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MANAGING DATA EXPLOSION

Competitive Edge or
Colossal Migraine?

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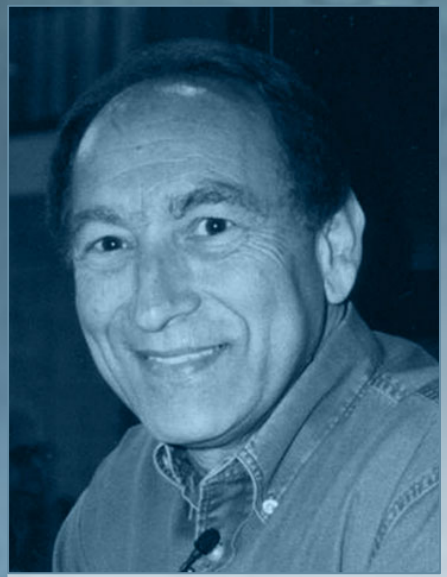

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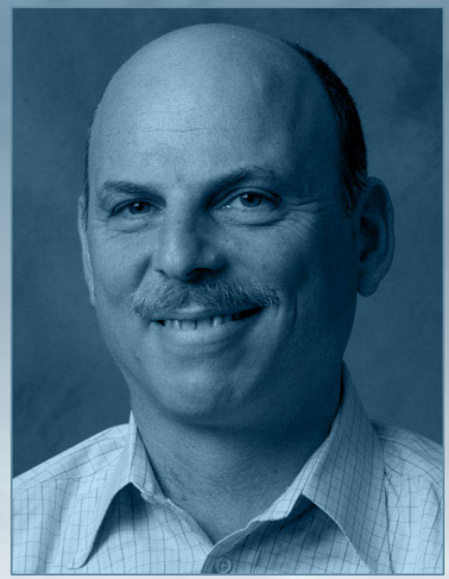
Moderator

Claudia Imhoff
President
Intelligent Solutions



Robert Rich
Product Marketing Director
Ascential™, an IBM Company

Kapi Attawar
Senior Director
Sybase

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Extreme Makeover for Your Data Management

Claudia Imhoff, PhD
Intelligent Solutions, Inc.
CImhoff@IntelSols.com
303-444-6650
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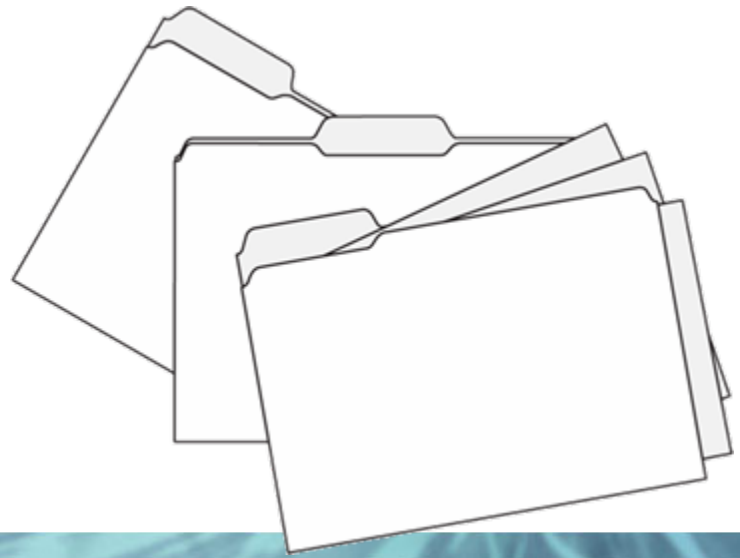
Solve your business problems with Intelligent Solutions




Topics

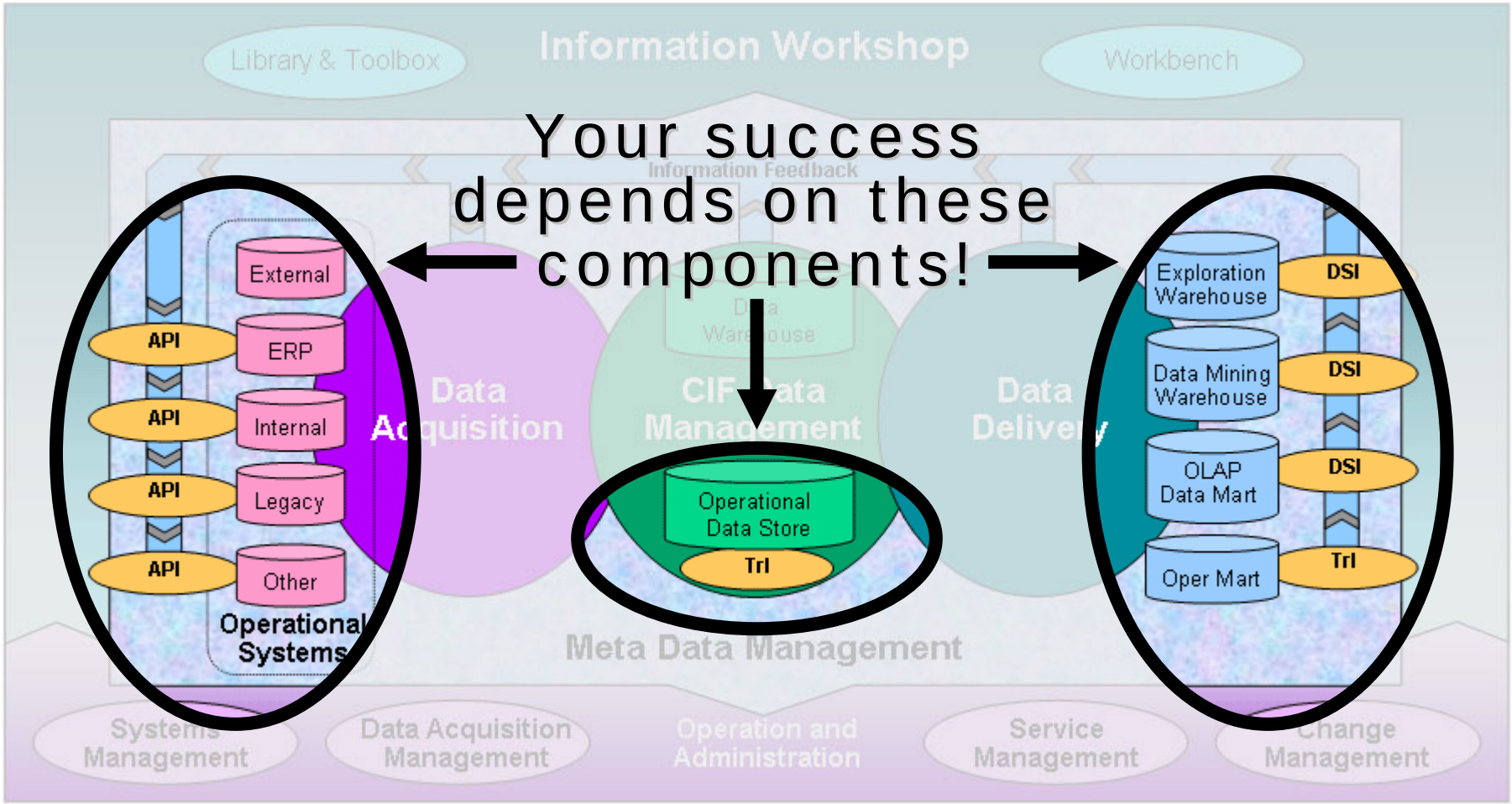
- Understanding the Business Community
- The Time Continuum
- Supporting the Time Continuum and Business Communities



Understanding the Business Community

- The Business Community has matured
  - Farmers
  - Miners
  - Explorers
  - Tourists
  - Operators
- Data for everyone is a reality if you develop a solid technological environment, starting with your architecture

Corporate Information Factory



Expanding Data Requirements

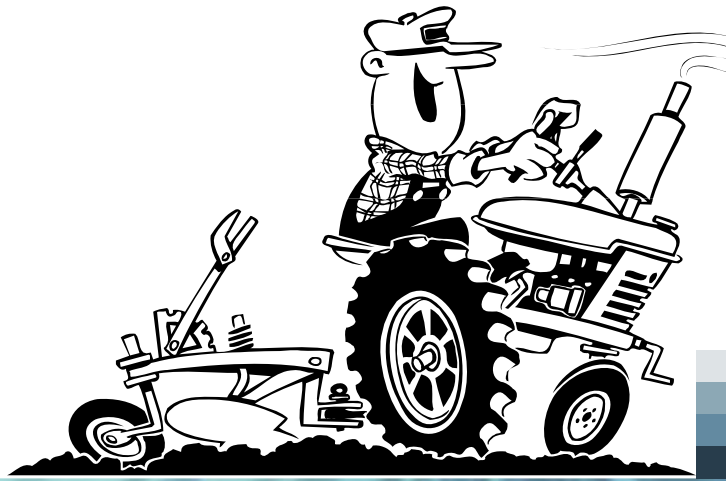
- Greatly expanding need for data causing the data warehouse, operational data store and even operational systems to expand:
  - Real time data needs – increasing ODS data
  - Compliance – increasing both DW and ODS data
  - RFID – increasing ODS data
  - Click stream analysis – increasing DW data
  - ATM, CDR, POS transactions – increasing operational systems, ODS and DW data
- These expanding pieces of data must be accessible to all business users

Farmers – **Clear Sighted**

- Monitor effect of decisions on business by tracking key performance metrics
- Provide others with feedback on effectiveness of predictions
- Demonstrate a fairly predictable pattern of usage
  - They know what data they want, how they want it displayed, when they want it and in what media
- See the world in terms of dimensions (product, geography, time, etc.) and metrics (usage, counts, revenue, costs, etc.)

