

Keeping Your Data Warehouses Relevant in a World of Business Change

DAMA – National Capital Region Chapter
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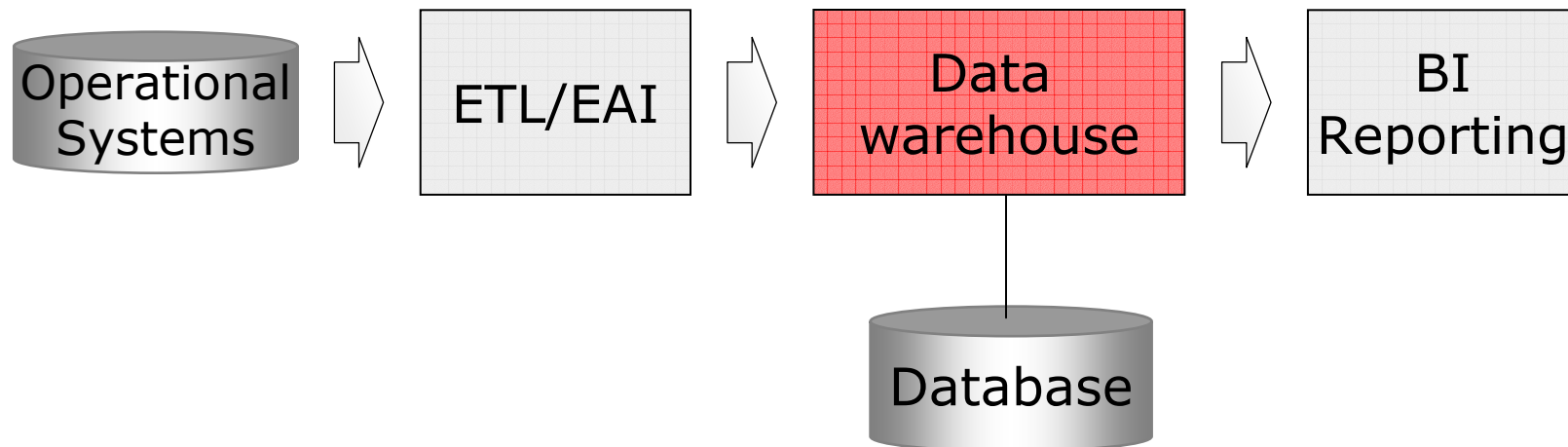
Agenda

- Data warehousing – the challenges
- Introducing Data Warehouse Lifecycle Management
- The KALIDO product suite
- Case studies
- Summary & Questions

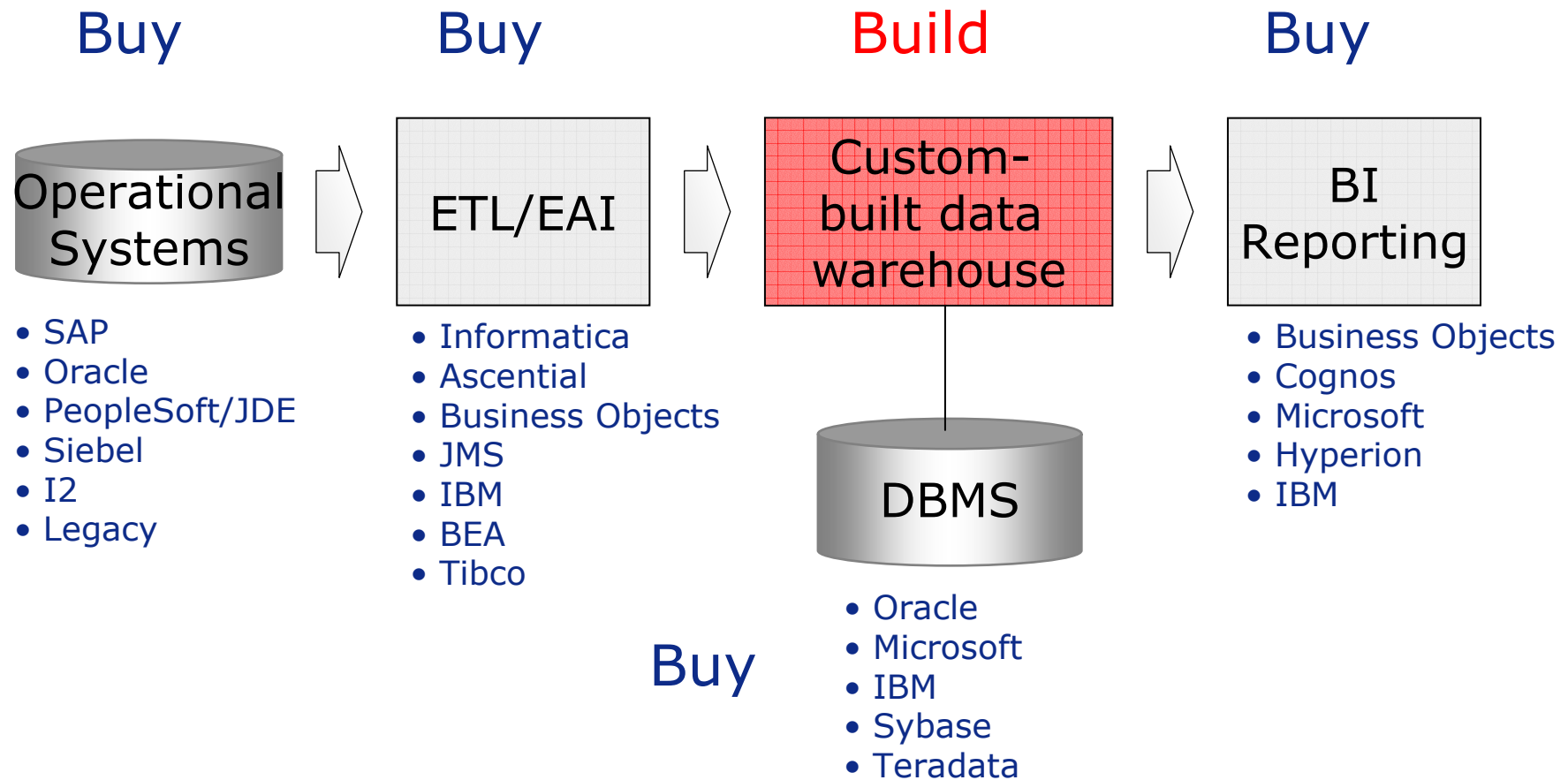
Data warehousing

The purpose:

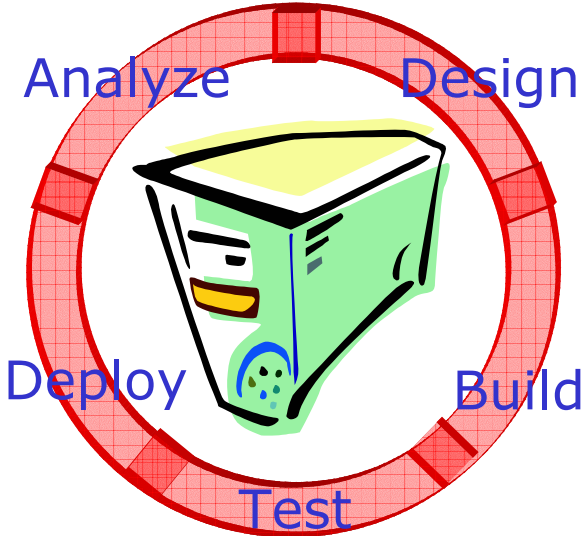
- Provide accurate, timely management information for large enterprises
- Enterprise-wide view of performance spanning multiple business units, operational systems, physical structures and identification schemes
 - > Visibility of business performance
 - > Improved ability to react to competitive pressures
 - > Compliance with regulatory requirements: Sarbanes-Oxley, Basel II etc.



