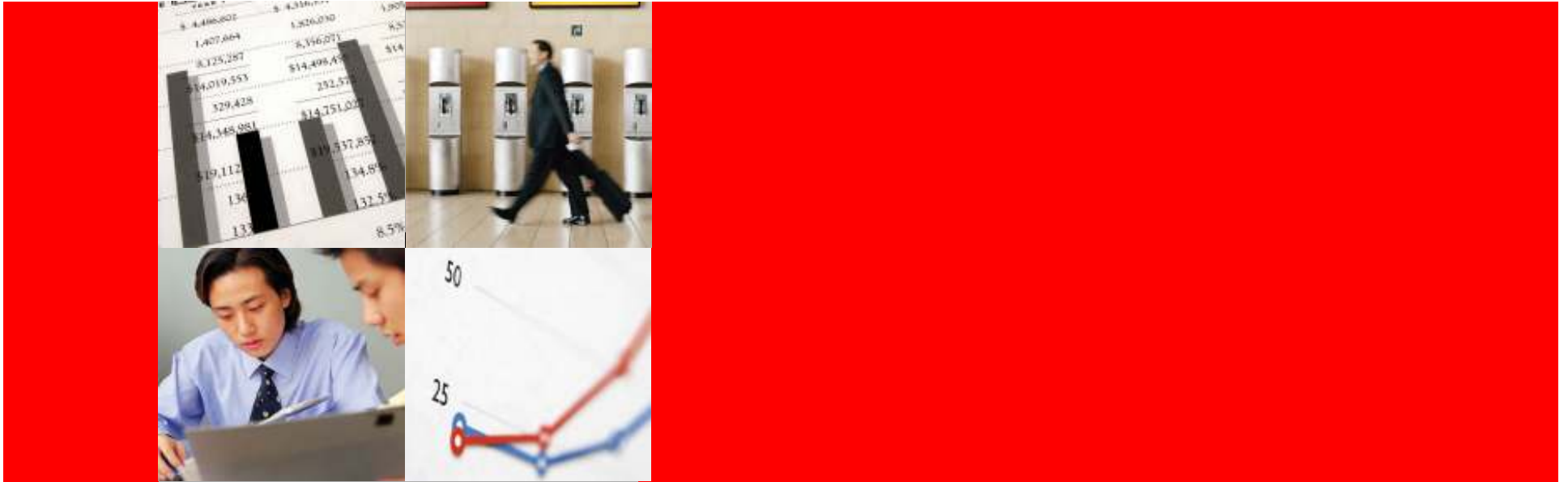


ORACLE®



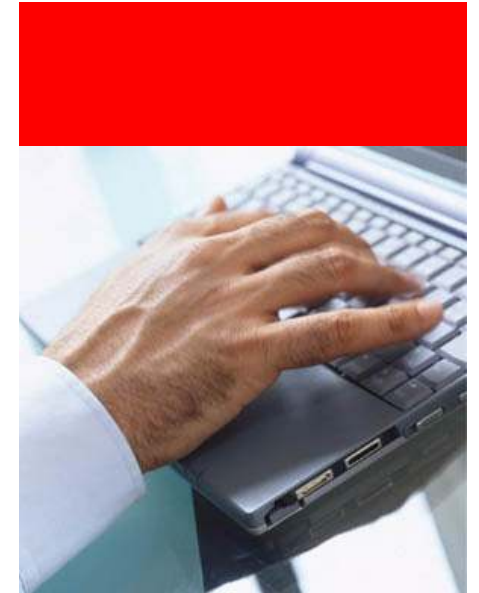
ORACLE®

Service Oriented Data Management

Nabin Bilas
Integration Architect

Data Integration & SOA: **Agenda**

- **Data Integration Overview**
- 5 Reasons Why Data Is Critical to SOA
- Oracle Data Integration Solution
- Data Integration in Action
- Demonstration





...on Information Agility CIO Magazine

“Increasingly, the value-added advantage of a company isn't what it makes but what it knows.”

Everyday Data Integration Problems

Data is Key but Integrating and Managing Data is Even More Critical

Q: Why can't the bank reconcile my London account with my NY account?



Information Control

Ensure the data quality, consistency, security and compliance of information. Be able to profile data and view impact of change.

Q: Why do my credit card reward points take 15 days to appear on my airline website?



Information Availability

Integrate bulk data of information across data warehouses, data marts, process or SOA applications in real-time.

Q: Why does this store keep sending me three of the same catalogs every month?

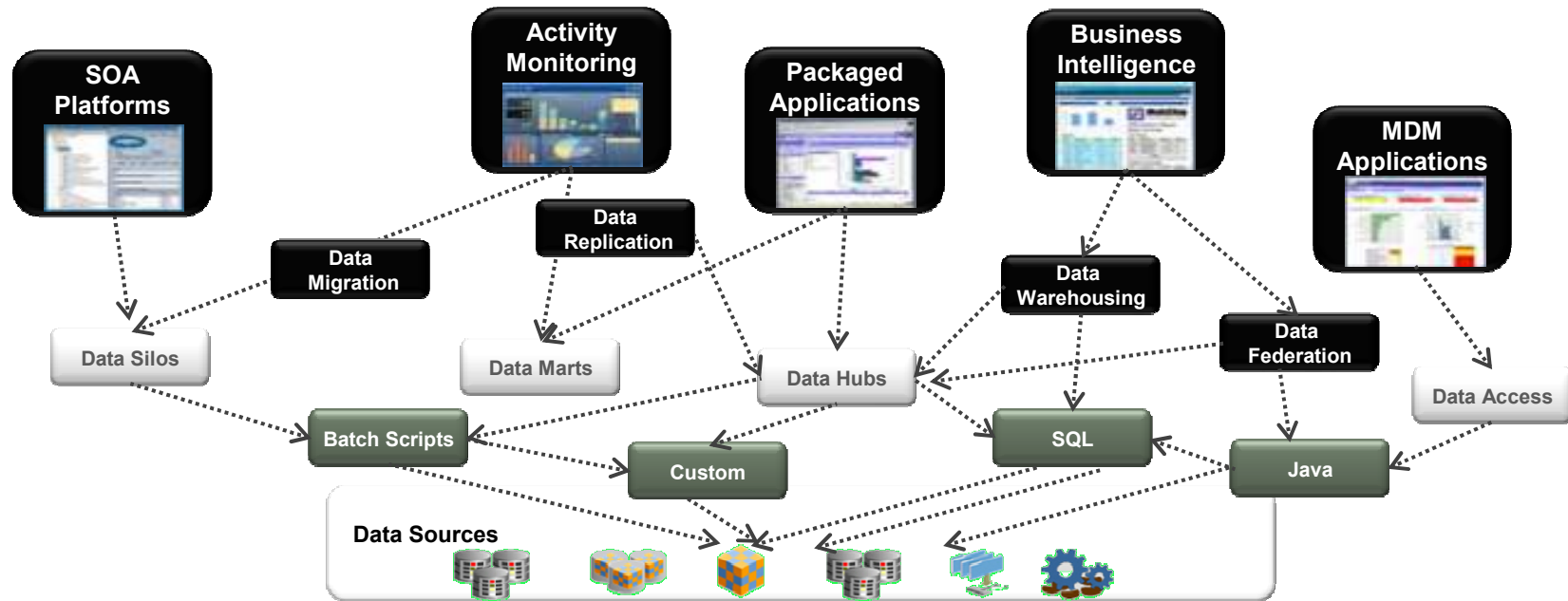


Single View

Single View of a Truth, (Master Data) provides true consolidation of information across heterogeneous sources.