Examples of Farmers

- Sales Analysts
- Financial Analysts
- Market Campaign Managers
- Accounting Analysts



Explorers – **Innovative**

- Endeavor to understand what makes the business work by looking for hidden meaning in corporate data
- Have little or no idea what to expect prior to query execution
  - An “out of the box” thinker
  - Launches large and often unpredictable queries
  - Often receives no results back
  - Occasionally receives incredible insight
- Are very knowledgeable about content of data within and outside of the business
- See the world in terms of data and data relationships

Examples of Explorers

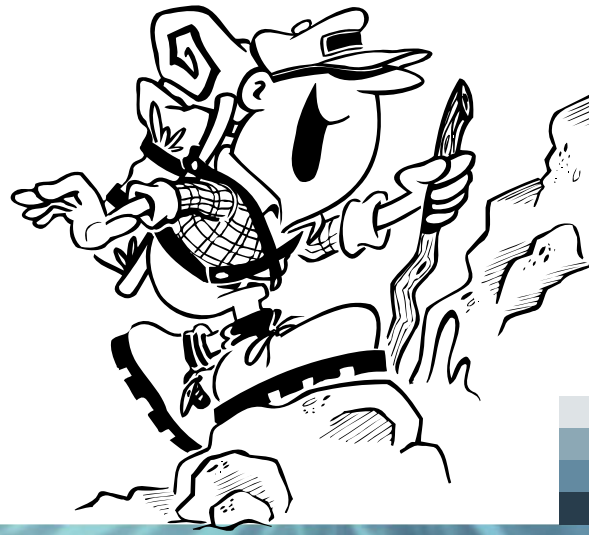
- Insurance Actuaries
- Process Control Engineers
- Market Research Analysts

Miners – **Thorough**

- Scan large amounts of detailed data looking for confirmation of a hypothesis or for suspected patterns
- Have a good idea what to expect prior to query execution
- Operate on a base of data that has been preconditioned for analysis
- Demonstrate a reasonably predictable pattern of usage
- Interested in finding meaningful relationships in transactions

Examples of Miners

- Expert Marketers
- Risk Controllers
- Logistics Specialists
- Statisticians



Tourists – **Generalists**

- Have a broad business perspective and are aware of the data produced by the business
- Use the Corporate Information Factory frequently
- Cover a breadth of material quickly, but in little depth
  - Are accustomed to a consistent graphical user interface
  - Need the ability to search large banks of data without a lot of typing
- Demonstrate unpredictable patterns of usage
- See the world in terms of business functions

Examples of Tourists

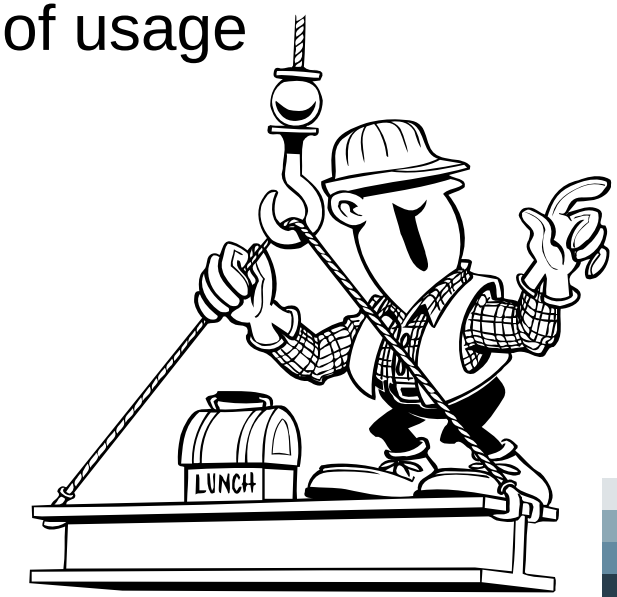
- Executives
- Managers
- Casual Users

Operators – **Focused**

- Use the intelligence derived by Explorers and Farmers to improve business conditions
- Provide increasing pressure on the Corporate Information Factory in terms of availability, data freshness and query performance
  - Need fresh, detailed, day-to-day information
  - Expect transactional performance and response times
- Demonstrate a fairly predictable pattern of usage
- See the world in terms of process

Examples of Operators

- Customer Support Representatives
- Manufacturing Line Managers
- Inventory Control Managers

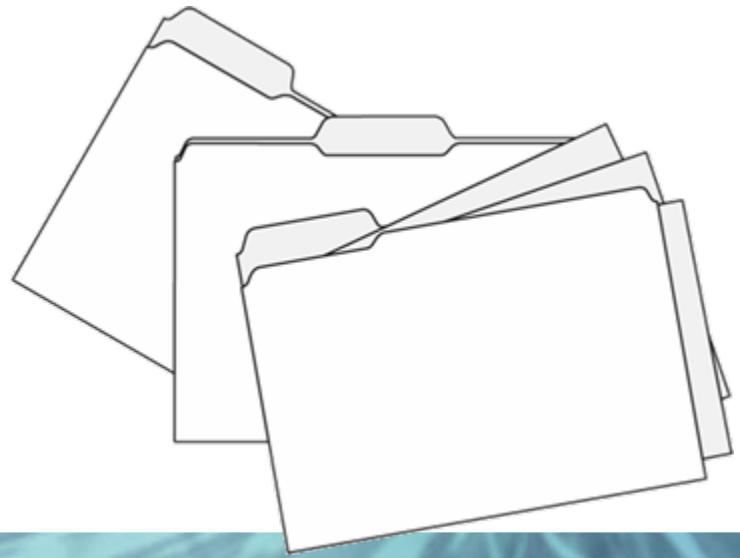


Expanding Communities

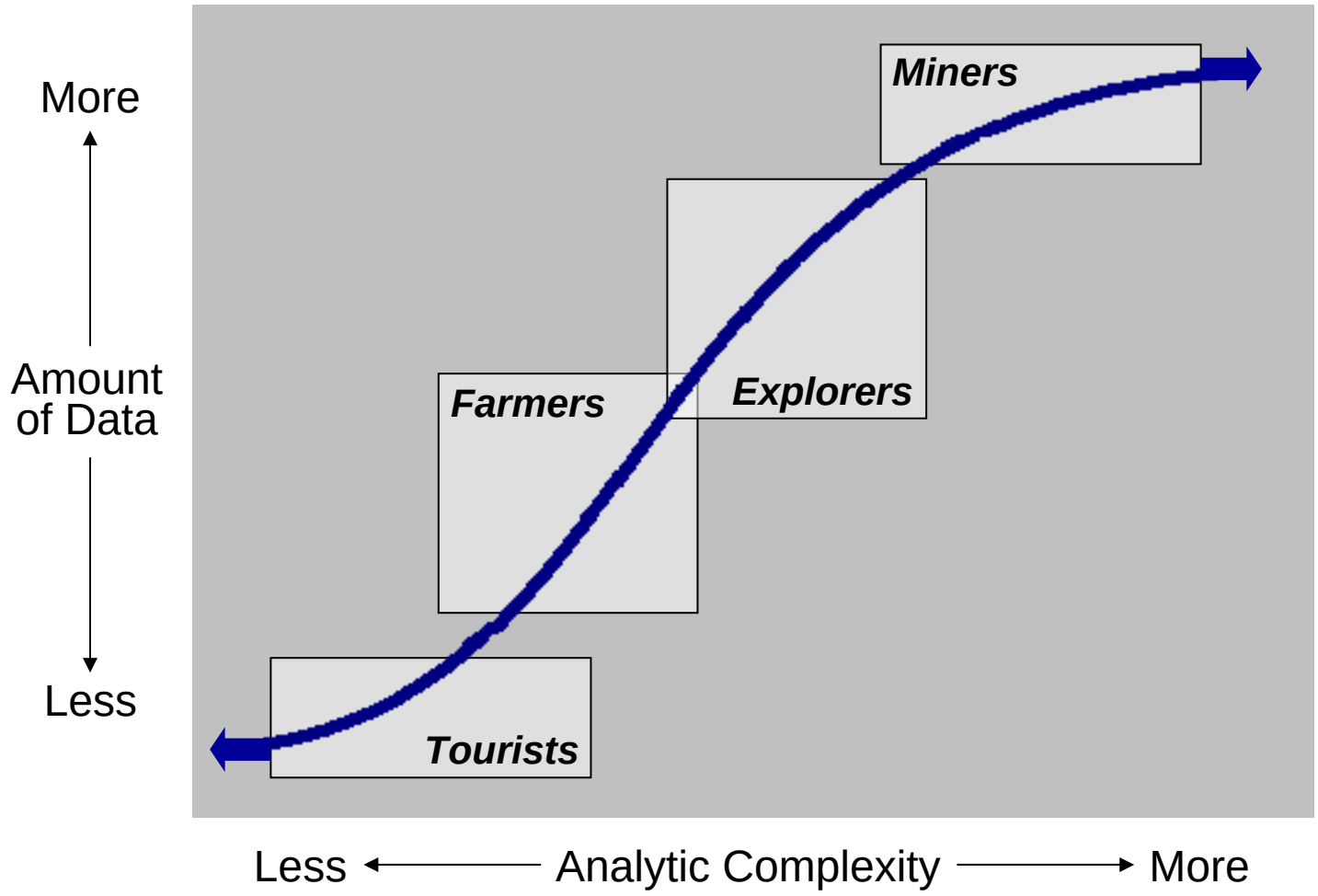
- New users
  - Mobile Workers
  - Virtual Workers
- Non-traditional workers
  - Aliens?
  - Butterflies?
  - Bar-hoppers?

Topics

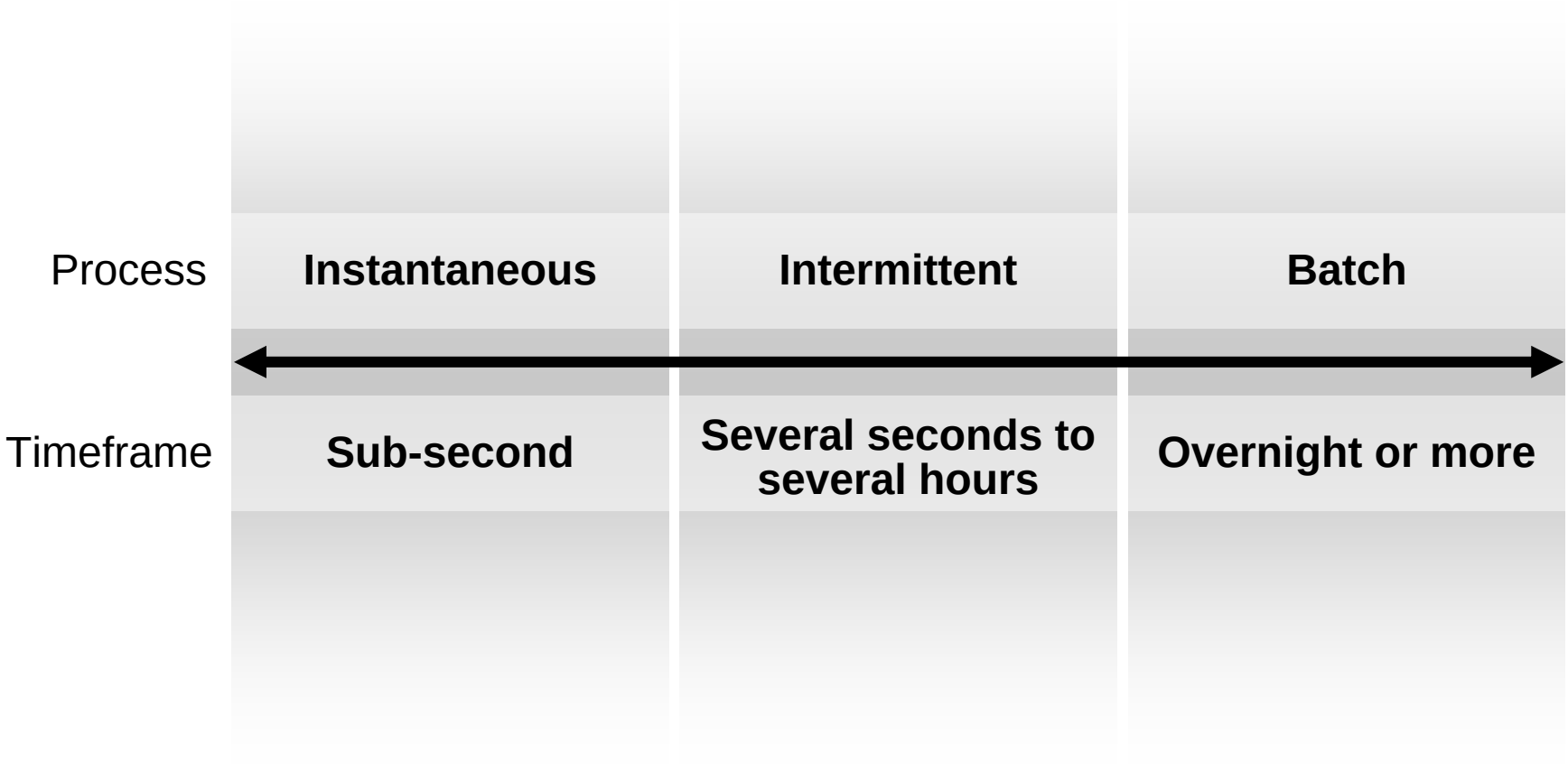
- Understanding the Business Community
- The Time Continuum
- Supporting the Time Continuum and Business Communities