Today's Business Intelligence Landscape



Custom-Built Data Warehousing Challenges



- 1) Traditional software development
- 2) Rigid structure—slow to adapt
- 3) Business complexity hard to model
- 4) IT resource-intensive process
- 5) Harder maintenance as scope extends

Long, risky development

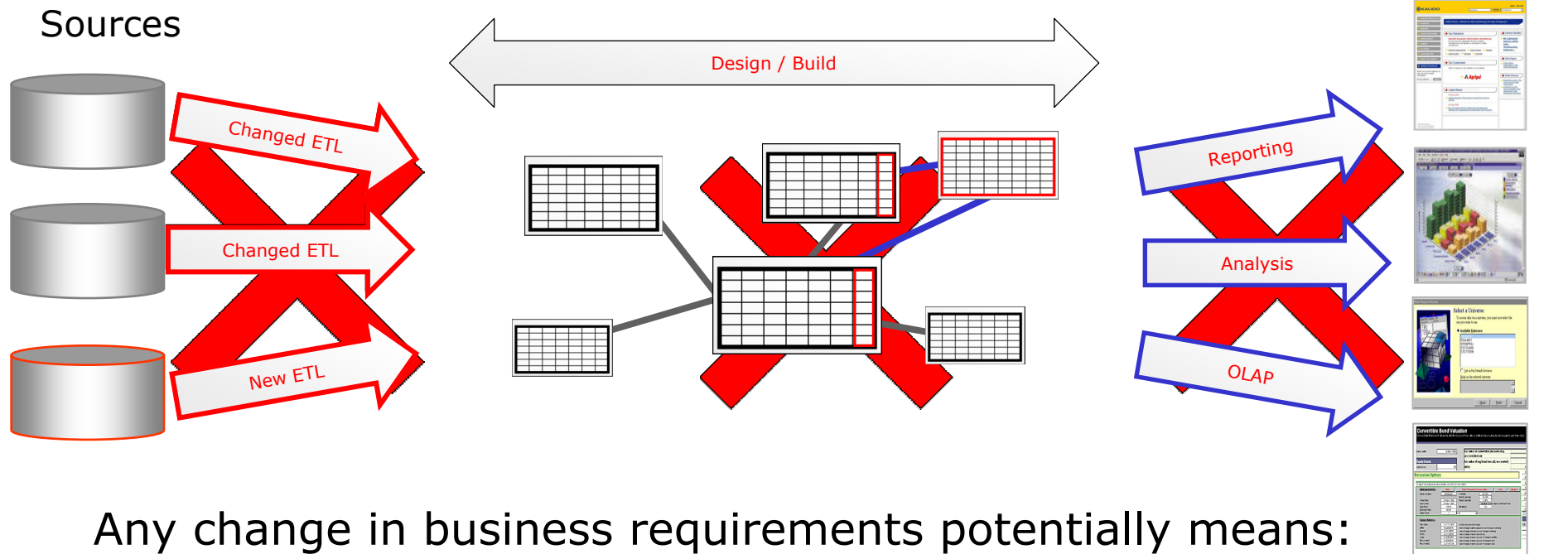
Requirements backlog

Compromise on key requirements

High costs

Integrity degrades over time; limits lifespan

Data warehouses – inflexible by design



Any change in business requirements potentially means:

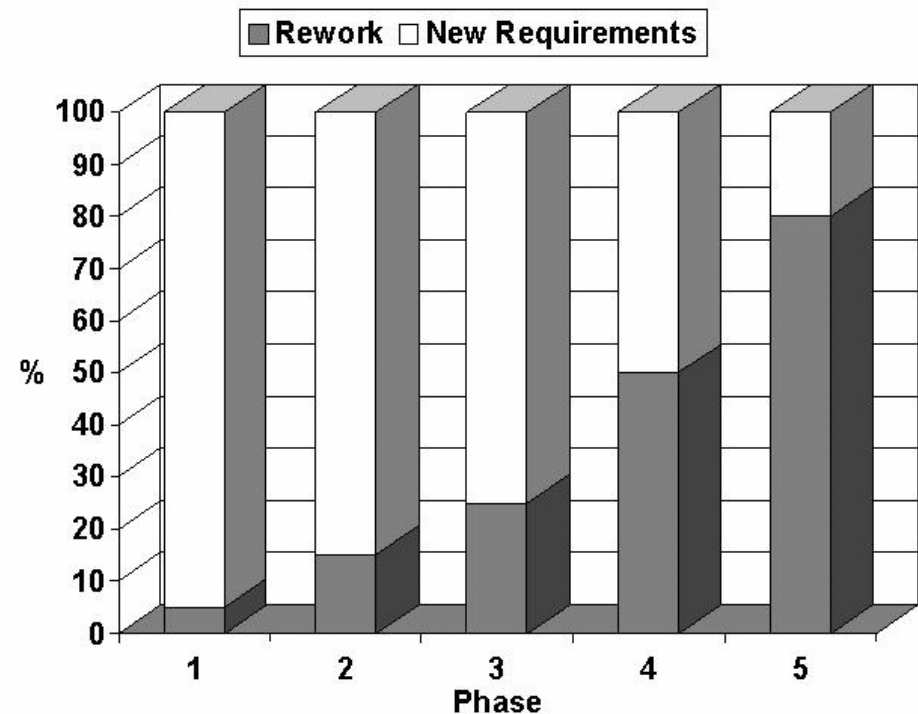
- > Changes to the database structure
- > New load routines and transforms
- > New validation programs
- > New summarization programs
- > New performance optimization
- > Reconfiguring of reporting tools

Time
Cost
Effort
Risk

Industry truths

"the average cost of building a custom data warehouse for a financial ERP system is \$2 million, it usually takes 2 years to complete. Most distressingly, more than 50% of data warehousing projects fail. This is '2-2-50' problem is inescapable."

- Ovum Research



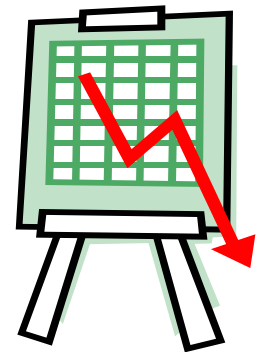
Resource usage for traditionally designed data warehouses

"Most data warehouse project plans focus entirely on technical aspects of the initial implementation and change is thereafter seen as a production issue. This does not reflect reality. Enterprises need to adopt a methodology where both business and IT align themselves during the entire lifecycle of the data warehouse"

- Frank Buytendijk, VP at Gartner, Inc.

Data warehouse and business out of step

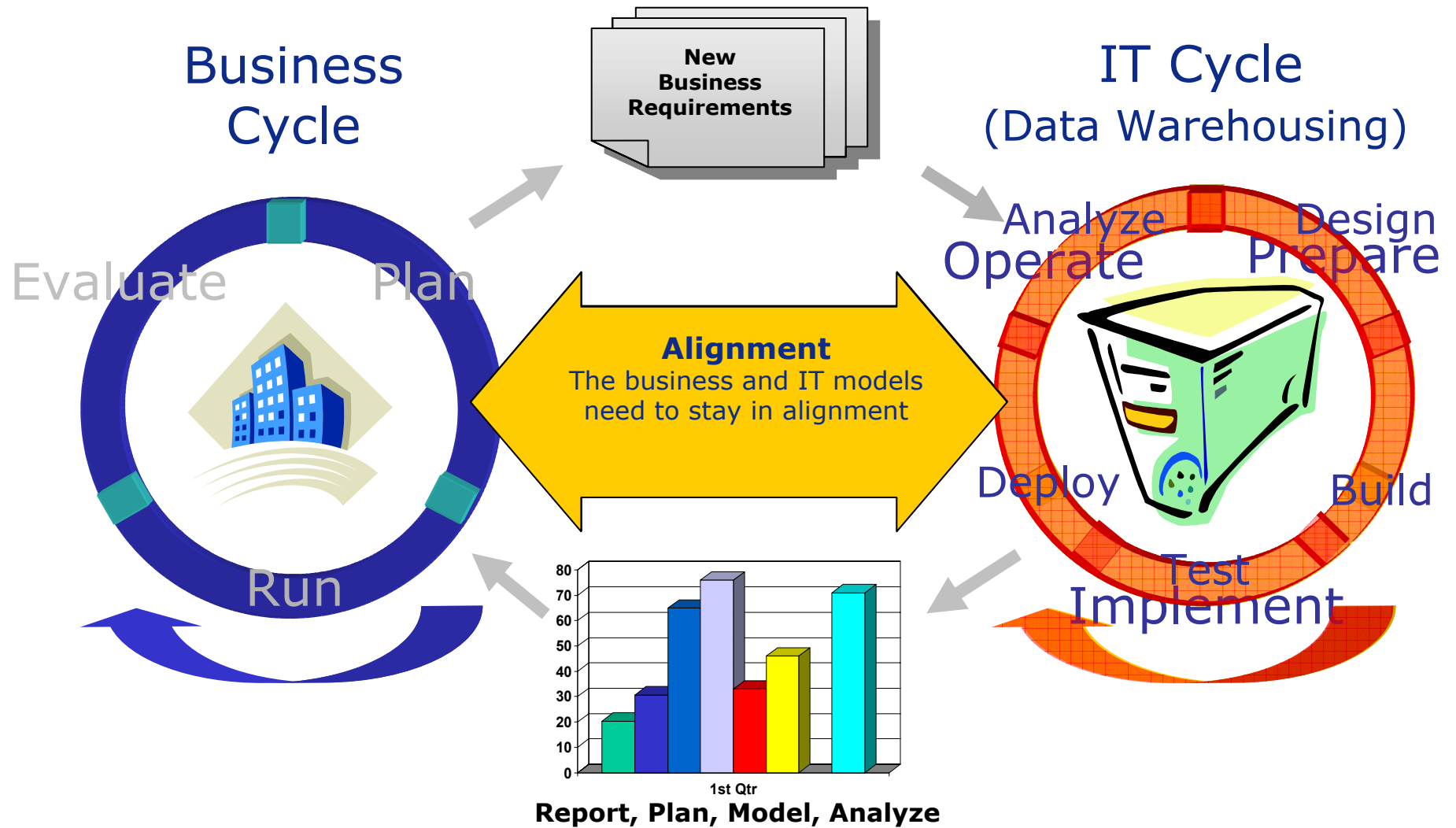
- Data warehouse design is based on a business model as frozen at a point in time
 - > Changes during development are ignored
 - > Subsequent changes are restricted to avoid costly re-design
- Information output requirements are defined prior to development
 - > User requirements for reporting, queries and analysis are 'hardwired' into the fabric of the data warehouse
 - > New business requirements and corrections result in complex, costly changes
 - > Users are expected to accurately define requirements before the information is available
- Relevance
 - > Performance measurement loses relevance as business changes are not rapidly reflected in the data warehouse and BI
 - > IT and business misalignment increases