Translates to a Data Integration Nightmare

Is This the Right Alternative?



No Control

Fragmented approaches lead to a lack of control, inconsistent data, no common visibility of how information is being used

Unavailable Data

Integration is complex, costly, requires custom code, development or silo'd, impacts performance and speed of implementation

No Single view

Ambiguous sources of data and multiple sources of truth which aren't matching, lack of integrations, inability to consolidate

Driving Business Efficiency & Expansion

The Impact of Data Integration

Efficiency

- Information Availability
- Reduce risk
- Information Control
- Eliminate bad data
- Lowered IT and dev Costs
- Platform efficiencies

**Comprehensive Data
Integration**

Expansion

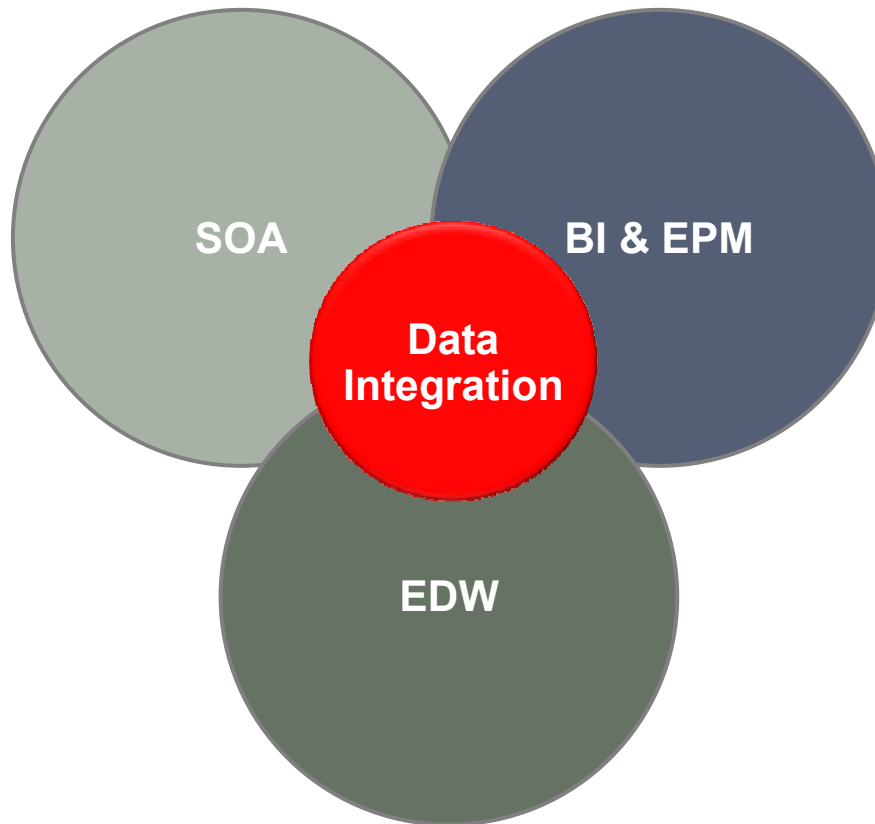
- Customer Intimacy
- Single View of Information
- Better visibility of information
- Create new value out of existing data warehouses
- Scale, Repeatability
- New “data” service delivery

Data Integration Landscape

A Required Solution for Many Markets

Service-Oriented Architecture:

- Data Services
- Information services
- Process Integration
- Event driven data integration
- Governance and Impact Analysis



Business Intelligence & Enterprise Performance Management:

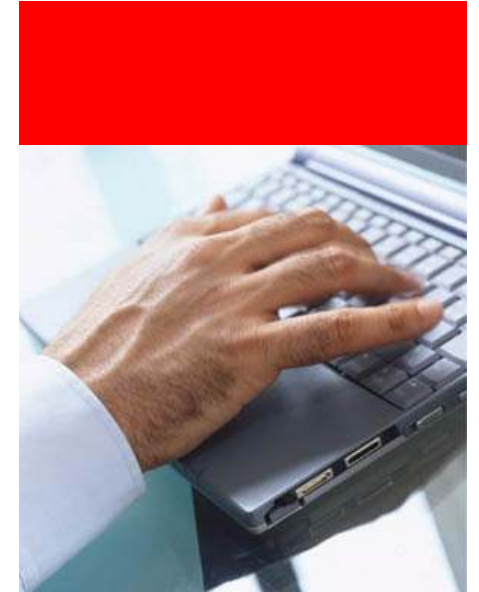
- Data Integration for BI applications
- Event driven BI
- Heterogeneous Data Access
- Information-based analytics
- Report to Source Data Lineage

Enterprise Data Warehousing:

- Extract, Transform, Load
- Data Migration, Bulk Data
- Data Quality, Profiling

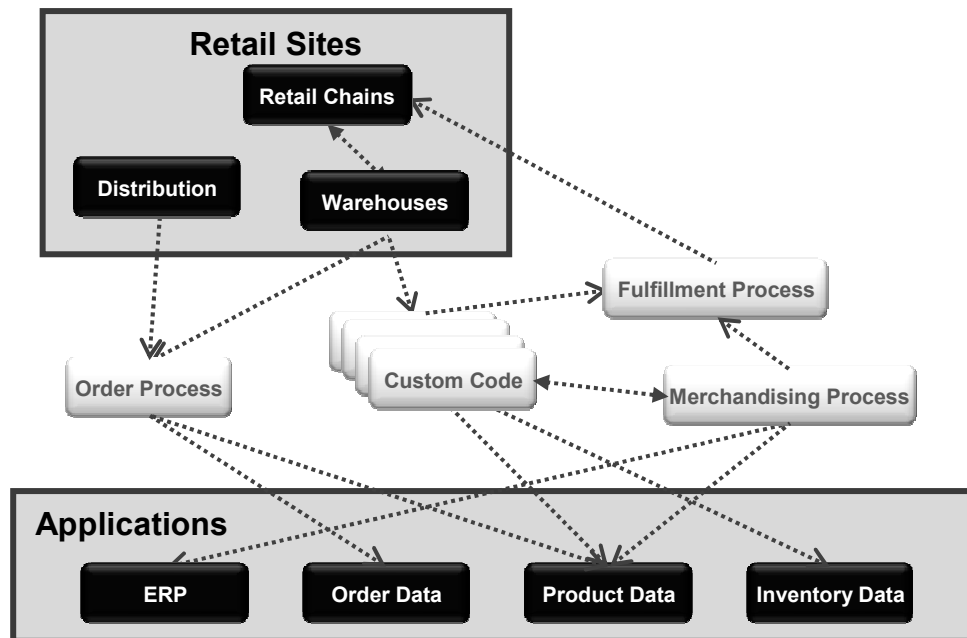
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Retail Example