BI User Curve



The Time Continuum



The Time Continuum

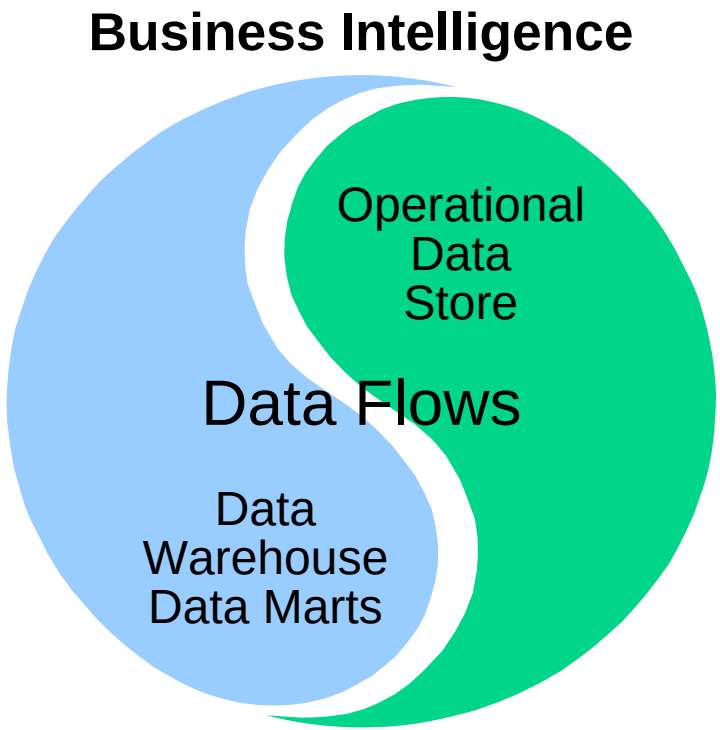
- A mix of instantaneous, rapid intermittent, or longer batch-type processes delivering data at different delivery timeframes
  - Sub-second to a few seconds
  - Several hours
  - Overnight or longer intervals
- Examples of “real time” delivery
  - Securities trader needs immediate access to stock market data
  - Credit card approval appears to have immediate access to customer data but really takes a few seconds to get approval
  - Order fulfillment information usually generated once or twice a day
  - Mailing lists generated once a month or longer depending on timing of marketing campaigns
- To employees using them, these seem to be real-time
  - In reality, applications use mixtures of real-time, sporadic and historical data delivery processes = Right time

BI Technologies

- Each technology has its place in BI
  - Data warehouse and data marts – historical analyses and predictive trends, understand what has happened
  - ODS – integration of current events and ability to take quick action

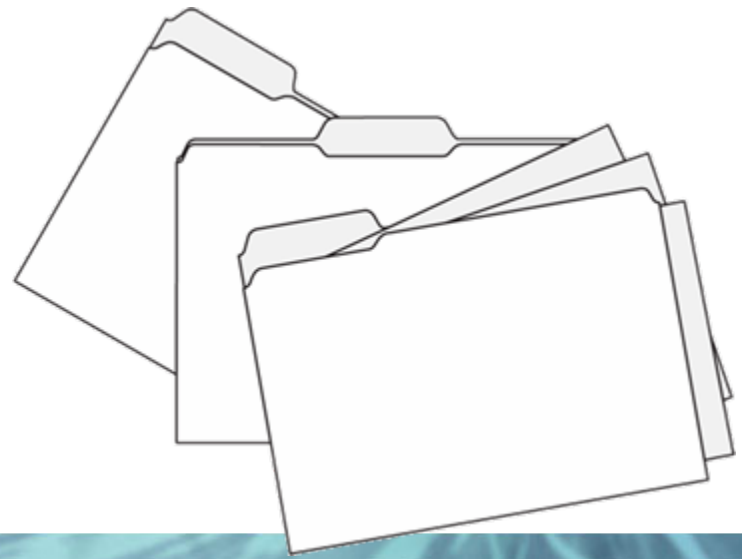
BI must have both halves

Data flows from one environment to the other, adding a robust view to that environment

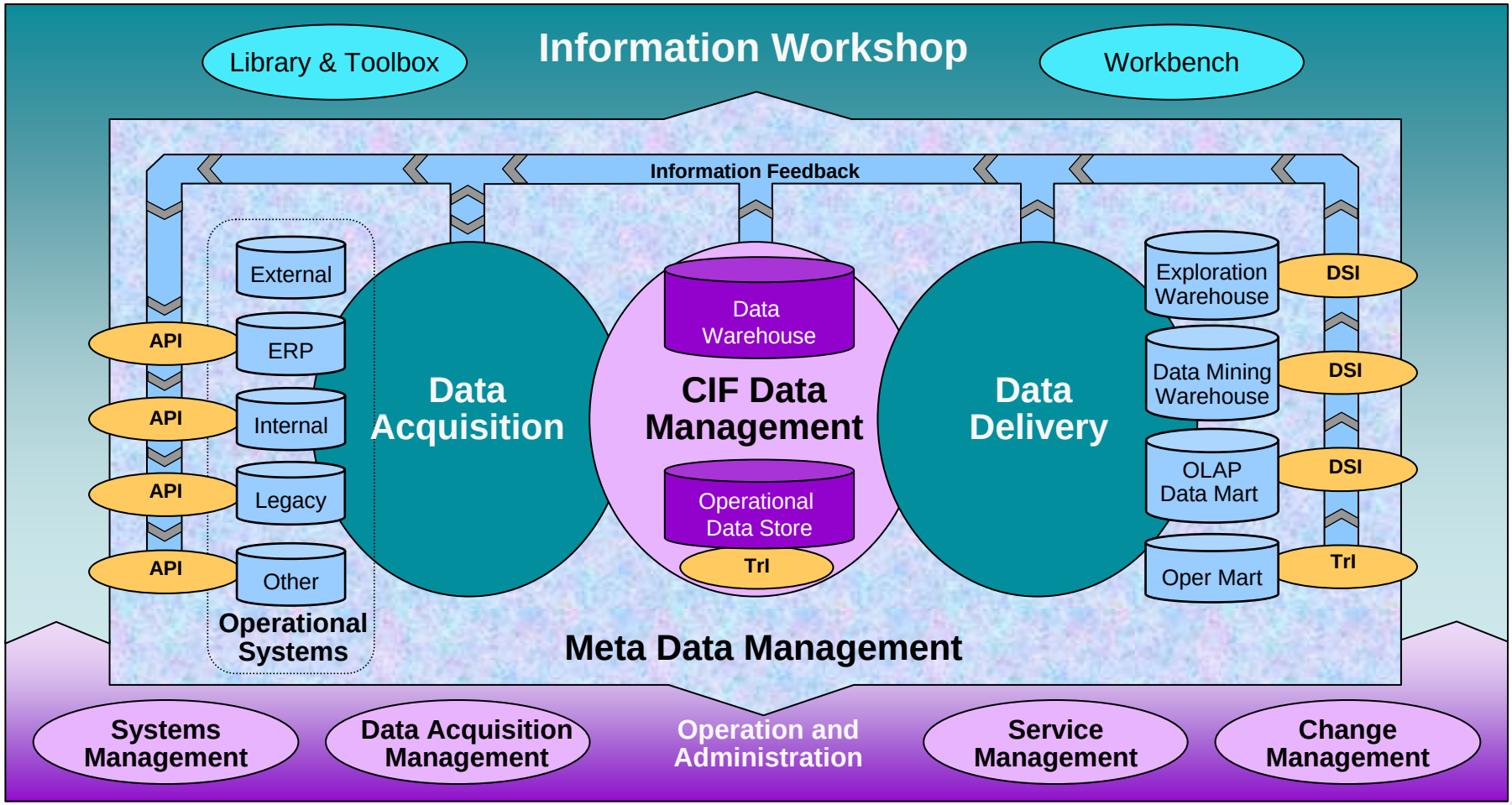


Topics

- Understanding the Business Community
- The Time Continuum
- Supporting the Time Continuum and Business Communities
  - The Architecture
  - Mask the technological complexity where possible
  - Reduce the complexity of the access tools
  - Remove the barriers to information



Corporate Information Factory



Mask Technological Complexity

- Business community should not have to understand the CIF to obtain BI
  - Study their access methods and needs
  - Develop appropriate dashboards, portals or other interfaces according to these needs
  - Monitor community's usage patterns and revamp, revise the interface as needed
- Create a workbench based on workflow for given activities
  - Bring together appropriate BI and operational capabilities to support each workflow
  - Remain flexible

Reduce Access Tool Complexity

- Don’t use a Ferrari when a Volkswagen Bug will do
  - Simple user needs require simple interfaces
- Choose tools that will grow in complexity as the need arises
  - Bring in more capabilities when definite need has been identified
- Don’t assume that one tool will fit all users
  - Will eventually need one tool in each major usage category
    - Query and reporting – simple sets of data with simple reporting tools
    - Multidimensional analyses – stars or cubes with OLAP engines
    - Data mining – unbiased sets of data with intelligent agents
    - Exploration – massive amounts of data with specialized databases for performance
    - Others?
  - BUT — walk before you run…