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IT and Business Alignment

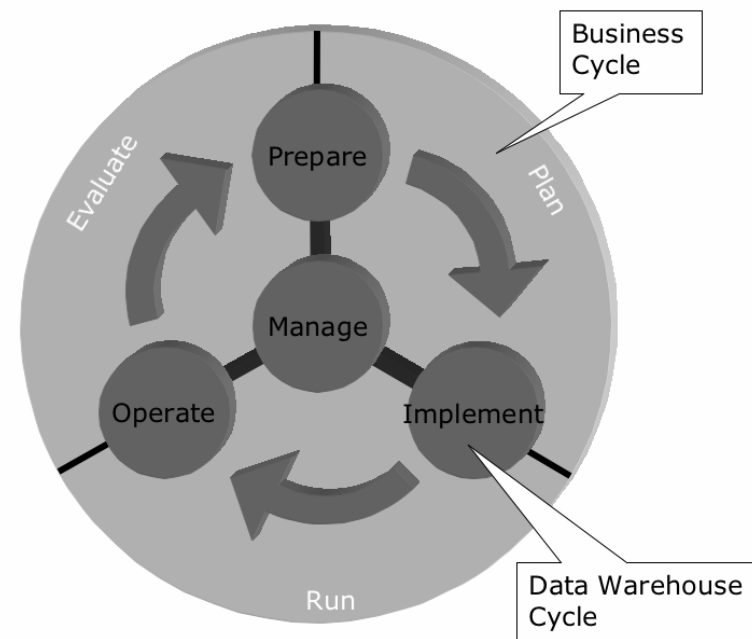


Data Warehouse Lifecycle Management

Data warehouse lifecycle management is the management of one or more data warehouses throughout their operational life, from initial inception through creation, operation and a lifetime of modification.

Delivering the adaptive data warehouse:

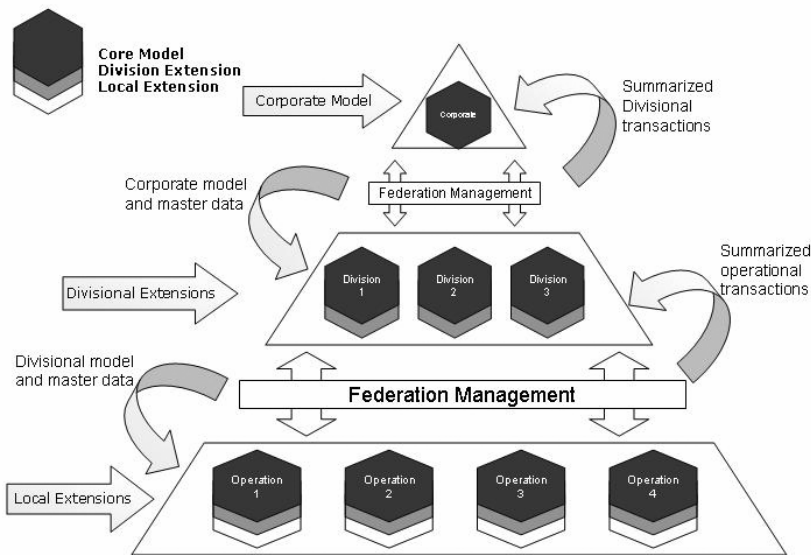
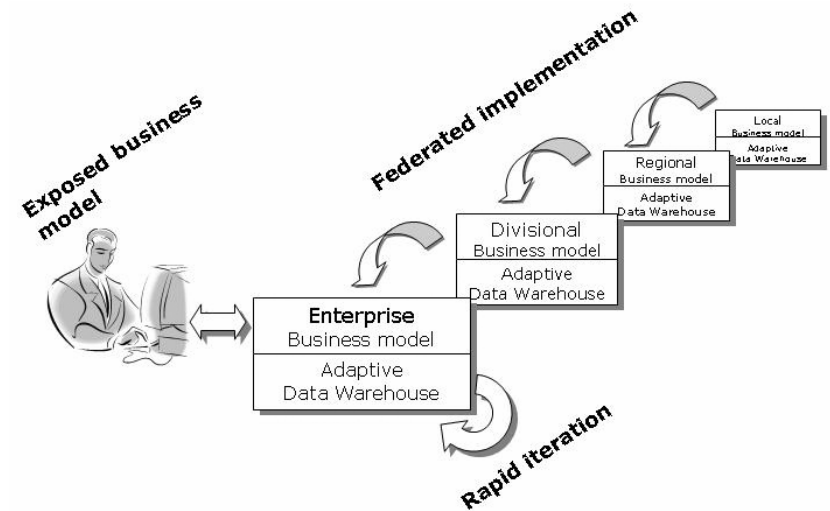
- Approach:
 - > Rapid iteration
 - > Federation
- Key architectural principles
 - > Generic storage
 - > Business model driven delivery
 - > Managed master data
 - > Real-world business modeling
 - > Time variance/Corporate Memory



Data Warehouse Lifecycle Management - Approach

- Rapid Iteration

- > Frequent, small scale iterations
- > Low risk
- > Less resource-intensive

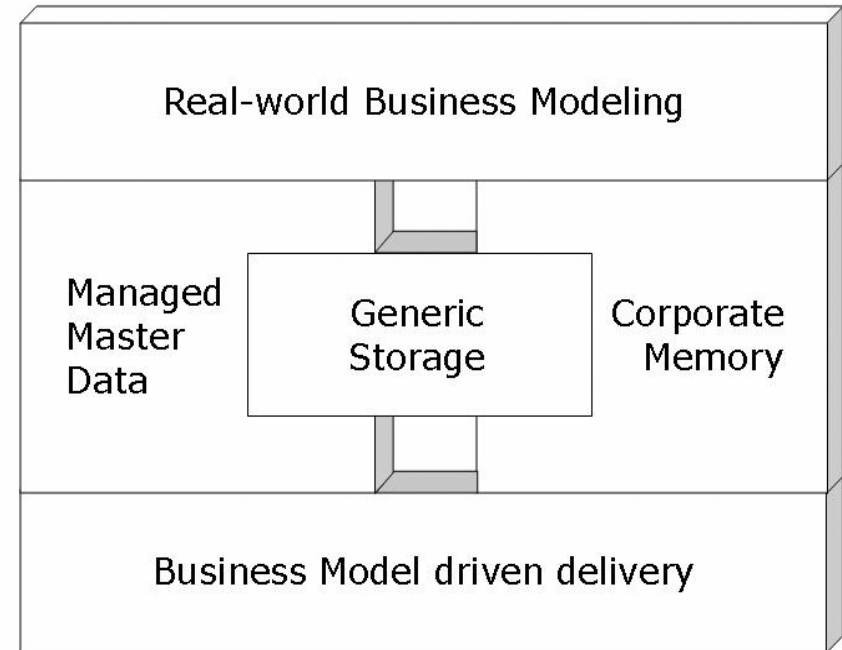


- Federation

- > Set of geographically/organizationally disparate data warehouses
- > Logically one warehouse sharing a core model & common master data
- > Local autonomy & customization
- > Global consistency & control
- > Reduced risk in global roll-outs

Data Warehouse Lifecycle Management - Architecture

- Generic storage
 - > Reduced schema & facility reuse
 - > Increased flexibility
- Business model driven delivery
 - > Configure warehouse at business model level not physical database level
 - > Minimize business <> IT consultation and mapping
- Managed master data
 - > High quality master data produces reliable context for performance management
 - > Repository and process for ongoing management of master data is needed
- Real-world business modeling
 - > Model underlying nature of objects rather than their use or role
 - > Reduce structural changes by modeling real-world entities
- Time variance/Corporate Memory
 - > Time-variant hierarchies are crucial for performance comparison in a changing business context
 - > Capture history of object attributes, relationships and structures



DWLM Summary

"Management of the data warehouse lifecycle helps improve the timeliness and quality of management information and reduces the risk of decision making from wrong data, as it provides an environment to help the IT organization reduce the backlog of data warehouse change requests."