Business Risk from Data Errors, Mismatches, and Manual processes



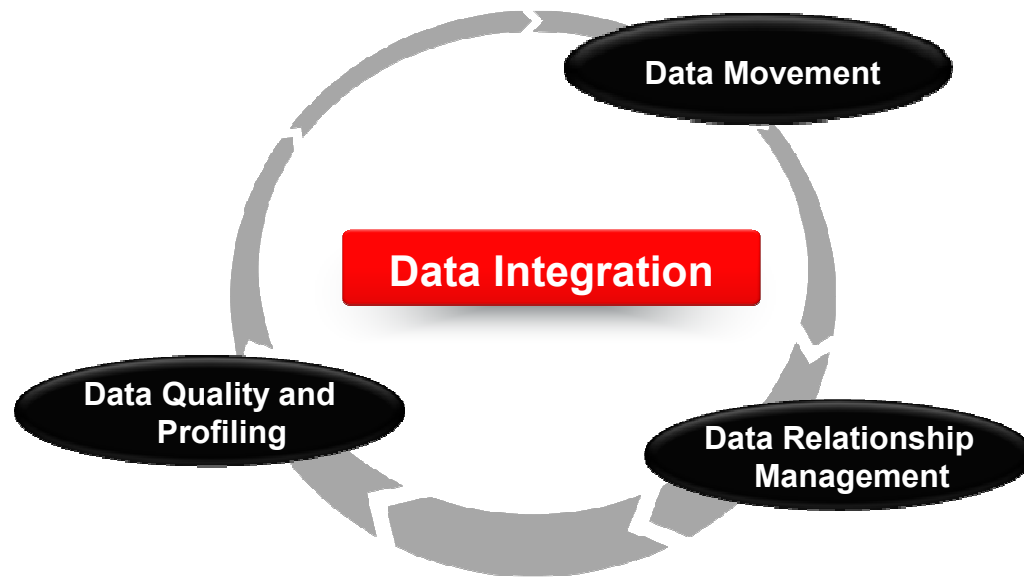
- Unclean data, Invalid SKUs
- Gaps in data
- Point to point processes
- Lack of data re-use
- No visibility





Managing Data Complexity Eliminates Data Errors

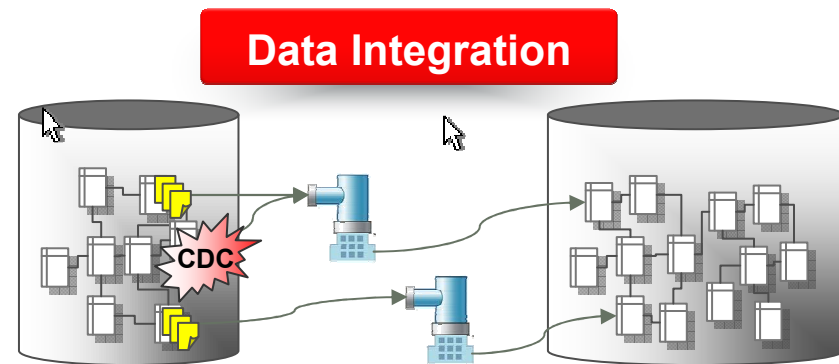
Data is Not Linear



Data Synchronization

Keep data in sync between heterogeneous sources and applications

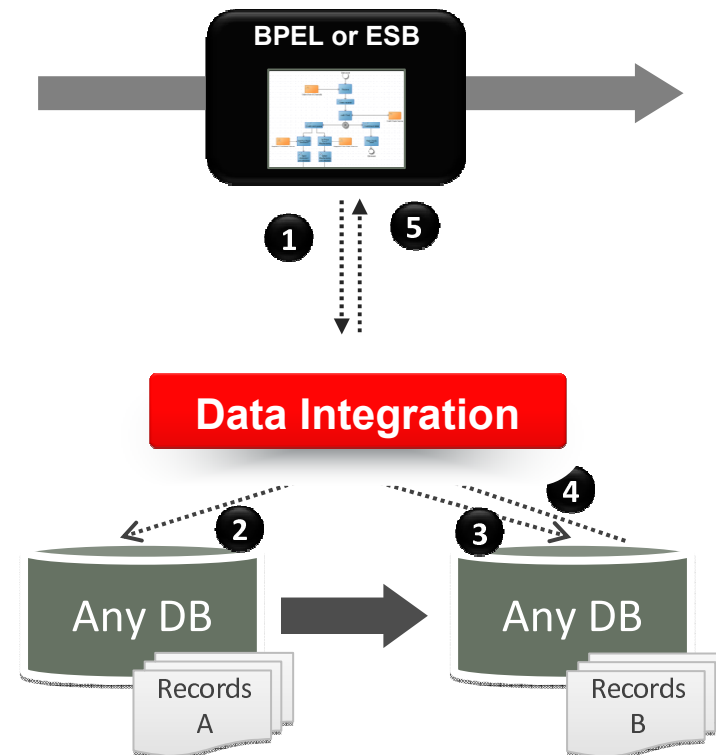
- Publish and Subscribe Framework for Changed Data Capture (CDC)
- Data is up-to-date and consistent
- Out-of-box Log Mining and Triggers
- Works with heterogeneous data sources



Process Driven Data Flows

Data Requires Special Handling as Part of an SOA

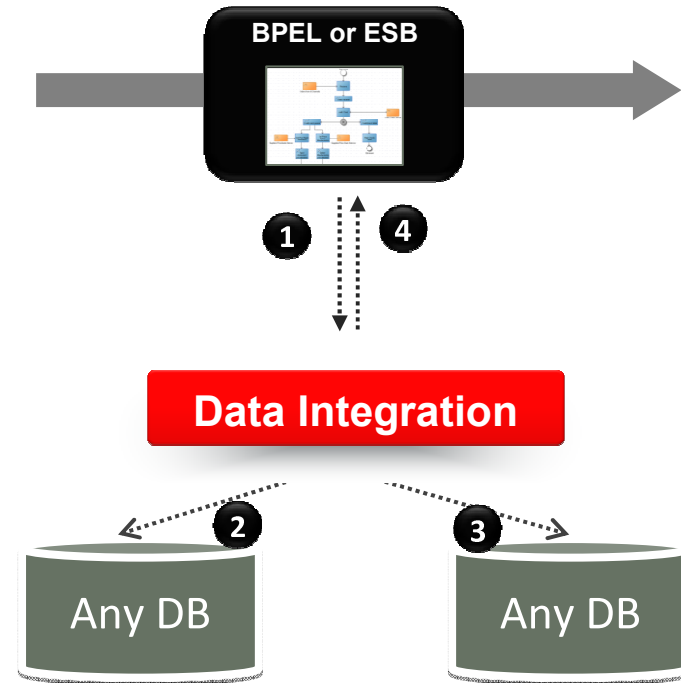
- Optimized data movement within a process or ESB
- Moves data by reference
- Leverage BPM workflow
- Data recycling