Remove Barriers to Information

- THINK SIMPLE!
  - The vast majority of users have very simple BI requirements
    - Study their MBOs
    - Understand KPIs and present them in a simple format
    - Resist the urge to create custom cubes
- Don’t try to load a single data mart design with every possible query
  - Simplify designs to just the needed bits
  - Simplify the administration of these capabilities
- Develop a distribution mechanism
  - Publish available BI capabilities, allow business community to subscribe to what they need
  - Create an SOA environment

Summary

- New types of workers
  - Mobile workers
  - Virtual workers
- New needs for data
  - “Right time” data
  - High availability of data
  - Appropriate data
- For BI to reach everyone, you need to:
  - Understand the skills and needs of the business community
  - Determine the time continuum for each business need
  - Set up proper technological environment

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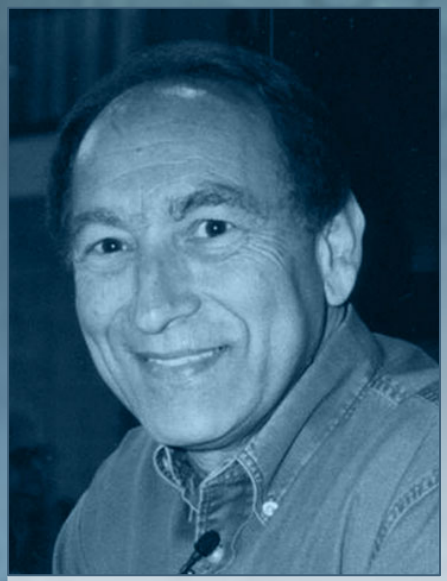

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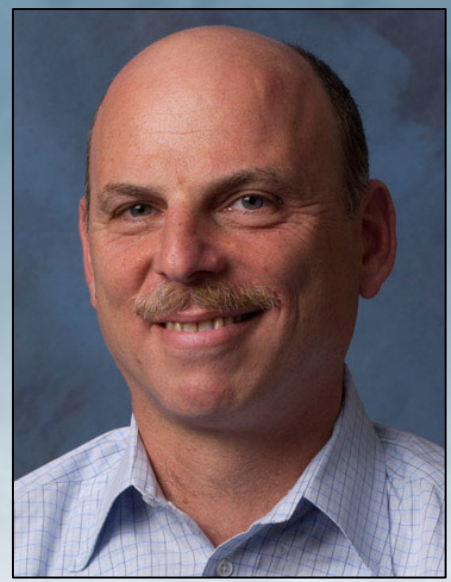

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Product Marketing Director
Ascential™, an IBM Company

Kapi Attawar
Senior Director
Sybase

SYBASE
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The Crucial Role of Data Integration for Master Data Management

Robert Rich

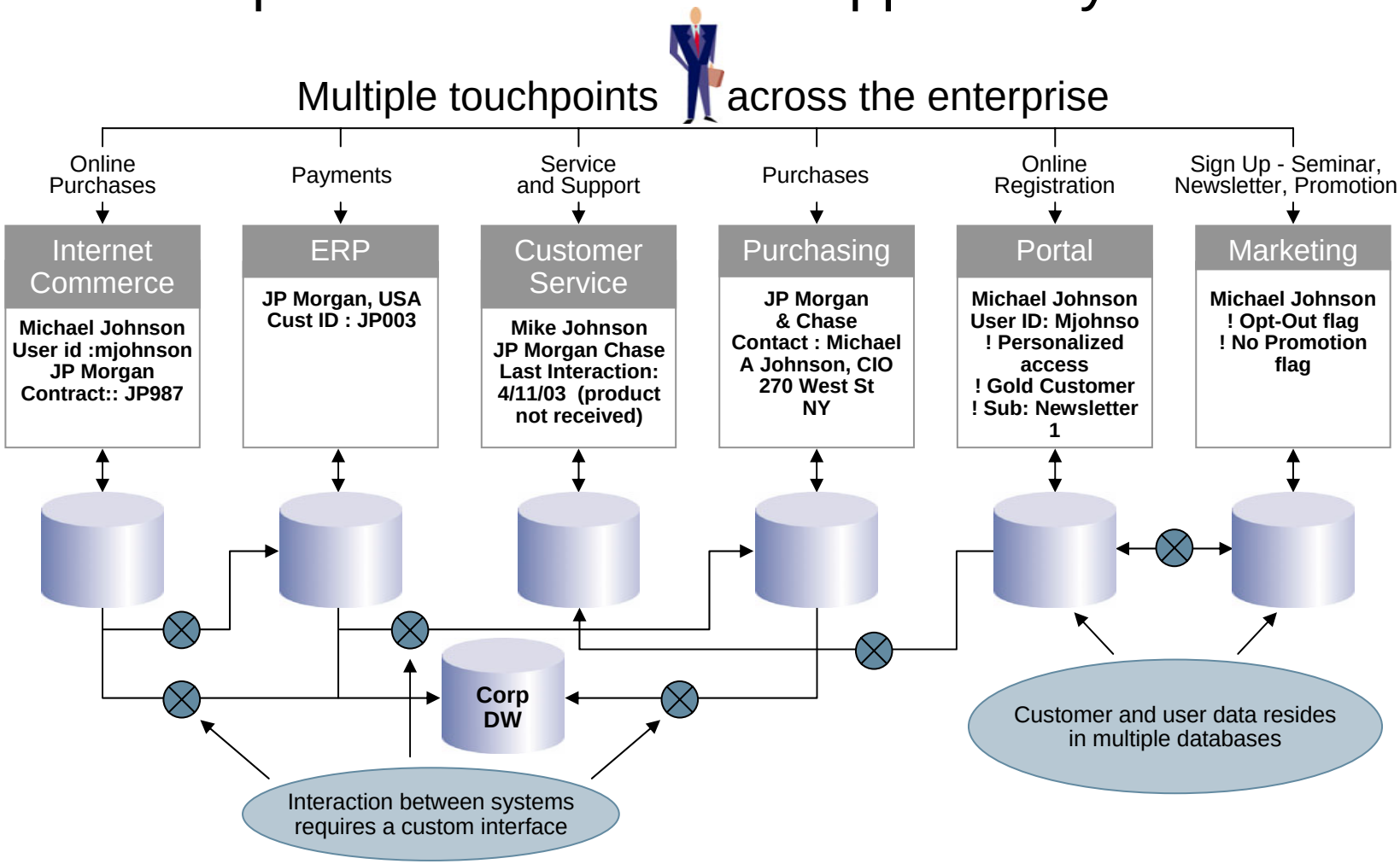
Product Marketing Director
Ascential™, an IBM Company

Challenges managing master data continue to grow

- Exponential growth in data creation and transmission
- No enterprise business application/suite has become the “system of record” for master data in the enterprise
- Data quality emerges as a legitimate business issue driven by interoperability and compliance requirements
- The end user display for enterprise applications continues to evolve as browser/portal application interfaces drive requirements for more discrete data sets to be delivered in real time with quality assured

“Do you know your customers?

Common expression of the MDM opportunity



Root cause analysis: inconsistent "master" data across the enterprise

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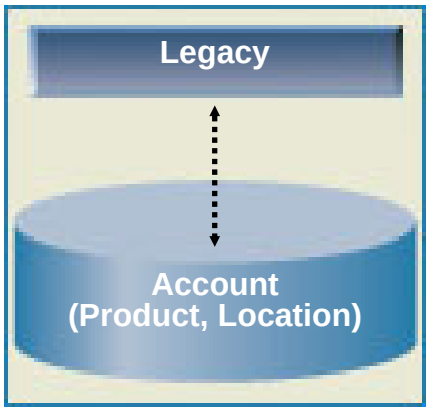
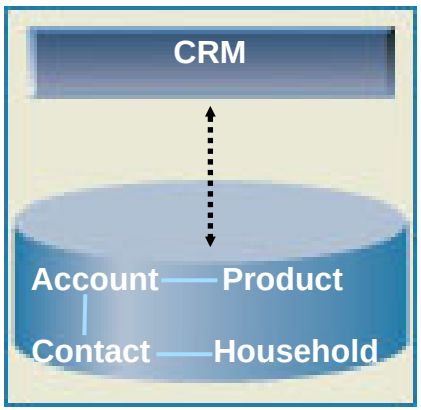
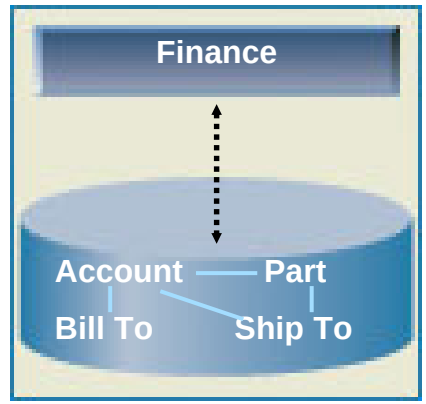
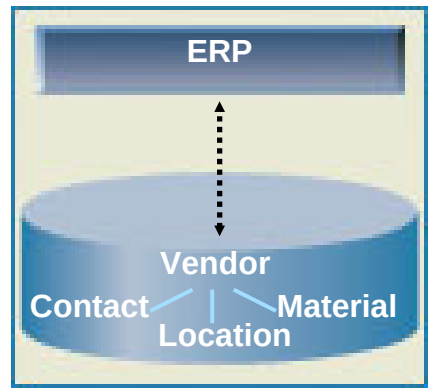
Different:





- **Data values** that uniquely describe a business entity used to tell one from another (customer name, address, date of birth…)
- **Identifiers** assigned to each unique instance of a business entity
- **Relationships** between business entities (two customers "householded" together at the same location)
- **Hierarchies** among business entities (parent company owns other companies)





Master data definitions

Master Data

The facts describing your core business entities: Customers, Suppliers, Partners, Products, Materials, Bill of Materials, Chart of Accounts, Locations and Employees

Master Data Management

The business process, technical and data integration architecture to create and maintain a “system of record” for core business entities across disparate applications in the enterprise

Master data impacts the enterprise

- Effective master data management is the foundation for enterprise data integration
- MDM (or lack of) impacts major business initiatives across the enterprise:
  - Supply chain collaboration and item synchronization
  - Inventory consolidation
  - Single view of a customer or supplier
  - ERP Implementations
  - ERP instance consolidation
  - IT System renovation
  - Consolidation resulting from M&A activity
  - Enterprise Data Warehouse (EDW) and Business Intelligence (BI)
  - Compliance and Regulatory projects (SOX, HIPAA, ACCORD...)

Where is your master data??