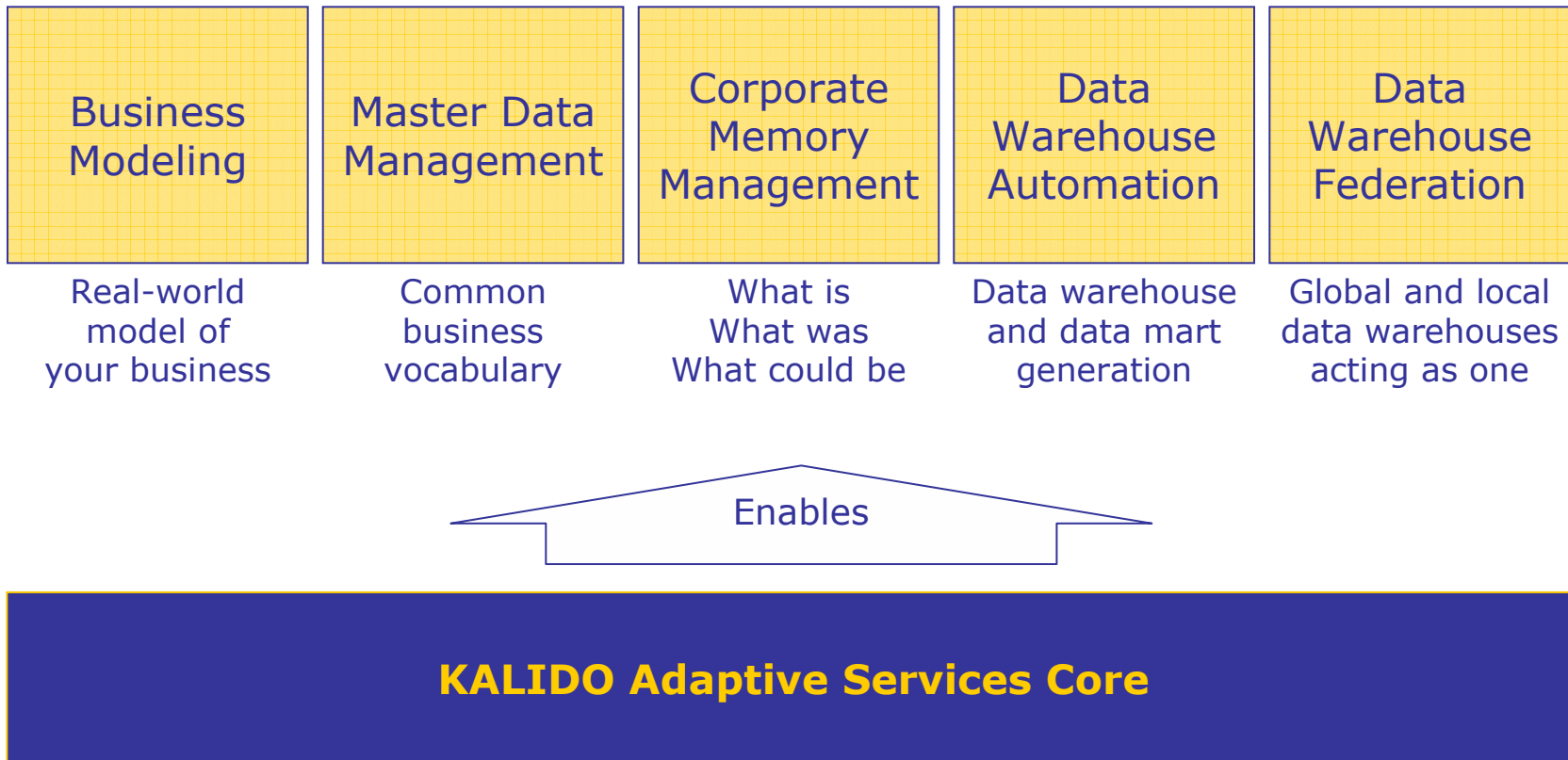
- Andreas Bitterer, Research VP, META Group

- Data warehouse lifecycle management:
 - > Iterative approach to data warehouse development
 - > Aligns information systems with business requirements
 - > Adaptive data warehouses driven by real-world business models
 - > Corporate memory maintained

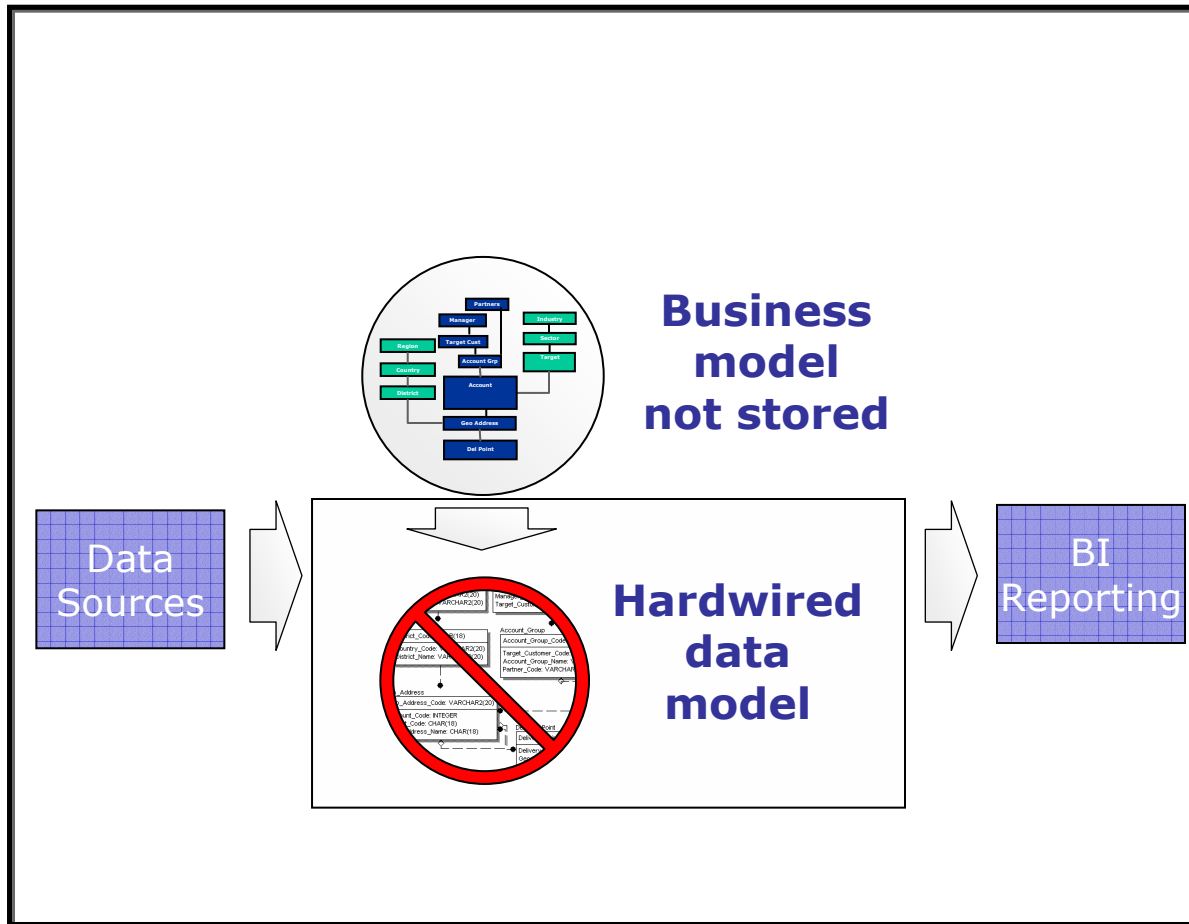
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Major KALIDO® DWLM Suite Capabilities