Shared Data Services

Agility for Integration and Management of Data Integration

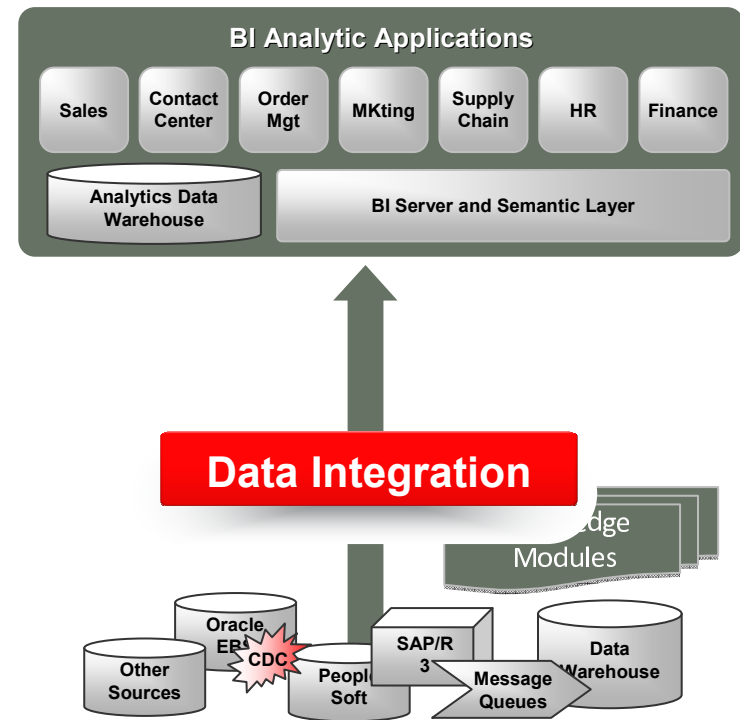
- Re-usable data integration services
- Real-time data views
- Pre-built to existing SOA platforms
- Data Federation



Extended Business Intelligence

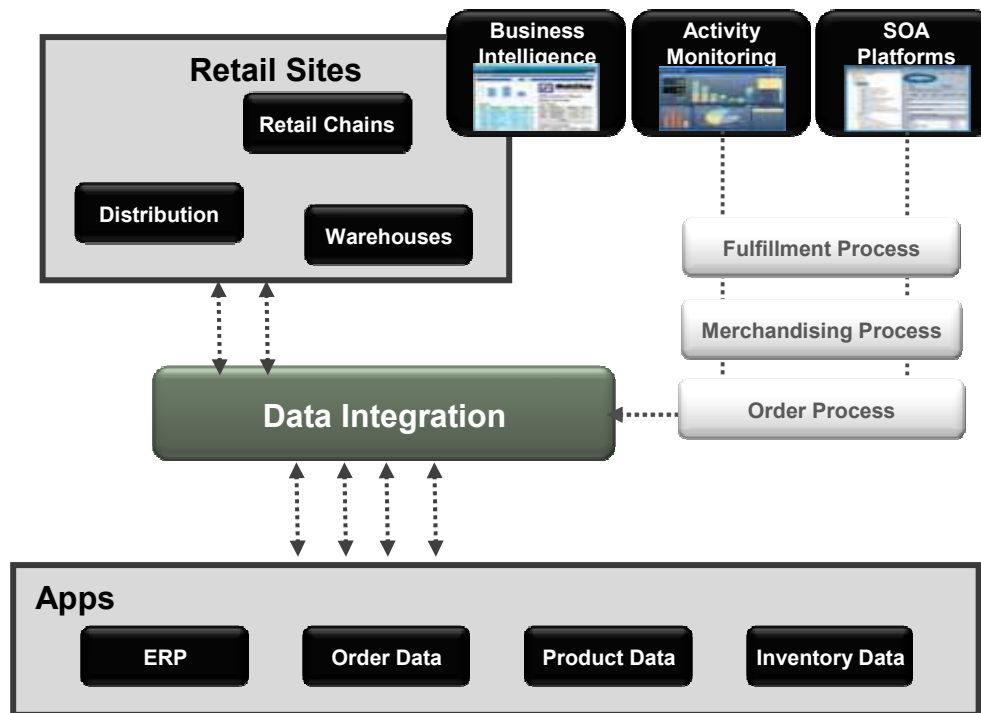
Extends the Reach for BI Applications into Multiple Data Sources

- Optimizes data loads into BI apps
- Broadens the reach of BI
- Provides near real-time access
- Build and maintain faster, lower cost, pre-built metrics, dashboards

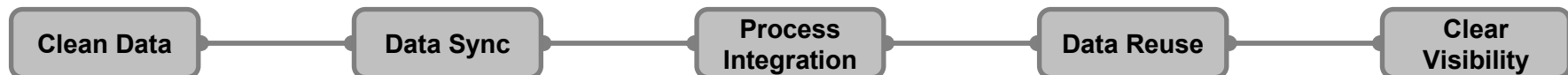


Retail Example

Eliminate Risks, Automate Integration, Tighten the cycle

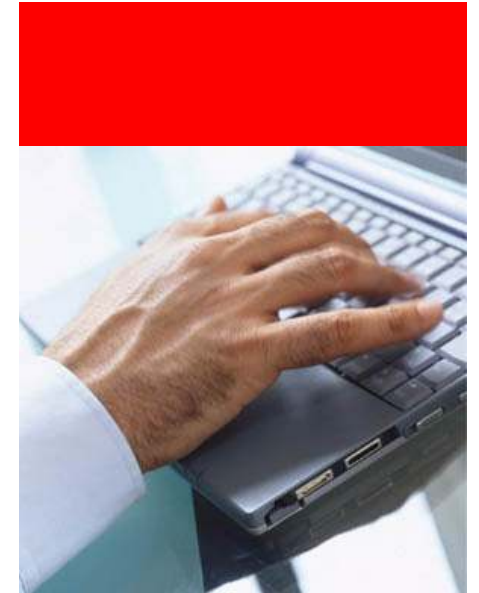


- Valid Product SKUs
- Eliminate data gaps
- Integrated Order2Receive process
- Order2Receive services shared
- Clear visibility