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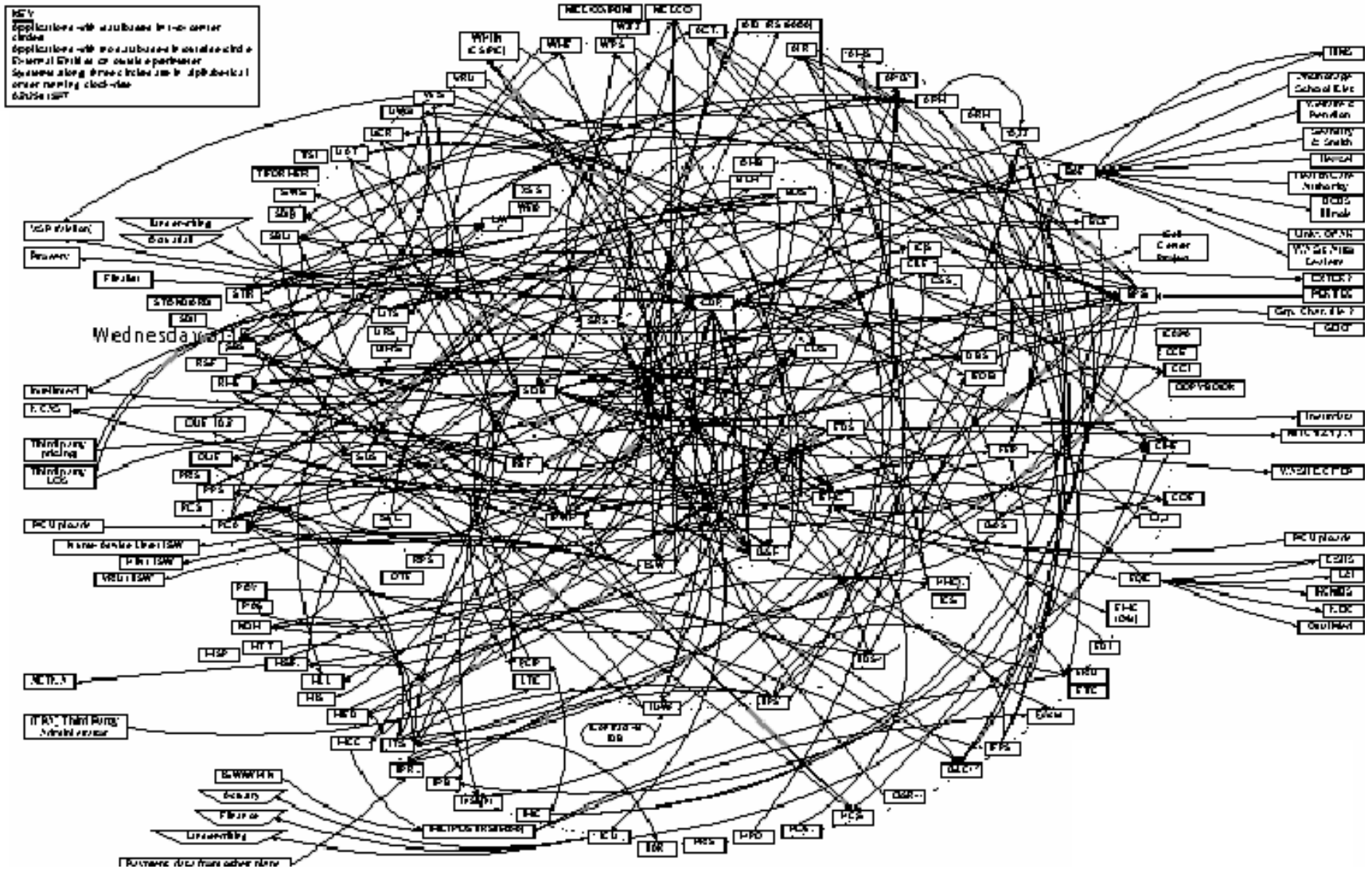


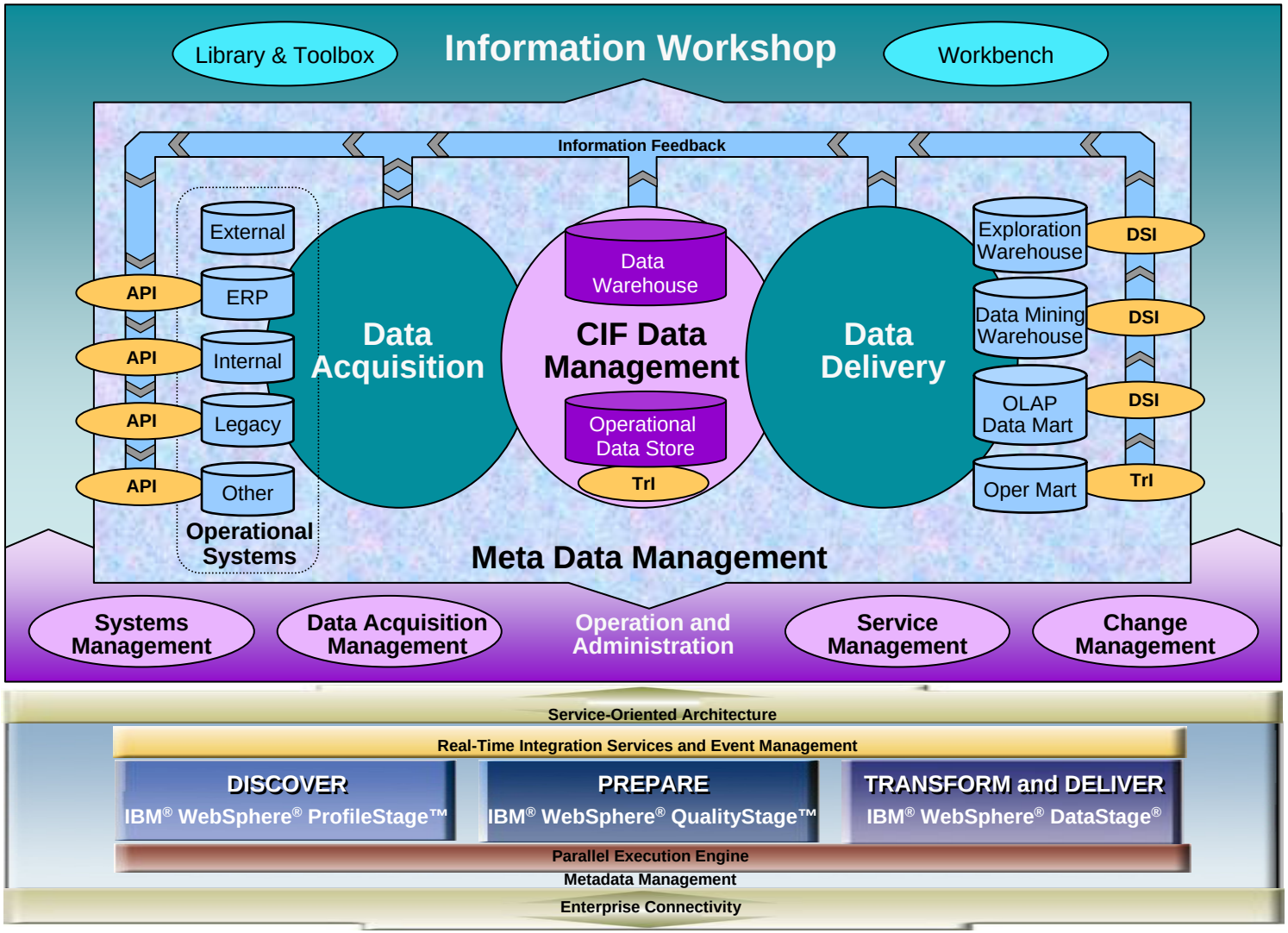
Master data quality myths

- We know our data
- Source documentation exists and is accurate
- Our metadata accurately describes the data
- Our users use the systems appropriately
- The business rules haven't changed over time
- Subject matter experts are always around
- Project scope provides adequate development time

Master data realities

- Most enterprises are running distinct sales, services, marketing, manufacturing and financial applications, each with their own “master” reference data
- No one system is the universally agreed-to system of record
- “Old” data must be “re-purposed” for new systems
- The Enterprise Application Vendors do not guarantee a complete and accurate integrated view – they point to their dependence on the quality of the raw input data
- Neither do the Systems Integrators!
- It’s not a data entry problem, it’s a data integration/ reconciliation problem
- It’s too late and too expensive to fix the data after implementation

Data integration support for the corporate information factory



Master data management enterprise-level solution

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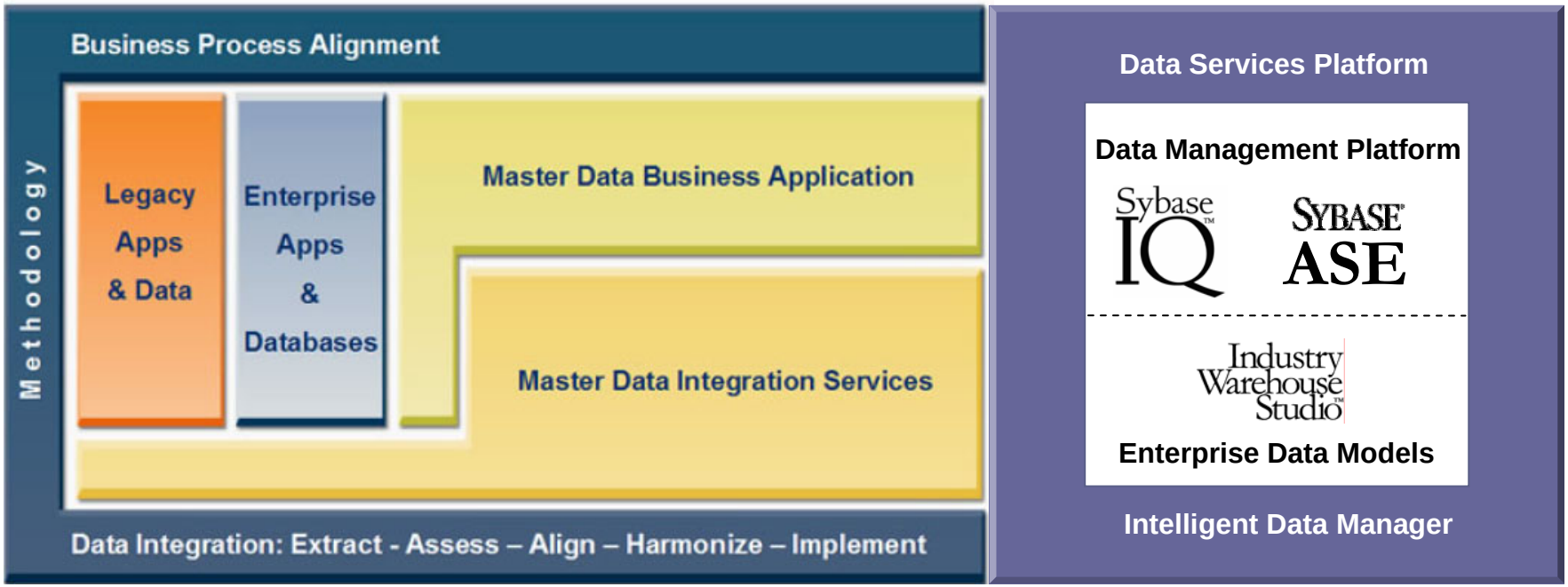
IBM