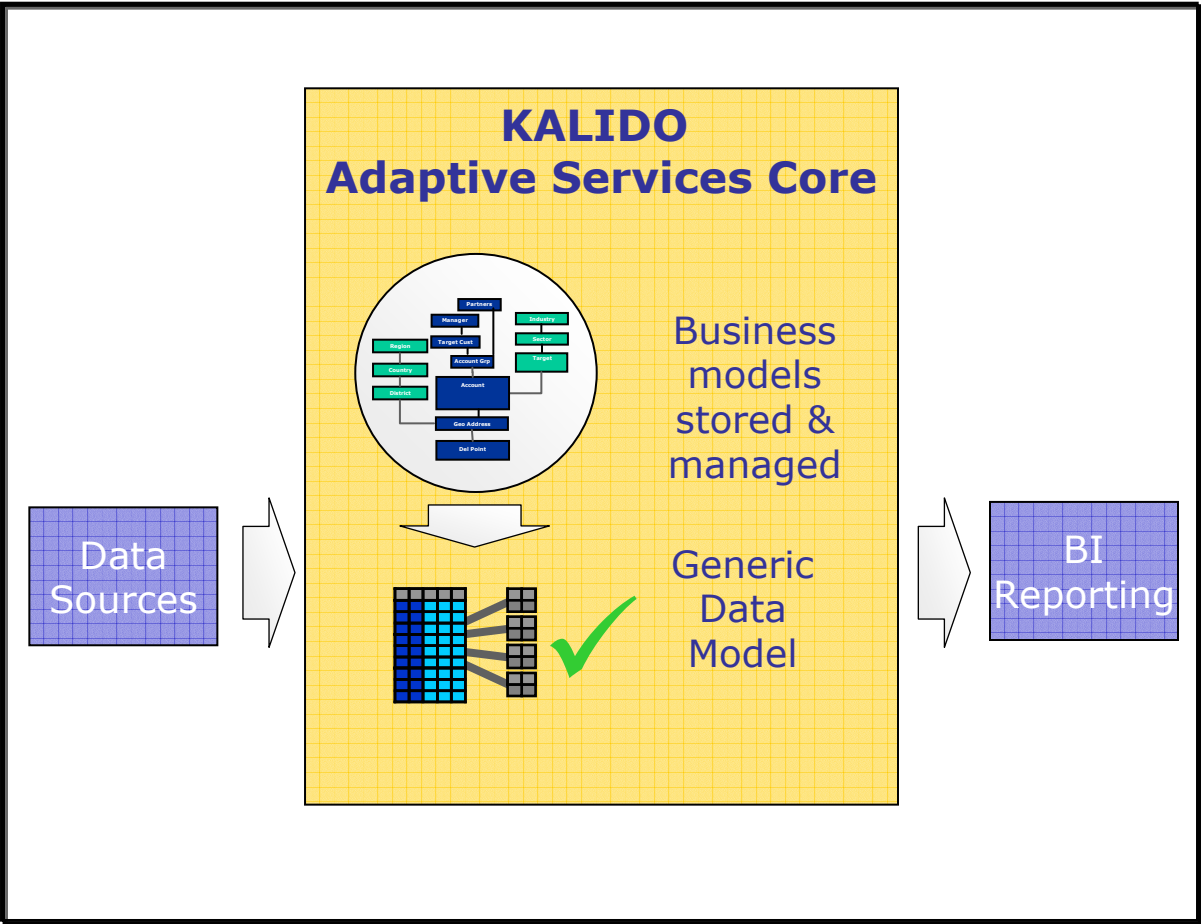


Traditional Data Modeling



- Business model manually translated to data model
- Business changes invalidate the data model

KALIDO Adaptive Services Core Technology

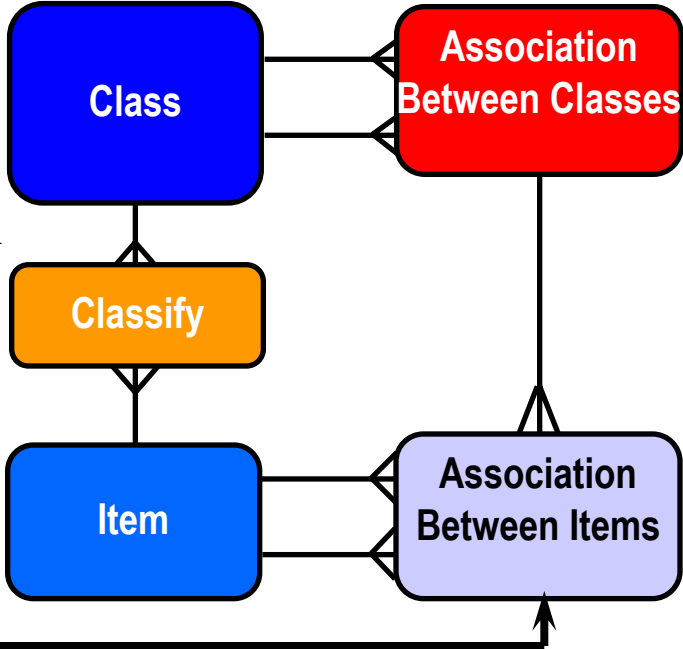
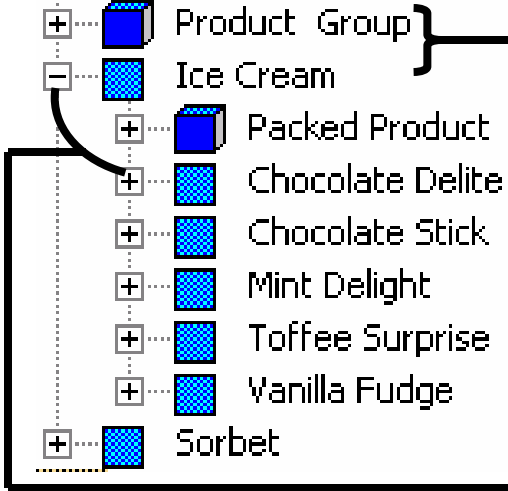
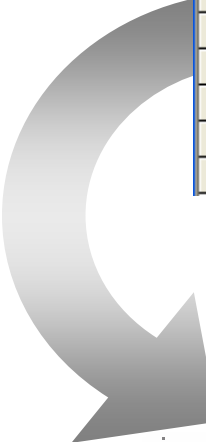
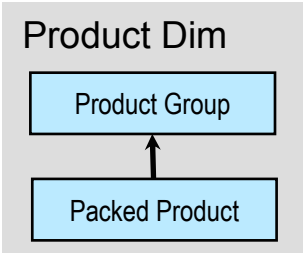


- Change business models without changing data models
 - > Patented
 - > 125 person-years R&D
 - > ISO 15926 standard
- Enables KALIDO® DWLM Suite facilities

Storage model

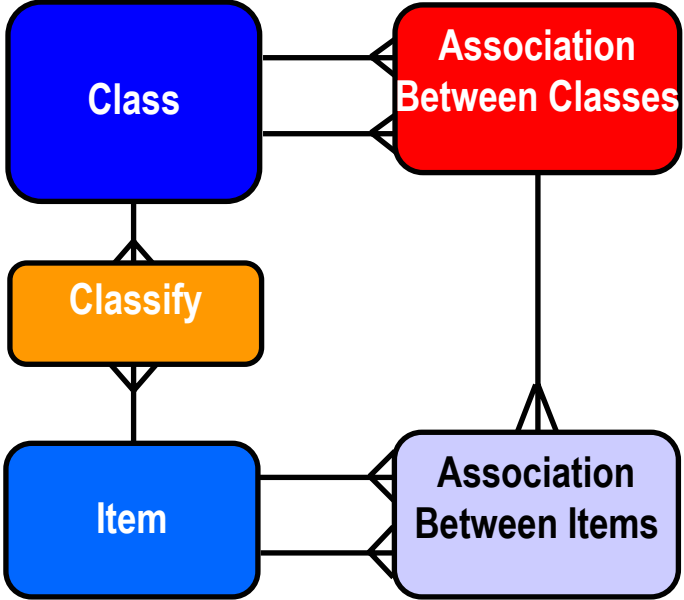
Product Group	Product Group Code
Ice Cream	ICE
Sorbet	SOR