Data Integration & SOA: **Agenda**

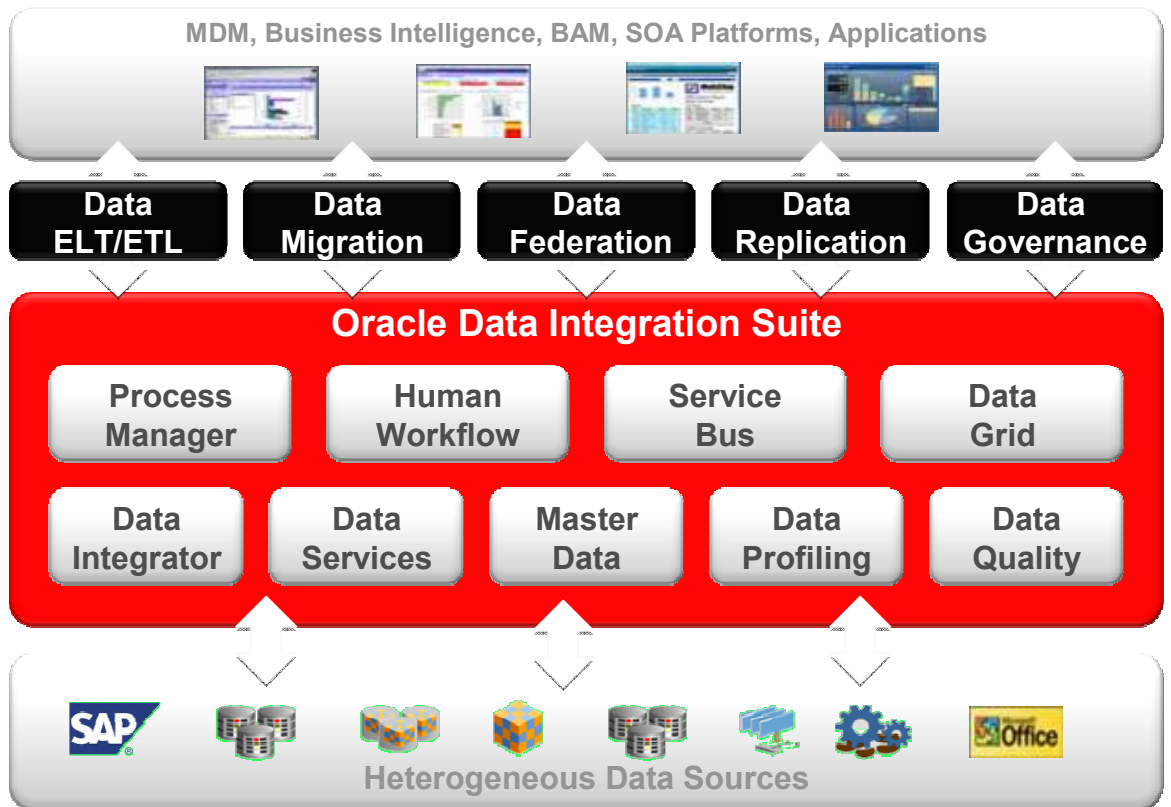
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Oracle Data Integration Suite

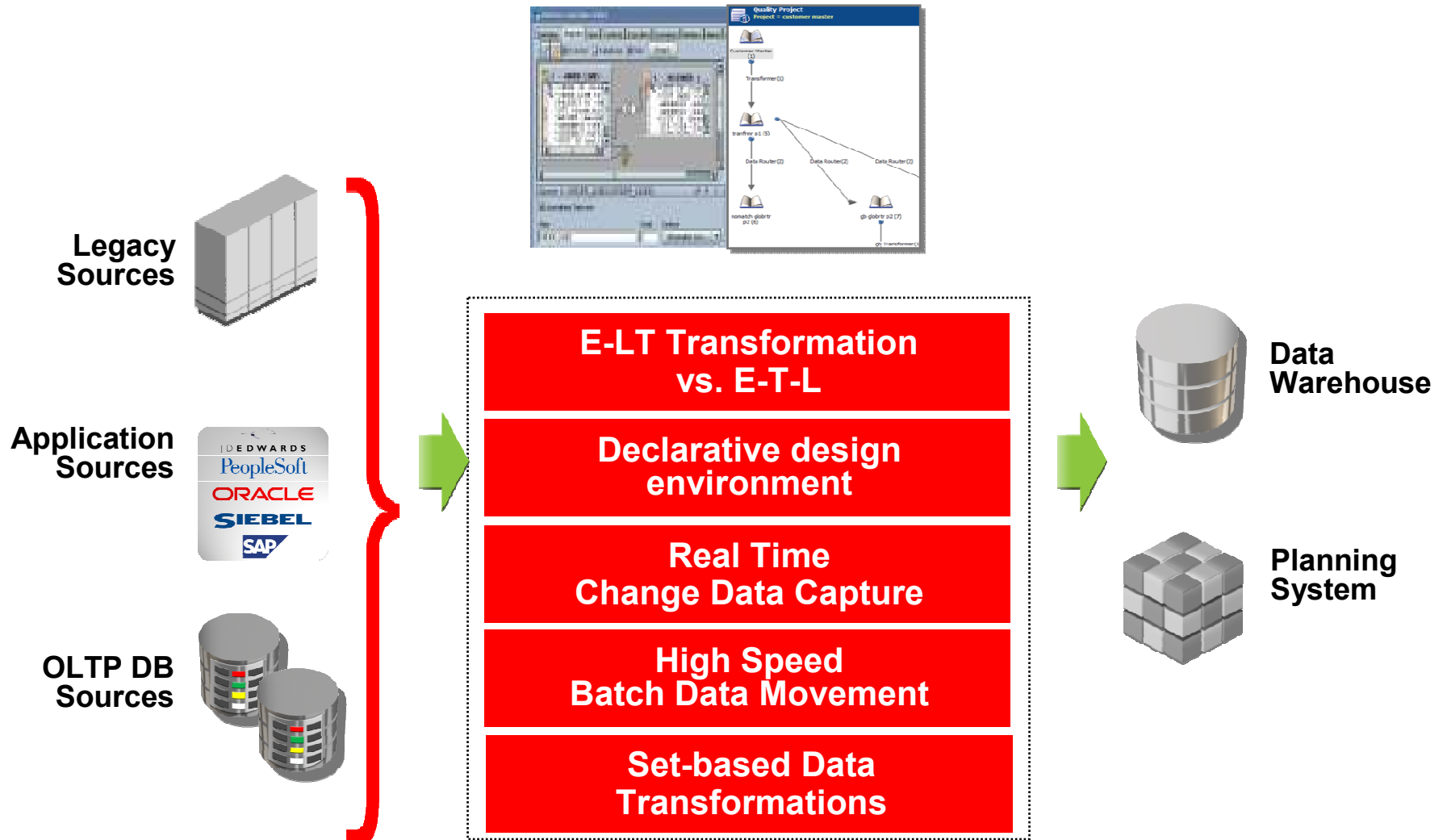
A Comprehensive Solution for Service Oriented Data Management

- Best performance
- Lower total cost of ownership
- Flexible, event-driven solution
- Improves productivity
- Pre-integrated for BI & SOA
- Hot pluggable