Data Integration Platform

SYBASE

Information Management Platform

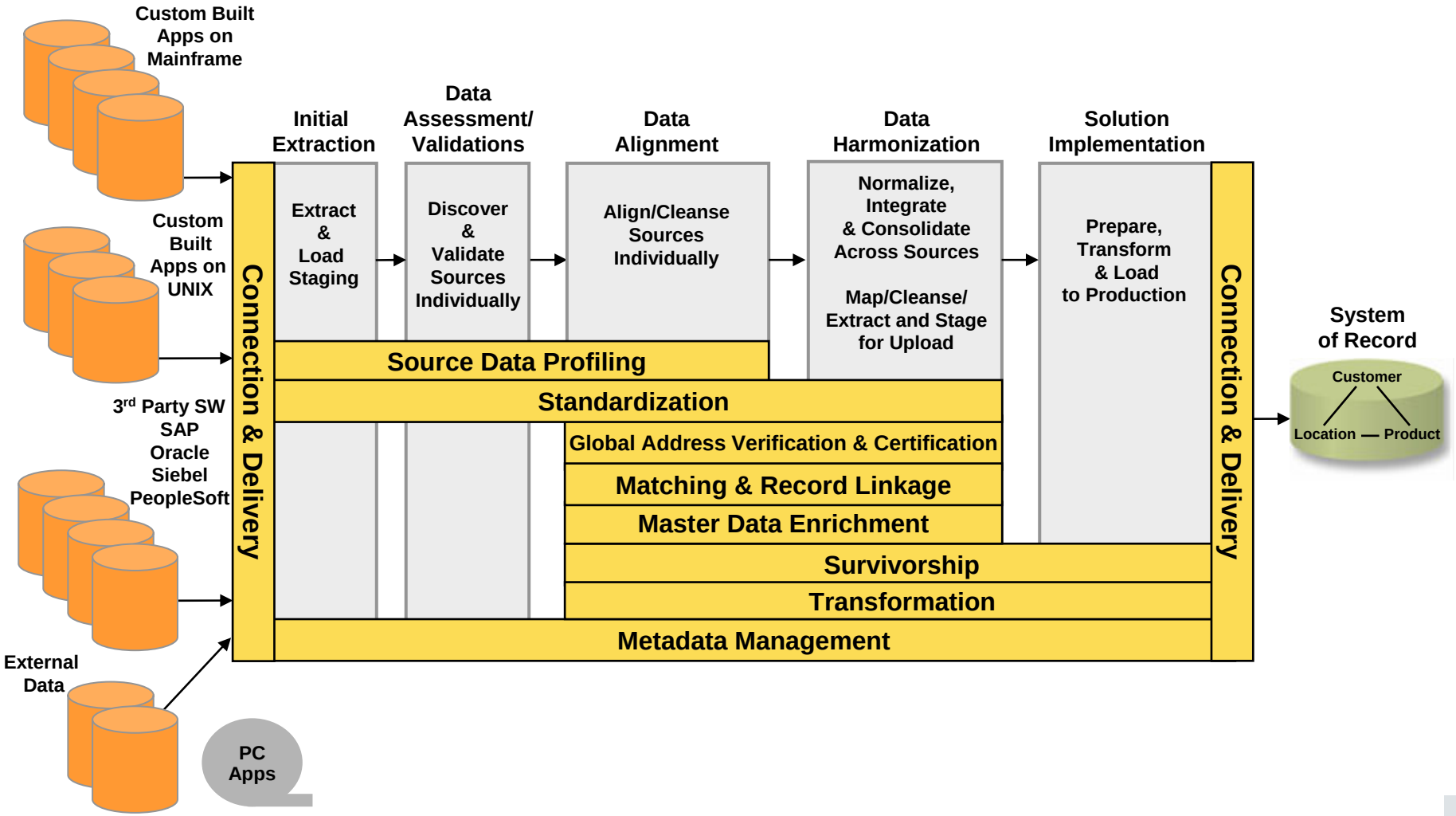


Services Led Methodology for MDM

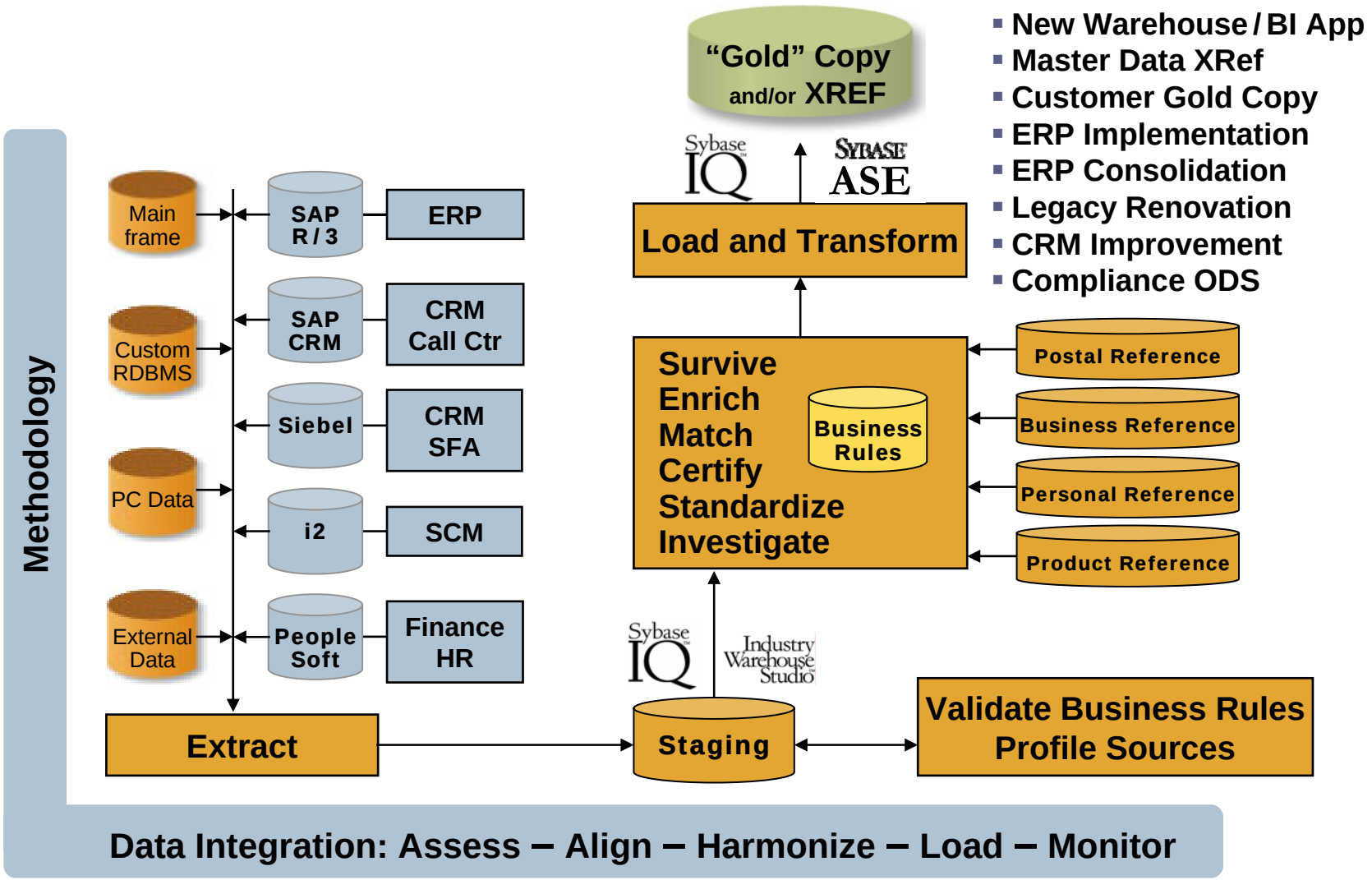
Master data management functional stack

Configured End User Interface Search & Review Master Data Business Transactions Key, Index & Hierarchy Management Application Data Model/Views	Master Data Business Application
Source Data Profiling Ongoing Data Quality Monitoring Standardization Global Address Verification & Certification Matching & Record Linkage Master Data Enrichment Survivorship Transformation Connection & Delivery Metadata Management	Master Data Integration Services IBM
Data Model Database Management System Messaging & Communications Infrastructure & Tools	SYBASE The Enterprise. Unwired. Master Data Infrastructure
Scalable Hardware Platform	IBM, HP, SUN

Master data deployment methodology



MDM deployment

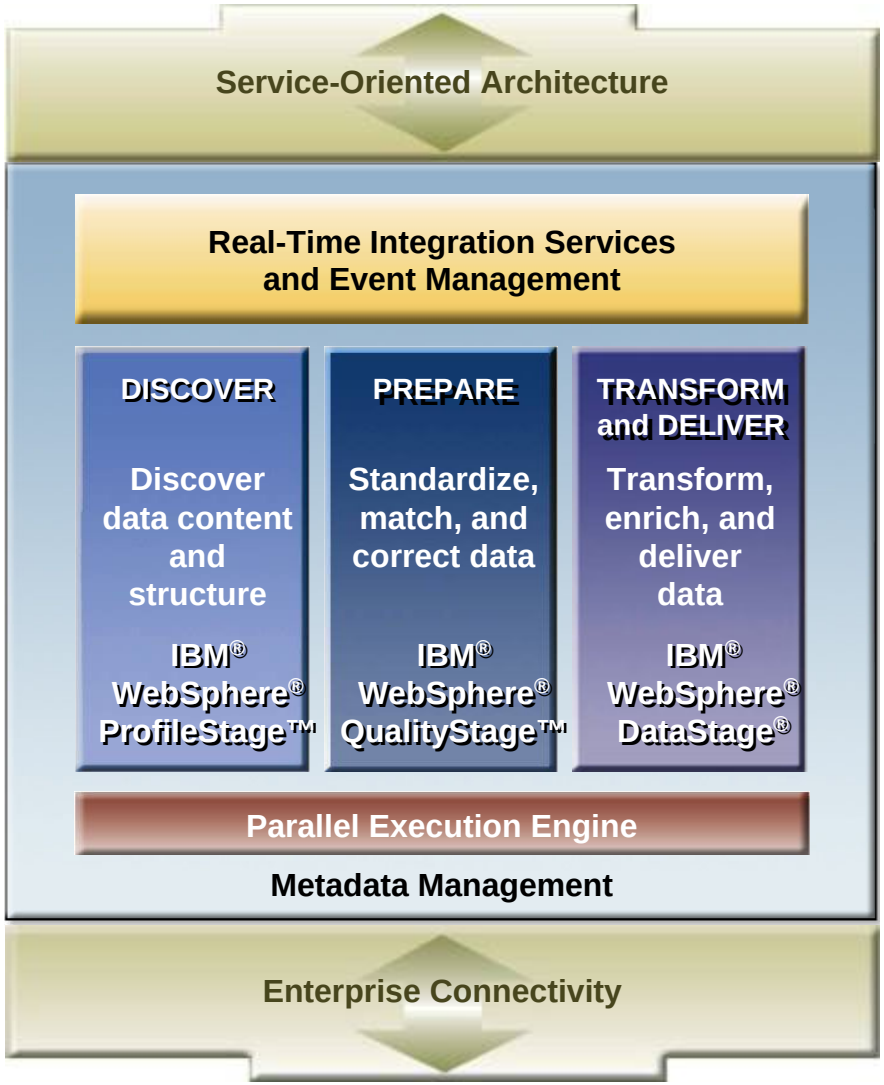


- New Warehouse / BI App
- Master Data XRef
- Customer Gold Copy
- ERP Implementation
- ERP Consolidation
- Legacy Renovation
- CRM Improvement
- Compliance ODS