Packed Product	Packed Product Code	Product Group
Chocolate Delight	CD	ICE
Chocolate Stick	CS	ICE
Mint Delight	MD	ICE
Toffee Surprise	TS	ICE
Vanilla Fudge	VF	ICE



Generic Storage - Simplified Worked Example

Product Group	Product Group Code	Packed Product	Packed Product Code
Ice Cream	ICE	Chocolate Delite	CD
Ice Cream	ICE	Chocolate Stick	CS
Sorbet	SOR	Lemon Sundae	LS

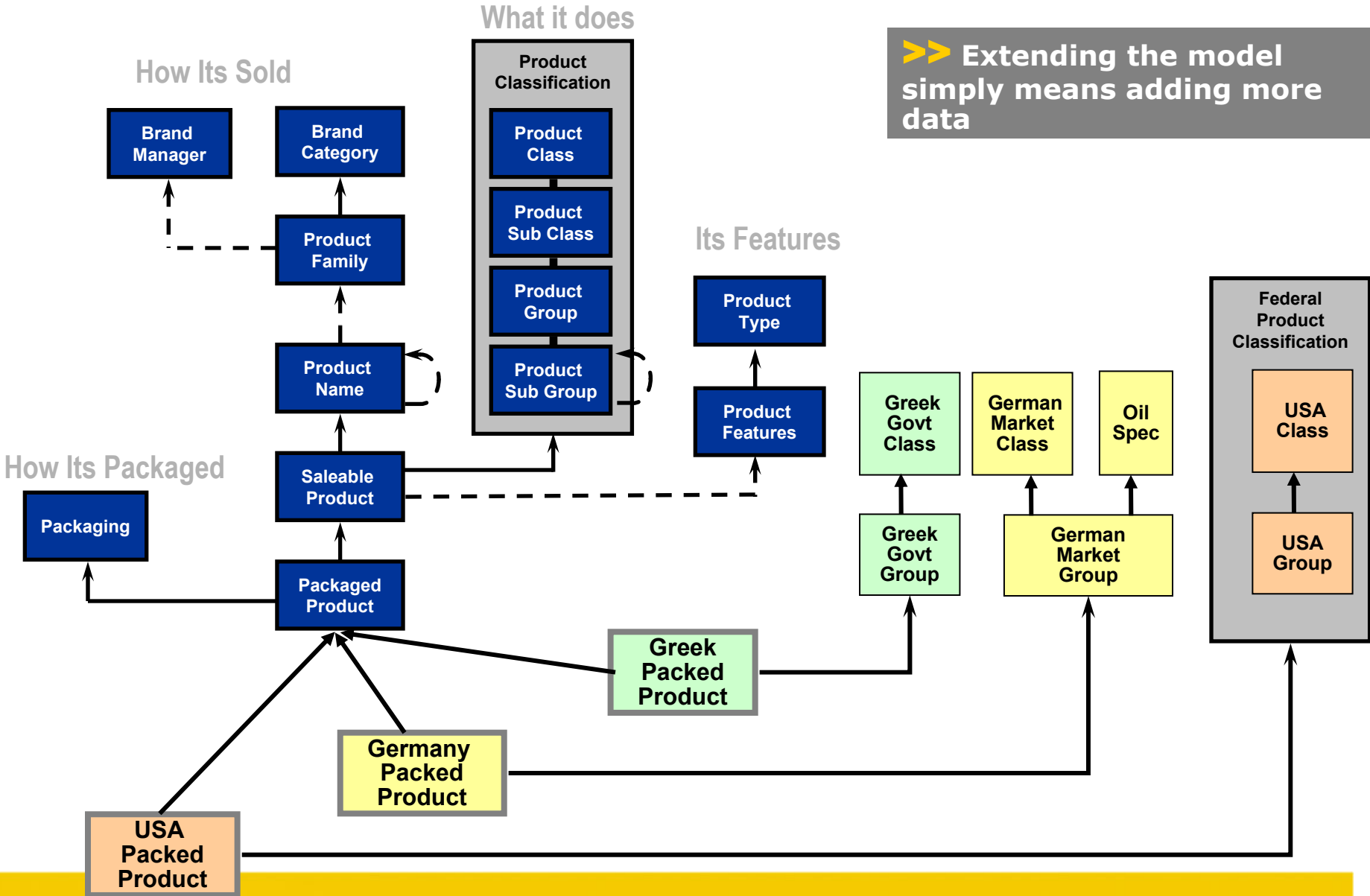


ID	Entity	Name	Type	Parent	Child
1	Object	Product Group	CBE	-	-
2	Object	Packed Product	CBE	-	-
3	Assoc Type	Grouped By	ABCBE	1	2
4	Object	Ice Cream	BE	-	-
5	Object	Mint Delight	BE	-	-
6	Assoc	-	Classify	1	4
7	Assoc	-	Classify	2	5
8	Assoc	-	3	4	5

- + Product Group
- Ice Cream
 - + Packed Product
 - + Chocolate Delite
 - + Chocolate Stick
 - + Mint Delight
 - + Toffee Surprise
 - + Vanilla Fudge
- + Sorbet

Modeling Complex Hierarchies

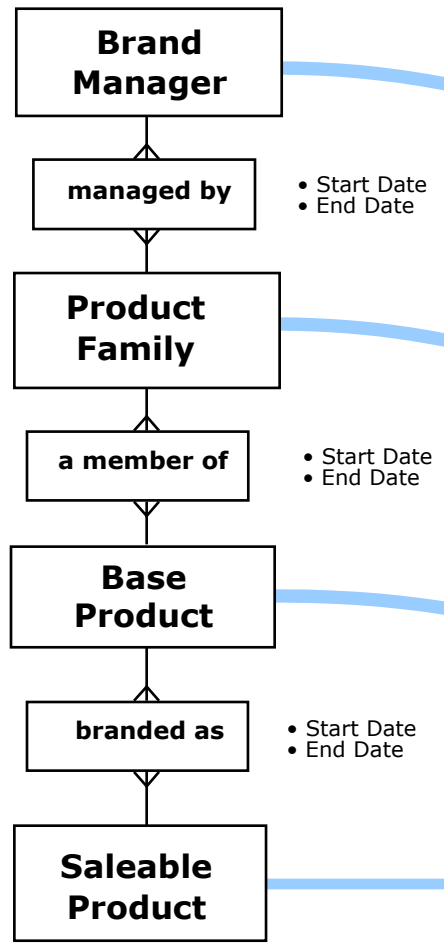
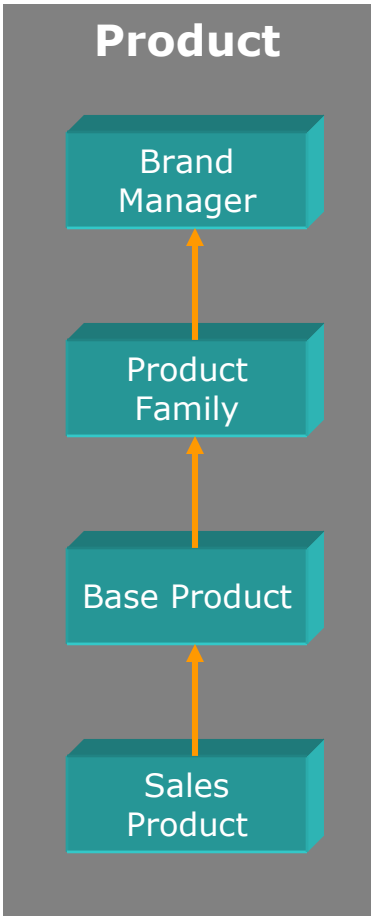
>> Extending the model simply means adding more data



