real-Time Summarization

- Increase performance with Real-Time Summarization of customer account balances
- View real-time balances by customer, line of business, and currency or normalized across currency in seconds
- A/R specialists are more able to respond live to customer inquiries
- Cash managers have real-time information to make real-time decisions on currency exposures
- Credit managers will make immediate decisions on extending credit
- Select Gross Amount, Open Amount, Foreign Amount, Foreign Amount Open to view the aggregated totals
JD Edwards Real-Time Summarization

P0411 – Supplier Ledger Inquiry
JD Edwards Real-Time Summarization

Account Ledger Applications

- Close month-end books sooner with the ability to quickly and easily compare total posted vs. unposted amounts or units for any given time period
- Summarize by posted, unposted amounts by currency
- Summarize amounts or units by ledger type

For applications:
- P09200 – Work with Account Ledger
- P09201 – Work with Account Ledger by Object Account
- P09202 – Work with Account Ledger by Category Code
JD Edwards Real-Time Summarization

P3460 – Work with Forecasts
JD Edwards Real-Time Summarization

P42101 – Sales Order Entry
JD Edwards Real-Time Summarization

P4310 – Work With Order Headers (POE)
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Oracle Database In-Memory Goals

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- **Accelerate Mixed Workload OLTP**: 2x
- **No Changes to Applications**: ✔
- **Trivial to Implement**: ✔

For JD Edwards EnterpriseOne
Hardware and Software
Engineered to Work Together