Business benefits of high-quality master data

- Enterprise “system of record” establishes master data as a corporate asset
- Help reduce risk and complete business imperatives quicker (or enable them to even happen!)
- Make accurate decisions faster
  - One version of the truth drives the dimensions for BI
- More effective customer relationships
  - Better segmentation and targeting
- Most cost effective buyer-seller relationships
  - Enable volume procurement consolidation and negotiation
- Enable compliance with standards and regulatory requirements

The IBM solution



IBM® WebSphere® Data Integration Suite

- Open, service-oriented architecture
- Integrated data profiling and data quality
- Complex data transformation and routing
- Reusable components and rules
- Unlimited performance with linear scalability
- Enterprise metadata management
- Anytime, anywhere connectivity
- Industry standard compliant (XML, EDI, JMS, JCA)
- Industry-ready integration solutions

Complementary to BPM, EAI and EII Technologies

The IBM advantage

Time consumed in project lifecycle with traditional, custom-coded or point-product integration

Projects can run as long as 1-3 years from start to finish

WebSphere Data Integration Suite

- Faster time-to-market
- Helps lower costs
- Reduced risk
- Improved productivity

Time-to-Value

Impact on Strategic Objectives

Users can focus on integrating their enterprise, not integrating the integration tools

IBM customers – success stories

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JPMorganChase	DHL	Aetna
Business Performance Management	CRM Rollout	Subscriber System of Record
Rockwell Automation	OUTOKUMPU	Celanese
Operational Customer Master	Global Parts Master	SAP Consolidation
GMAC	BOMBARDIER	Scotts
Customer/Policy Cross Reference	Single View of Parts	Supply Chain Optimization
Tyson	Ministry of DEFENCE	CE
Single View for Global ERP Implementation	Consolidated Inventory Items and Suppliers	Consolidation / Single View of Customer

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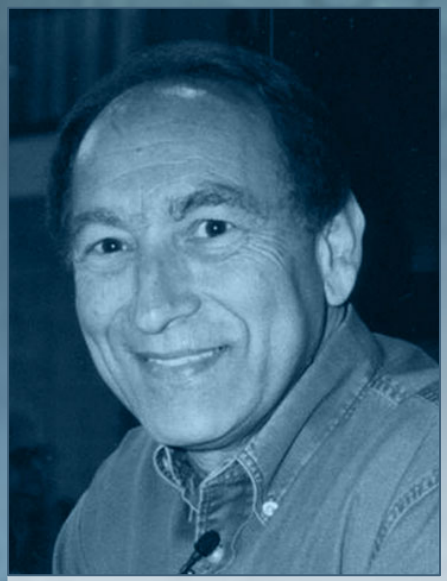

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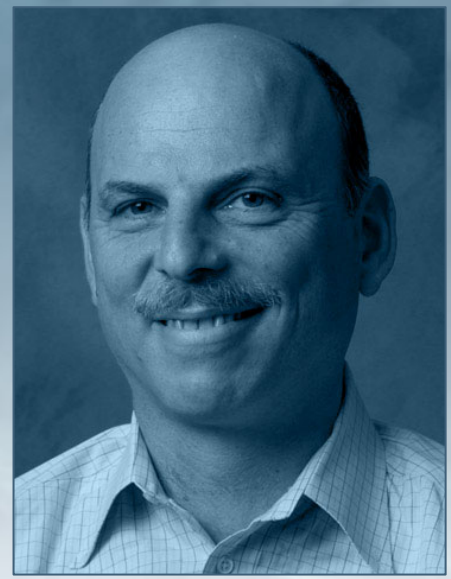

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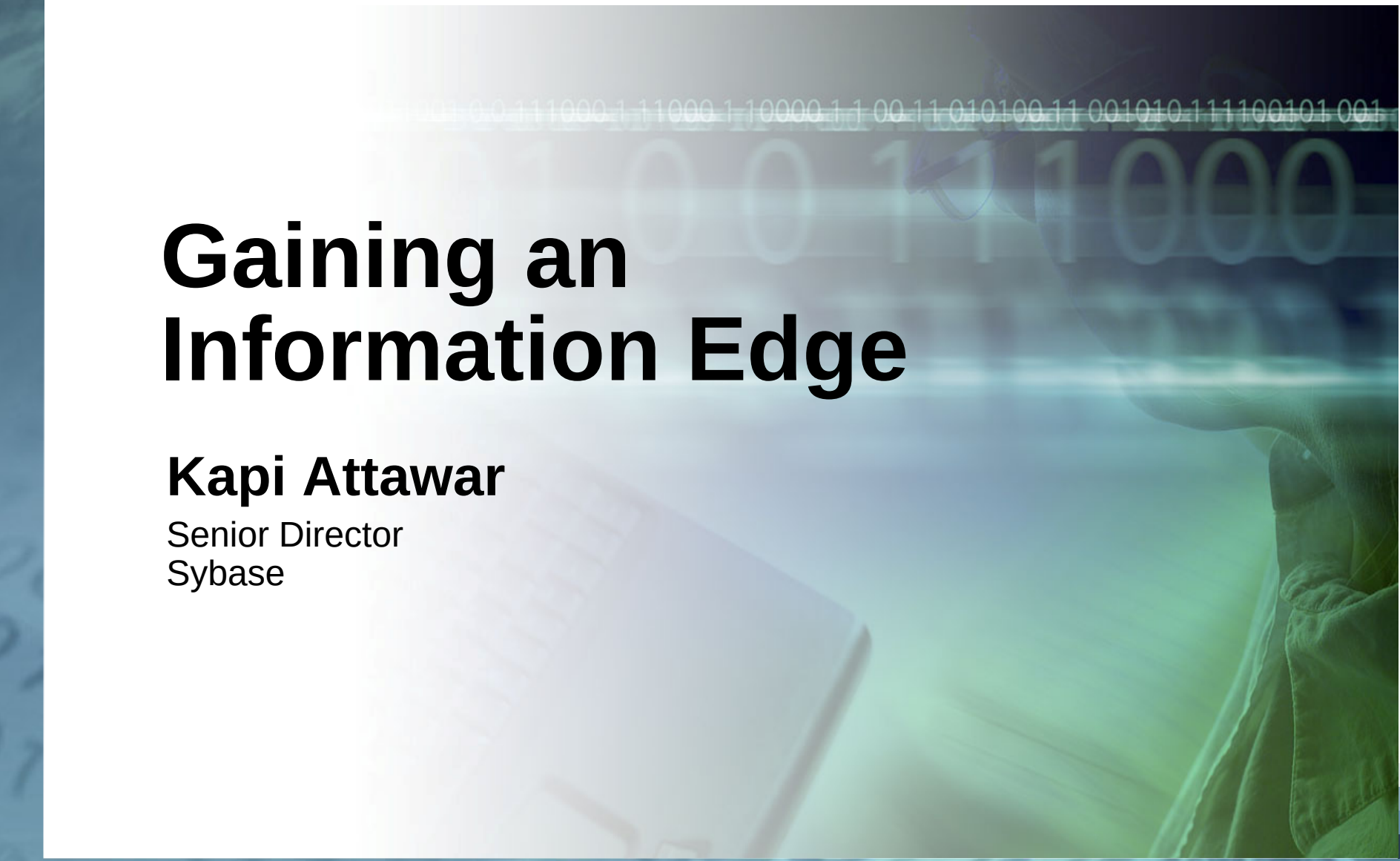


Gaining an Information Edge

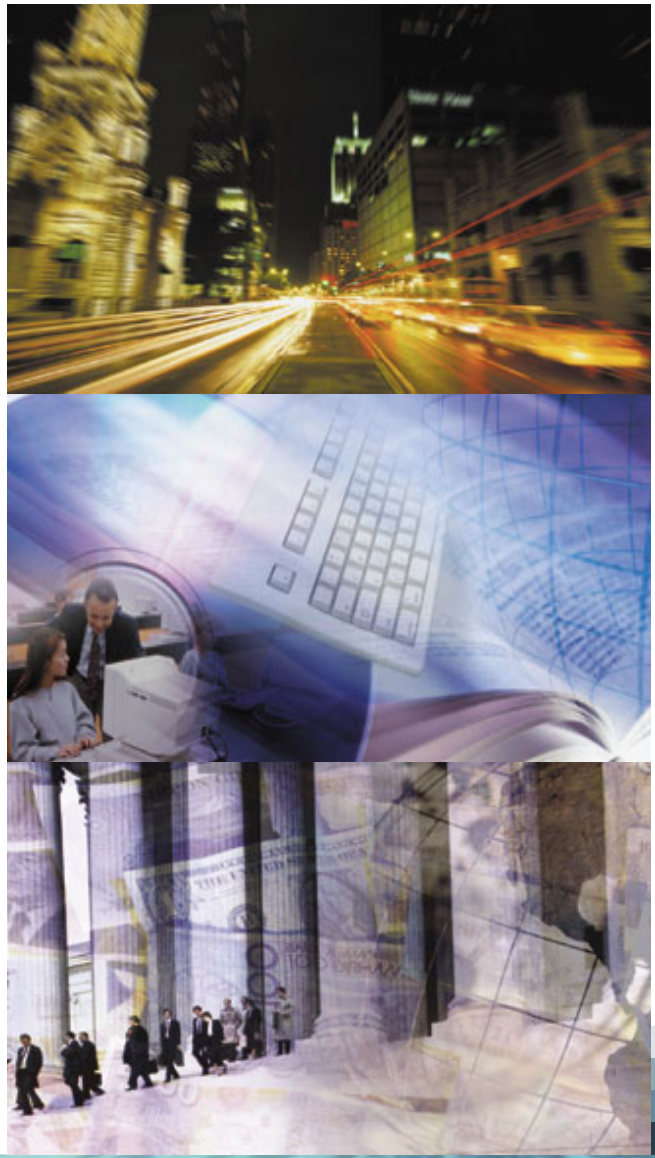
Kapi Attawar

Senior Director
Sybase

OUR VALUE PROPOSITION

Sybase is the largest enterprise software company specializing in managing and mobilizing information, from the data center to the point of action.