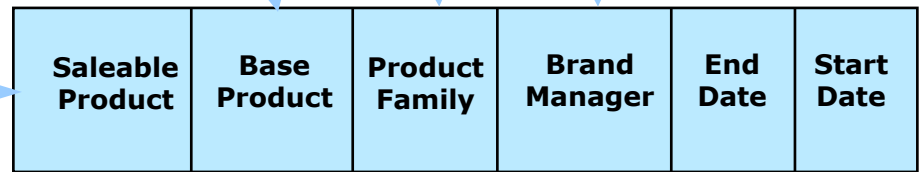
Optimized for Maintenance and Reporting

>> Logical Model

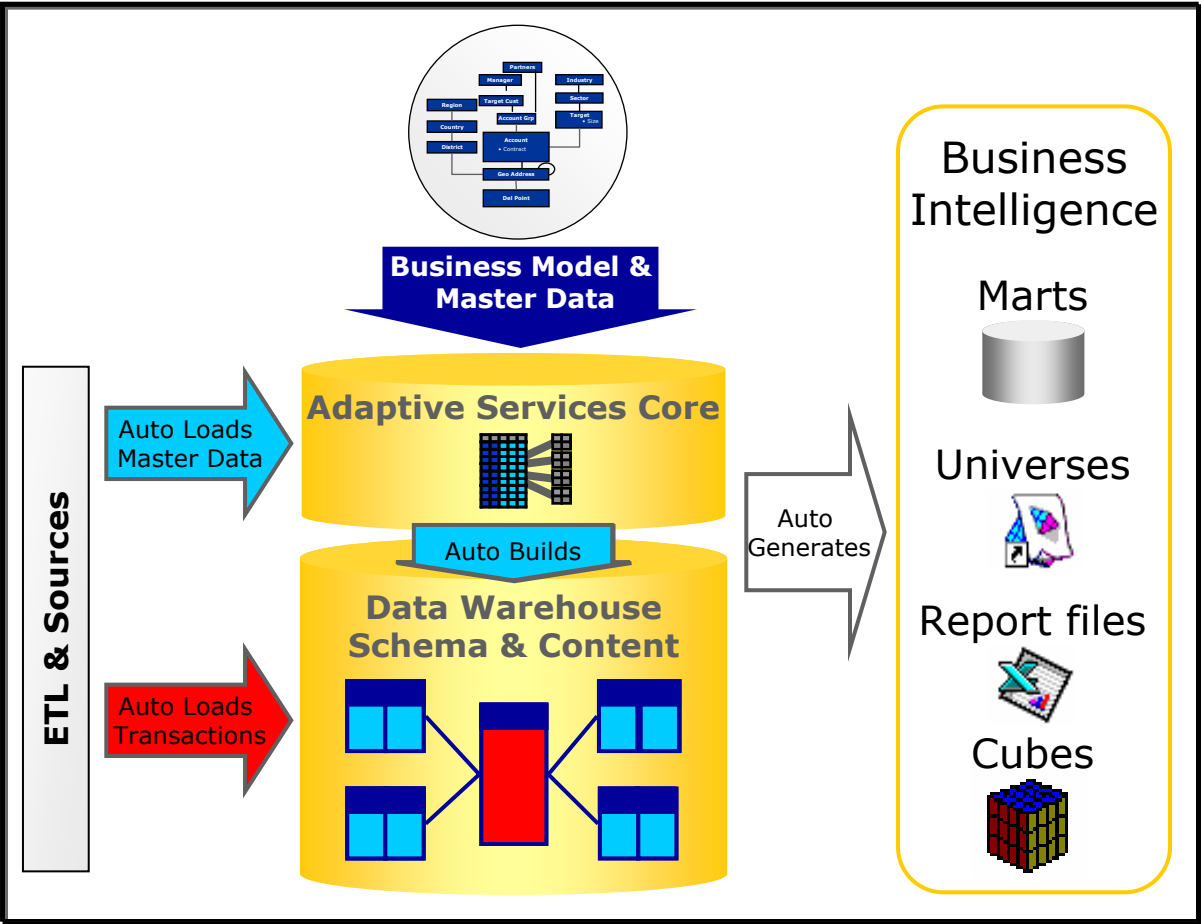
>> Star Schema



>> Automatic and Highly Optimized Generation and Maintenance of Hybrid Slowly Changing Dimensions



KALIDO® DWLM Suite: Data Warehouse Automation



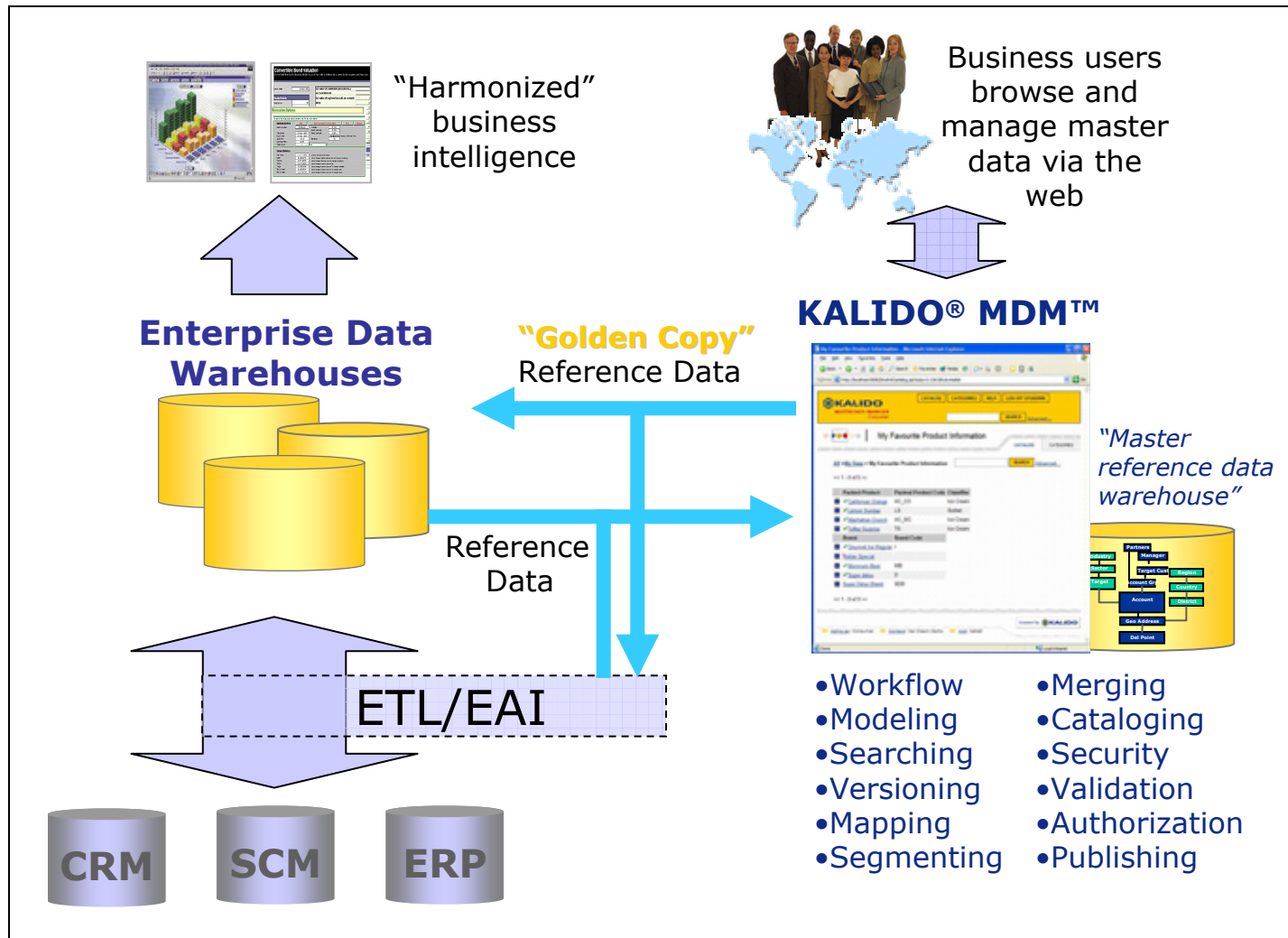
- Data warehouses, marts automatically built & maintained
- Deliver value months faster
- Empower business users with self-service