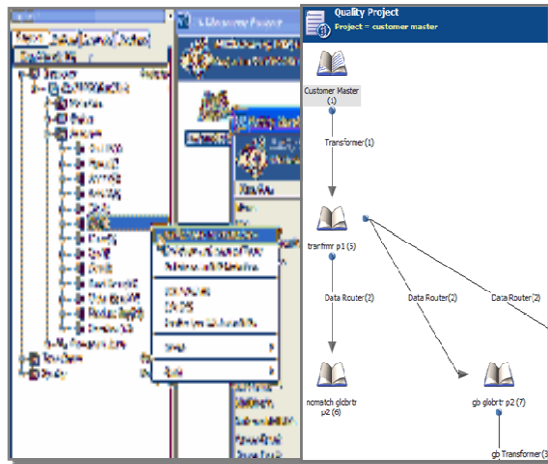
Oracle Data Integrator

Optimized ELT



Oracle Data Quality

Ensure Data Quality as Part of the Integration Process



Visual Data Quality Tools



Oracle Data Integrator

ETL Batch & CDC
Data Flow

Better Data Visibility

Tighter Data Control

Greater Data Accuracy

Oracle Data Profiling

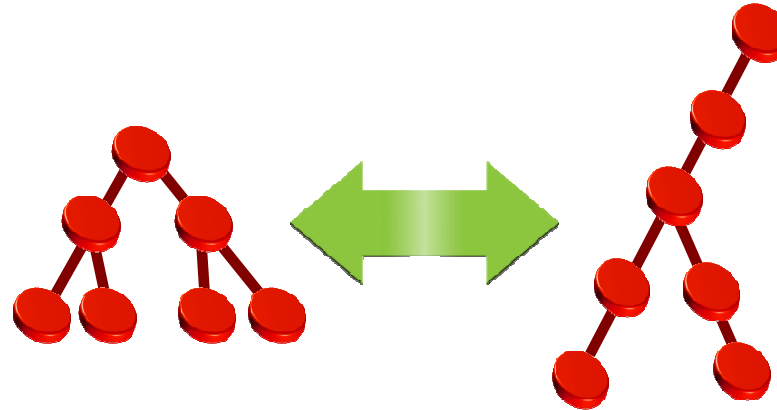
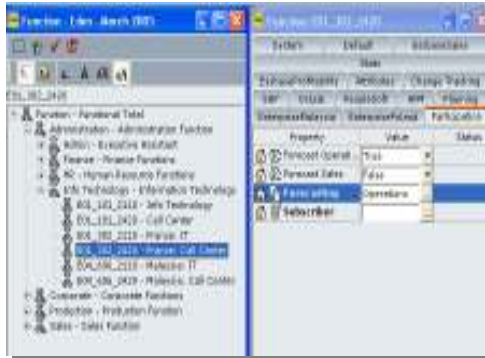
Metadata Profiling
of Source & Target

Oracle Data Quality

Duplicate Detection,
Matching & Merging

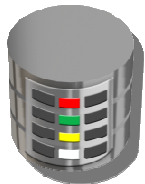
Data Relationship Modeling

Oracle Hyperion Data Relationship Manager

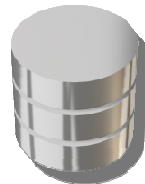


Oracle Data Relationship Manager

Manage Hierarchy Mappings & Relationships
Control & Audit Change in Hierarchies



Transaction
Systems



Data
Warehouse
Data Mart



Planning & Budgeting
(Essbase)