Sybase provides open, cross-platform solutions that securely deliver information anytime, anywhere, enabling customers to create an Information Edge.



THE INFORMATION EDGE

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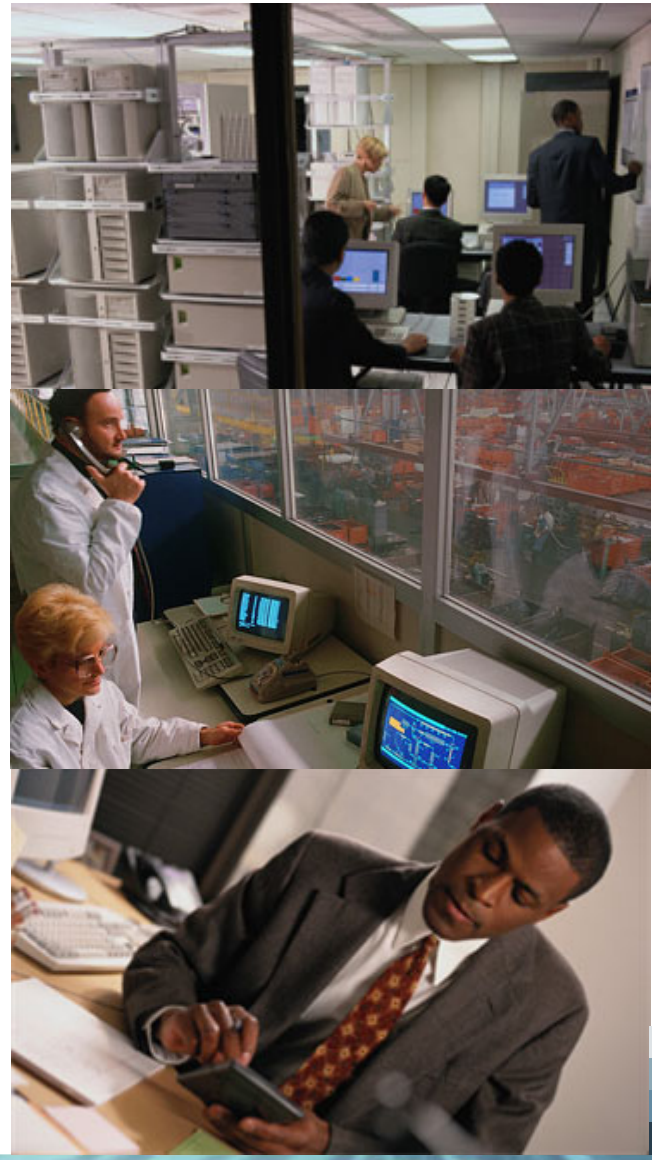
OPTIMIZE investments by managing and releasing the value of information, from databases to devices

LINK resources by integrating and speeding the flow of information, independent of data source or destination

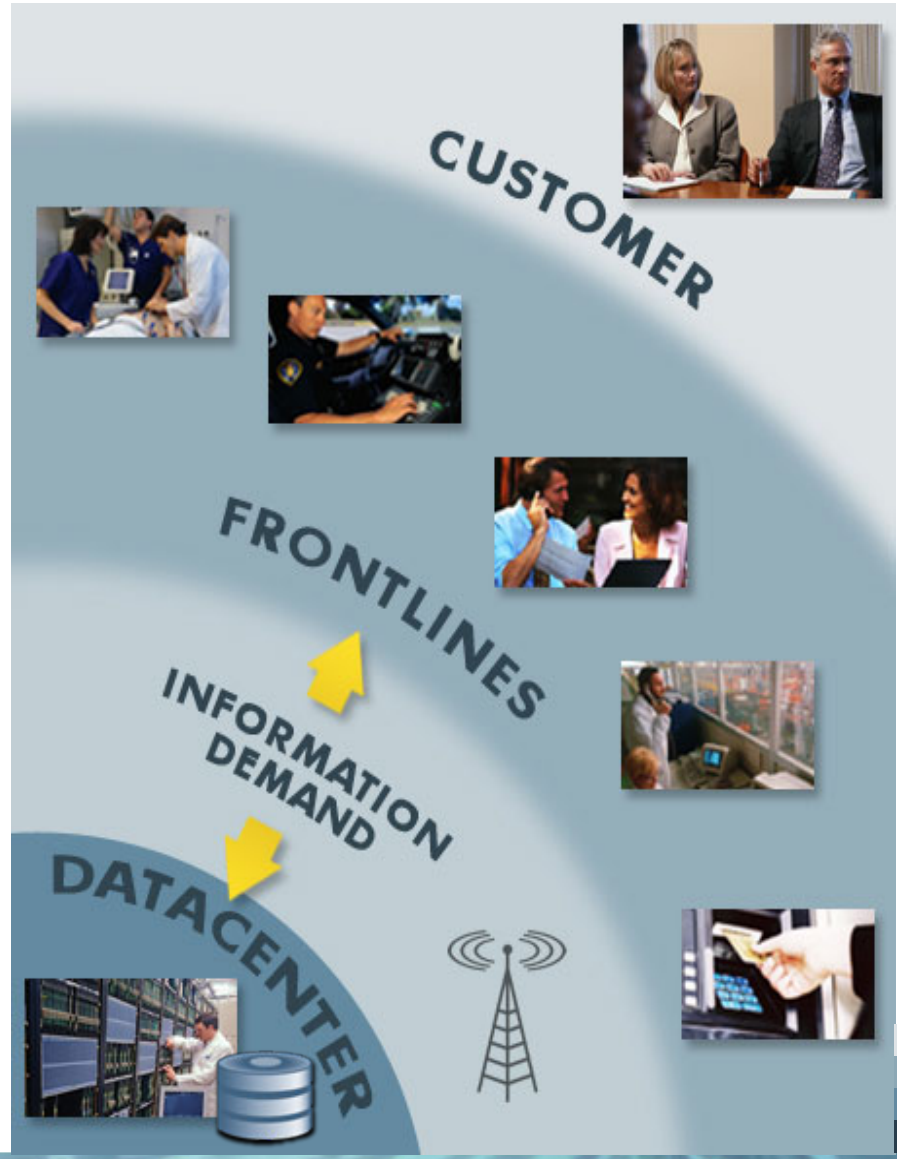
EXTEND reach by accessing information and applications easily at the point of action



YOUR CHALLENGE

ADDRESSING TODAY'S BUSINESS CHALLENGES

- Not getting maximum value from "explosive" growth of business data
- Greater business demands due to market pressure to better serve customers, achieve better governance, and have a faster competitive response
- Limited front-line access to business applications



INNOVATION AND LEADERSHIP

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INFORMATION MANAGED

- #1 database on Wall Street… handling 50%+ of trades
- #1 in data modeling

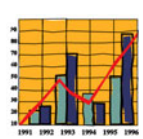
INFORMATION ACCESS

- #1 wireless portal… AvantGo
- Largest B2B portal in the U.S.

PEOPLE UNWIRED

- #1 in mobile database… 73% market share
- #1 in mobile middleware

SYBASE AND ASCENTIAL'S ROLE IN CORPORATE INFORMATION FACTORY



ERP

CRM

SCM

Legacy

DW

External

GET THE DATA

Ascential™ An IBM Company

Enterprise Data Integration

- ETL (Batch)
- MetaData Mgmt
- Data Profiling
- Data Quality
- Real Time and Closed Loop Transformation

MANAGE THE DATA

Data Warehouse

Sybase IQ™

Industry Warehouse Studio™

Operational Data Store

Sybase IQ™ SYBASE ASE

USE THE DATA

BI Platforms

For Analysis and Reporting

BUSINESS OBJECTS®

COGNOS®

MicroStrategy®

- Applications
- OLAP Analysis
- Ad Hoc Query
- Modeling
- Spreadsheet
- Intra/Extranet
- Data Mining
- Standard Reports

SECURITIES AND EXCHANGE COMMISSION

SYBASE
Ascential™
An IBM Company

CHALLENGE

- Design, develop, and implement a new site to manage the new disaster recovery architecture
- Process large amounts of data and increase the performance to benefit the end user

SOLUTION

- Sybase IQ

RESULTS

- 25% reduction in “off hour” data loads
- 35% improvement in query response time
- Ability to run and create more complex queries
- Failover in less than a minute
- No unplanned downtime

SOLUTIONS FOR RIGHT TIME BUSINESS INTELLIGENCE

SYBASE Ascential™ An IBM Company

BUSINESS OPPORTUNITY

- Sarbanes-Oxley compliance reporting requirements drive need for real time data
- Operational systems impacted by line of business managers demand for business reporting
- Significant decisions must be made to migrate vast volumes of data and extend the life of 31-bit end-of-life mainframes

SYBASE DYNAMIC OPERATIONAL DATA STORES

- Quick relief to mainframe challenges while preserving mainframe operations
- Self-service for real-time business analytics to allow reporting access to “data on demand”
- Improved business service and reduced cost (savings of $1M/terabyte) by shrinking needed OLTP data

SYBASE BI SUCCESS STORIES

SYBASE
Ascential™
An IBM Company

“ The usual queries that ran on our database produced results in two hours. With Sybase IQ, the same query took as little as seven seconds. I couldn’t believe the response!”

Ray Lackey, Systems Architect, Dissemination Systems Section, Census Operations Division, Statistics Canada

“ Managers who are used to queries taking 24 hours or more to run will find it difficult to believe that these queries now can be run in a matter of minutes using Sybase IQ. IT managers should be ready to fall off their chairs.”

Bloor Research Analyst Report on Sybase IQ by Philip Howard

“ We originally projected that Sybase IQ would save us about $150K per year. But over the past five years, it has saved us about $5 million by helping us identify forms of fraud we never knew existed and by giving us the ability to implement appropriate measures to eliminate the causes.”

John Hagen, Senior Systems Analyst & Project Manager, American Airlines

“ In the past, as data sets were imported into our previous database, their sizes increased. However, Sybase IQ compressed the files by 40-70%, saving disk space.”

Gi-Un Gyung, Assistant Manager, Information System Department, Chohung Bank (Korea)

“ Sybase IQ saved between four and six times the storage volume required compared to other [RDBMSs] available on the market, with the attendant reduction in hardware, support, administration and maintenance costs.”

Pedro Romera, Systems Engineering Manager, Telefónica (Spain)

SYBASE
Ascential™
An IBM Company

MANAGING DATA EXPLOSION

Competitive Edge or
Colossal Migraine?