Meta Data

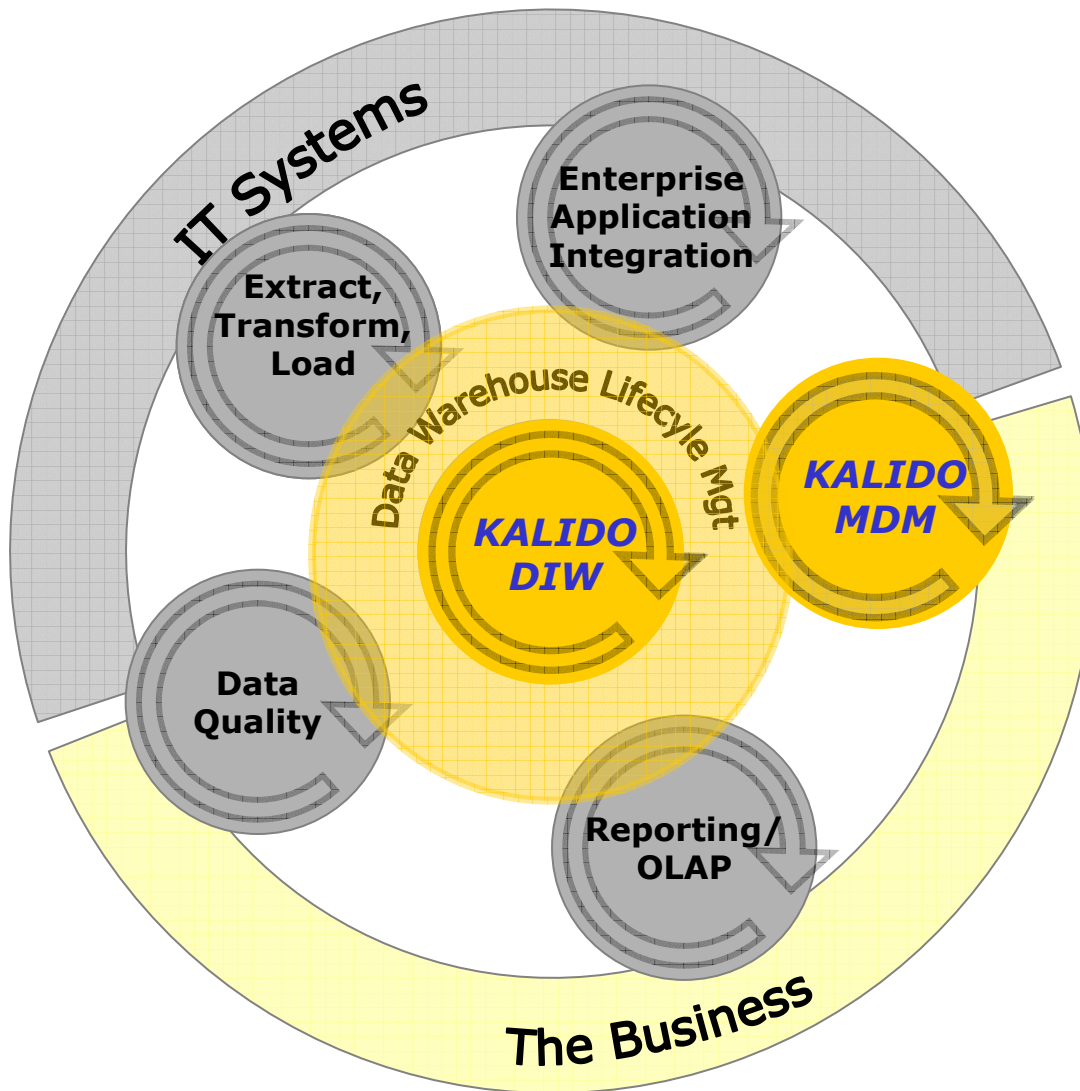
Master Data

Transactions

KALIDO® DWLM Suite: Master Data Management



Kalido Product Suite - DWLM



Dynamic Information Warehouse:

- > Full DW lifecycle management
- > Complex and changing business models
- > Time-variant data (slowly-changing dimensions)
- > Distributed DW management

Master Data Manager:

- > Central store for shared information
- > Create, manage, authorize and publish master data
- > Maintain central key master data over the web
- > Handle any type of structured data including product, customer, and meta data

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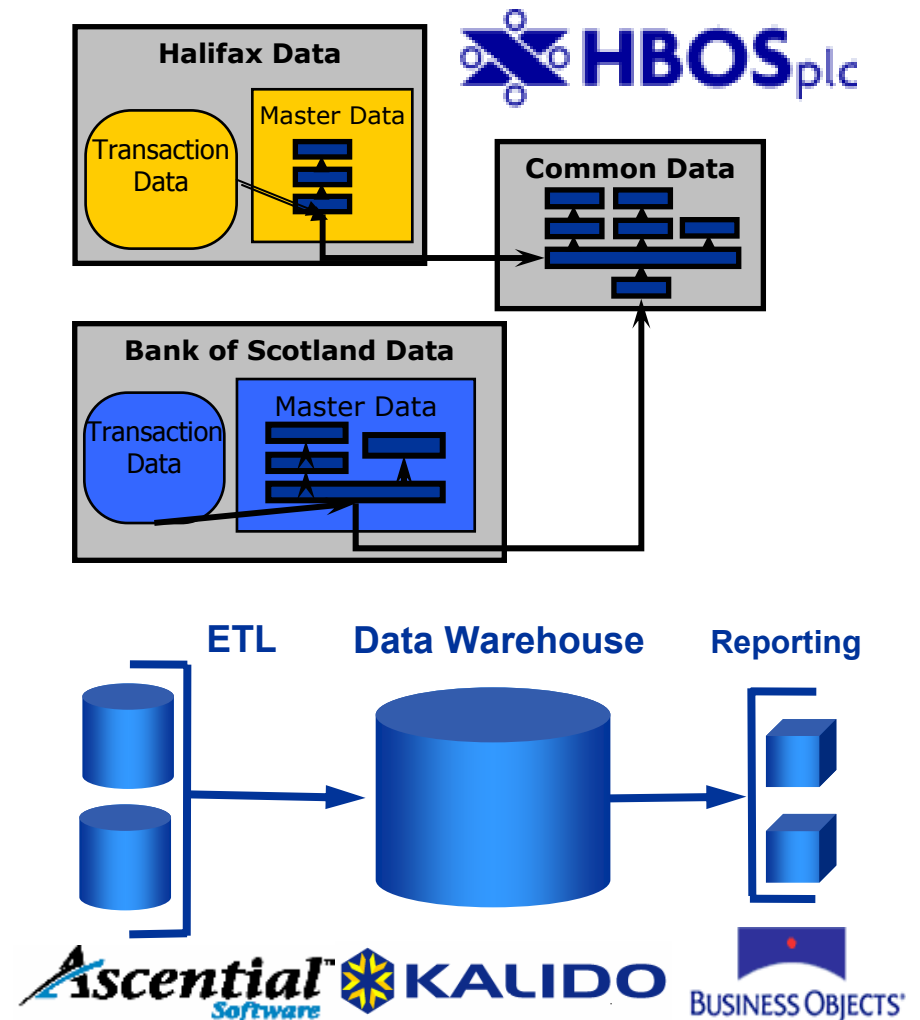
Case Study – HBOS plc.

Project

- Integrate supplier information following merger of Halifax and Bank of Scotland
- Reconciliation of inconsistent coding across disparate operational systems
- Requirement to handle on-going organizational change
- Solution – a flexible Supplier Relationship management system

Benefits

- Phase 1 delivered in 3 months
- Significant reduction in supplier database
- Substantial procurement cost savings already delivered – a key objective of the merger
- Enables management of complex suppliers and negotiations



Shell Oil Product Mgmt. Information System (OPMIS)

Project

- Global data warehouse – 96 countries
 - > Federated rollout & consolidation
- SAP, JDE and SunSystems ERP

Benefits

- Estimated Benefits : \$140M per year
 - > Margin improvement
 - > Speed of new business integration
- Consistent performance reporting & single view of customers and products
- Completed on target & within budget



“Our Intelligence Systems now accelerate insight and allow us to respond to business change quickly and with the most appropriate strategy.”

Jim Smitheman

Management Information Mgr.

Unilever Universal Information Project

Project

- Integrate global brands data
 - > Support 'Path to Growth strategy'
- Consolidate reference data
- Transaction feeds from SAP
- Staged rollout by operating company

Benefits

- Better brand data delivered to managers worldwide
- Improved supply chain performance
- Adapt to M&A activity
- Corporate transparency & memory



"With KALIDO, we manage world-wide operations data over time, and as the organization changes, this complete, consistent intelligence spurs our corporate growth strategy."

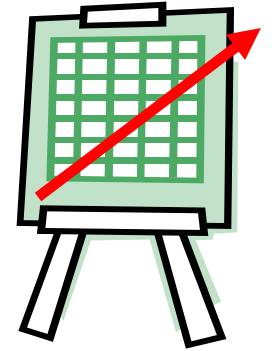
Chris Broe

Head of Unilever Information Program

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DWLM Summary



- Data warehouse lifecycle management:
 - > Lowers risk
 - > Enables performance management
 - > Delivers unprecedented flexibility and time-to-market
- Keeps the data warehouse relevant!
- Proven benefits delivered by Kalido DWLM:
 - > Philips Electronics cut DWLM cost and business intelligence latency by more than 50%
 - > Halifax Bank of Scotland drove GBP300M in procurement cost savings following their merger
 - > Cadbury Schweppes successfully integrated a major corporate merger in 8 weeks

Q&A

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