Financial
Consolidation

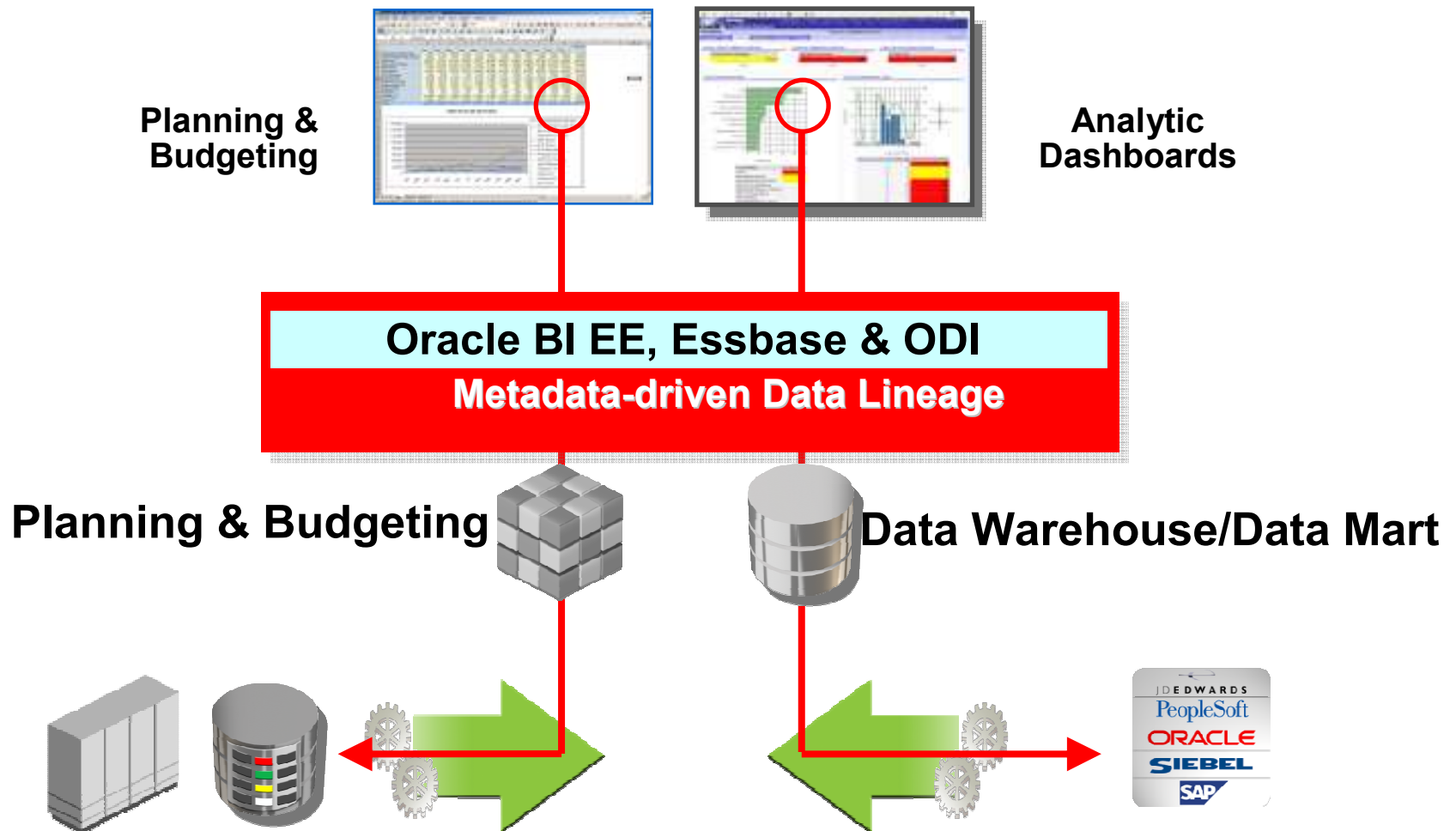


Business
Applications

ORACLE

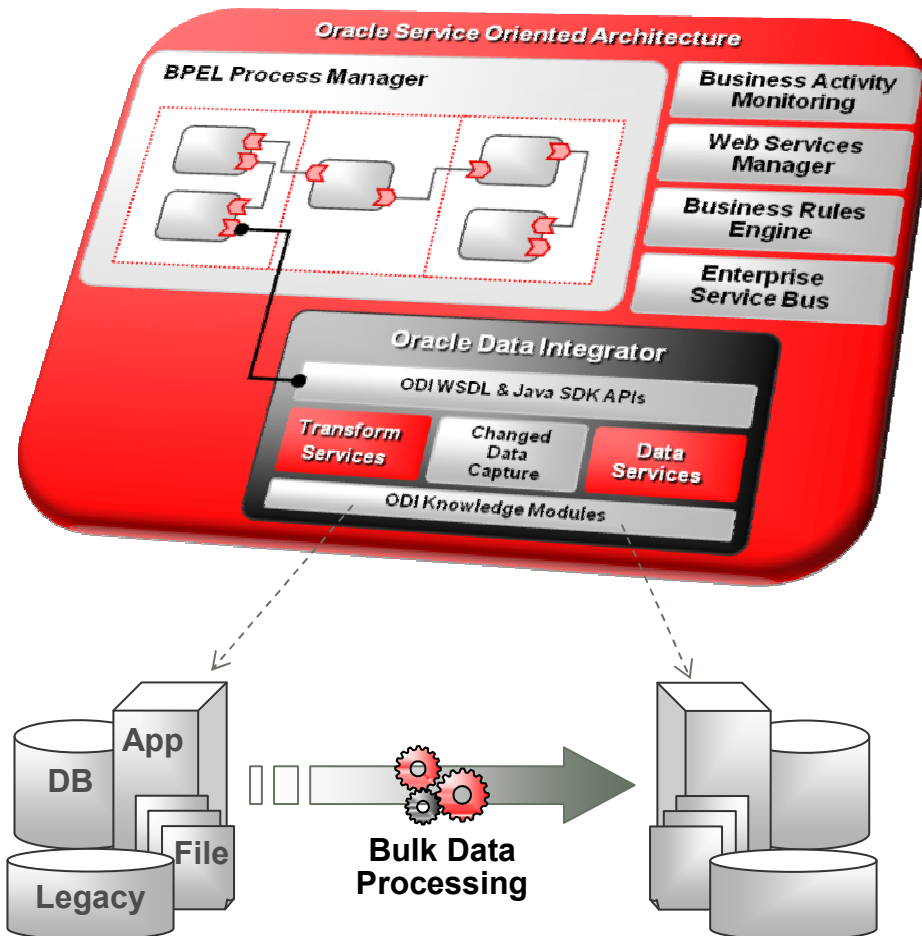
Data Lineage

Oracle Data Integrator & Oracle BI



Oracle SOA Suite and Oracle Data Integrator

Comprehensive Data Service Capabilities to SOA

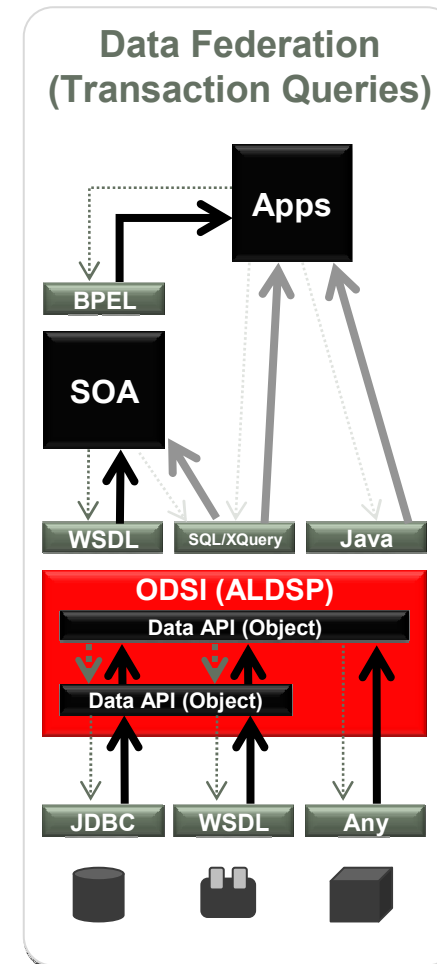


- Standards-based Composite Apps and Integration Processes
- Strategic SOA Technology
- Efficient bulk data processing
- Integrated Data Management as a Process

Impact of BEA on Oracle Data Integration

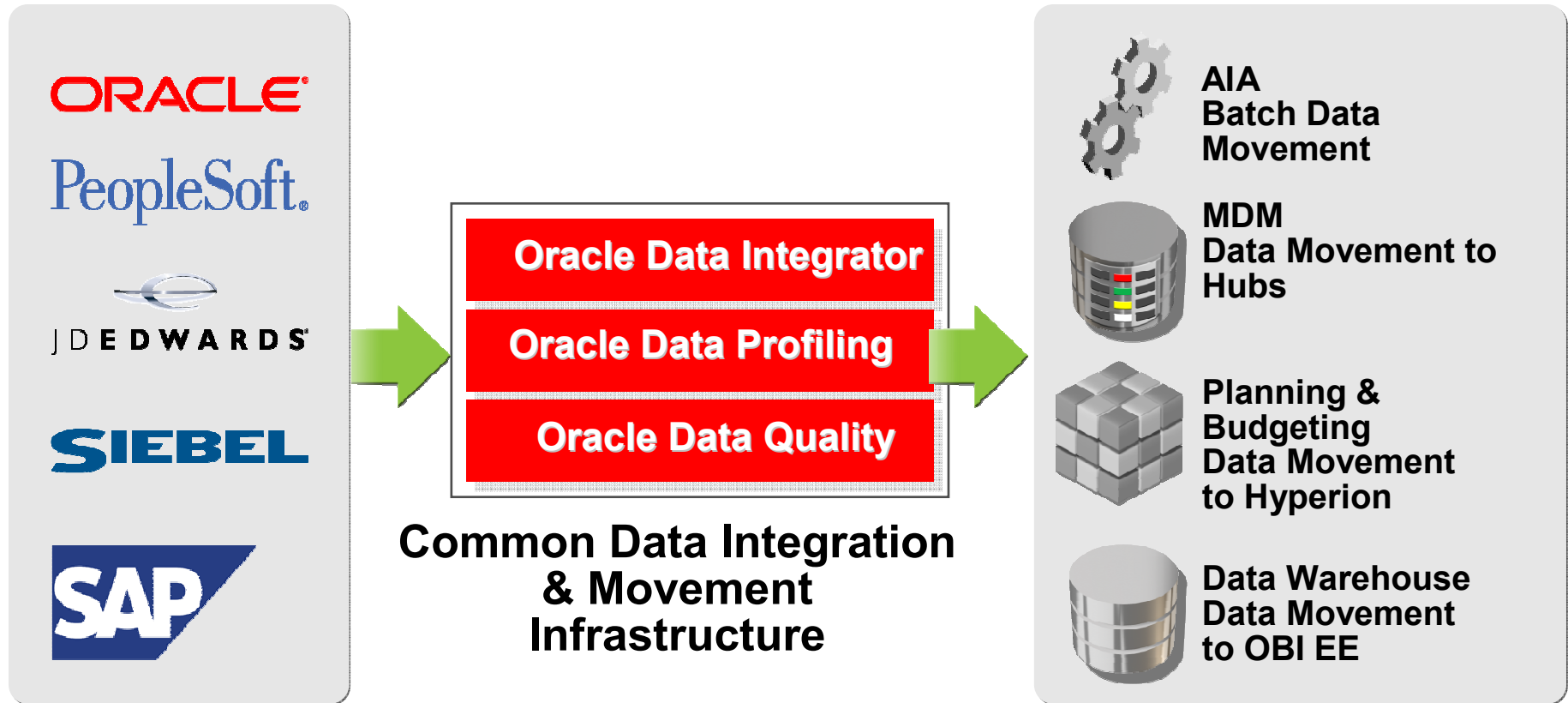
BEA adds Data Services using Data Federation to the mix

- Data Service Integrator:
Formerly known as
AquaLogic Data Services
Platform
- Manage Federated queries
and distributed views
- Optimized Performance,
highly scalable
- Real-time access to
operational data
- Open, Standards based



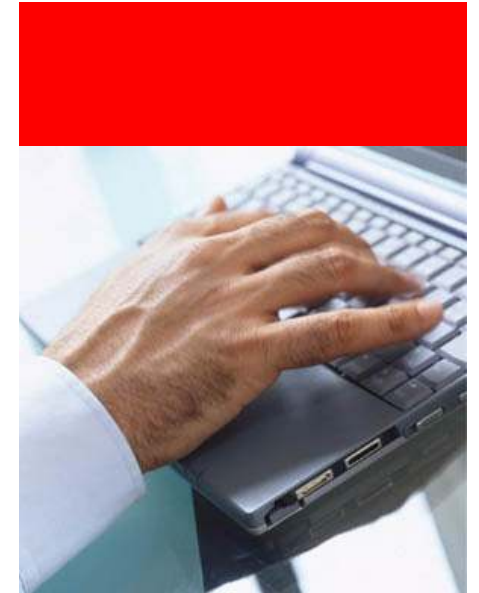
Packaged Applications Integration

Data Integration for Applications



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Order Replenishment, Online Catalog

J. Crew

Business Challenges

- Order replenishment for online catalog system
- Define new corporate standard for data integration
- Better integrate data across 175 retail stores and 52 outlet chains

IT Challenges

- Replace antiquated home-grown solution of scripts
- Teradata bulk data support, and help integrate data across SAP, Red Prairie Inventory systems

Oracle Data Integration Solution Benefits

- Simplified the end-to-end data integration with all their core IT systems and database platforms to reduce the total cost of ownership of their order replenishment and cataloging
- Benefited from the Oracle advantage in batch processing, bulk data transformation for increased performance
- Successfully leveraged SAP and Teradata integration to phase out legacy systems and ultimately reduce costs



IT Consolidation, Inventory Control

Ross

Business Challenges

- Hard to consolidate consistent, accurate inventory information across over 800 multiple store chains
- Lack of visibility to errors to the business
- Higher cost and time to delivery of new value

IT Challenges

- Current state was complex, didn't scale, and difficult to manage
- Non-standard approach required coding paradigm, inconsistent error handling

Oracle Data Integration Solution Benefits

- Seamless data integration from heterogeneous sources leveraging SOA helped to create a more flexible, standards based integration approach
- 73% Bulk data transfer performance improvement
- Together with Oracle SOA Suite (Oracle BPEL PM) provided business optimization, process visibility, exception handling
- Closed loop processing using BAM and Data Integration combined eliminated ordering/replenishing inventory errors by reducing inaccurate data



Enterprise Data Warehouse

Raiffeisen Bank

Business Challenges

- Costs for Enterprise Data Warehouse infrastructure were growing too fast
- EDW processes not keeping up with 24x7 operations, ETL batches too slow

IT Challenges

- Performance Issues with existing ETL Tool (IBM DataStage)
- New functions required for the next DWH releases (realtime, replication, etc)

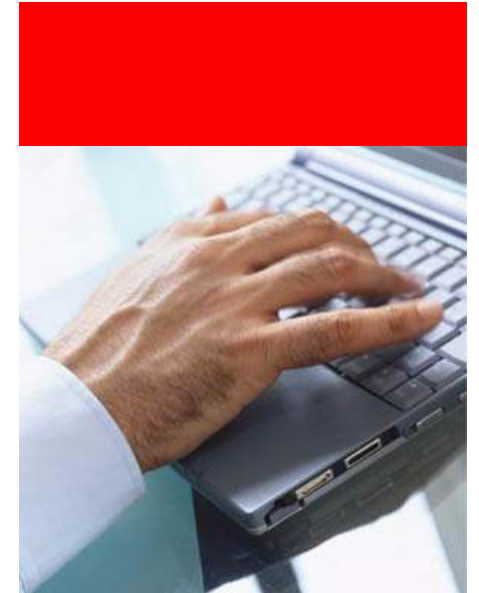
Oracle Data Integration Solution Benefits

- Meets legal requirements for data consolidation in the head office (Basel II, Investor reporting)
- Seamless and realtime Capital Market reporting to investors and stakeholders
- Single-source of truth for business information – supports Business Intelligence and EDW
- One standardized enterprise data model over the whole RZB Group
- Reduction of core integration/development costs through central development practice
- Reduced time to market for new Group applications through central interface development



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Summary: Complete Data Integration Strategy

Eliminate Risks, Automate Integration, Tighten the cycle

- Cleanse
 - *Oracle Data Quality / Profiling* (Clean/Profile)
 - *Oracle Data Relationship Manager* (Relate)
- Synchronize
 - *Oracle Data Integrator* – (change data capture)
- Integrate / Move
 - *ODI + BPEL Process Manager* (Move in bulk and integrate with SOA processes)
- Share / Reuse
 - *Oracle Data Service Integrator* (Real-time sharing and data access)
- Report
 - *Oracle Business Intelligence EE* (Make visible)



Next Steps




Get Started

1. Start with SOA – but include your Data.
2. Align Business Demands and IT Requirements for Data initiatives
3. Assess the existing and future needs of data across your enterprise
4. Identify a set of data services for re-use across SOA, Business Intelligence or other consumers
5. Leverage Oracle Partners and Oracle Professional Services

Oracle Resources

- Online – www.oracle.com/products/middleware/odi/
- Events – SOA Architect Forum oracle.com/events
- Blogs – blogs.oracle.com/dataintegration



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