

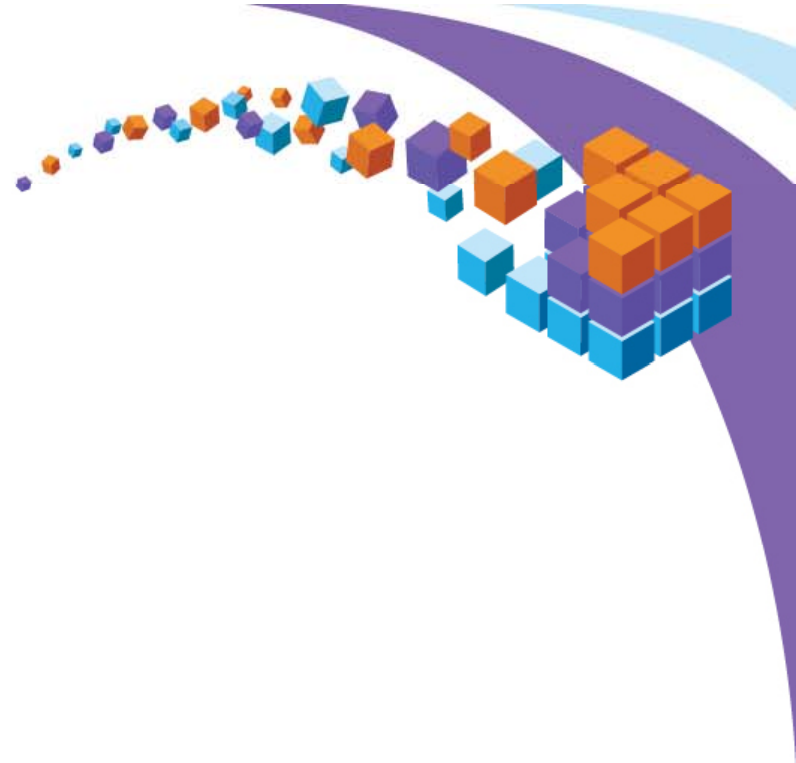


IBM INFORMATION INTEGRATION & GOVERNANCE SYMPOSIUM 2012

Delivering Trusted Information for Smarter Business Decisions

The MDM Journey

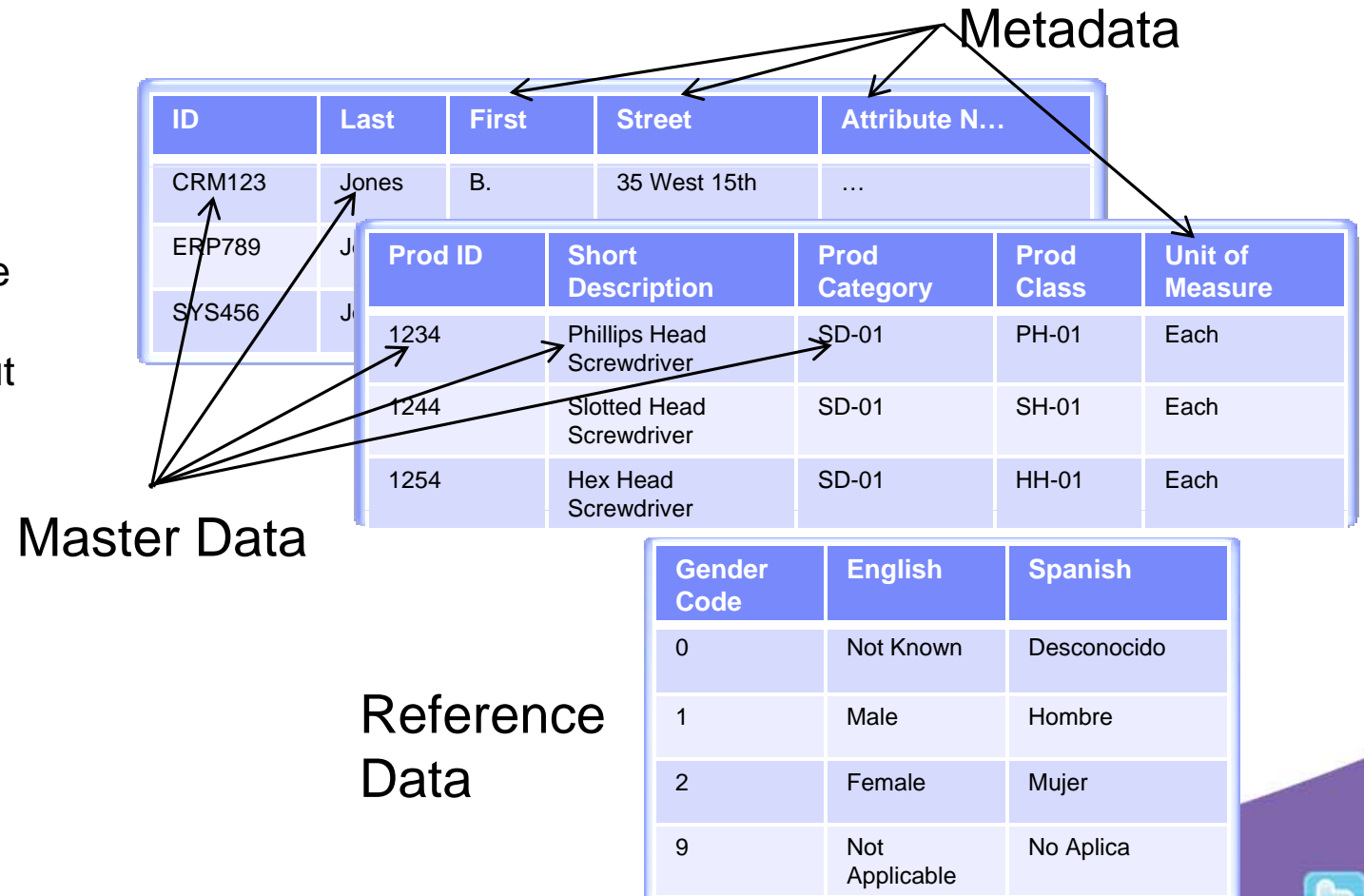
Chris Chilcott – MDM Technology Specialist



What is Master Data? Why is it important?



- **Master data** is the high-value, core information used to **support critical business processes** across the enterprise
- **Master Data** is information about customers, suppliers, partners, products, materials, employees, accounts and more
- **Master Data** is **at the heart of every business transaction**, application and decision



MDM Business drivers



Revenue

- Identify cross-sell, up-sell opportunities
- Customize product offerings and bundles
- Introduce new products more quickly
- Identify high value customers
- Improve customer retention

Agility/Strategic Initiative

- Consolidate data from silos/Integrate new systems quickly (M&A)
- Meet demands of new business channels
- Grow with the business
- Identify key relationships and hierarchies

Cost / Efficiency

- Automate manual business processes
- Reduce data errors
- Eliminate excess mailings
- Identify risk (credit)
- Support system consolidation initiatives

Compliance

- Reduce risk
- Control access to data
- Adhere to government and corporate regulations
- Manage customer privacy preferences





Quotes from a recent Gartner report

“The Important Characteristics of the MDM Implementation Style”

Published: 30 November 2011

Key Findings

- There are multiple MDM implementation styles, and they have different characteristics that meet different requirements. Some are more invasive than others in terms of the effect on the application portfolio. They will require different levels of enterprise buy-in, governance and potentially cost.
- Organizations are increasingly leveraging a combination of styles as their MDM initiatives become more mature.
- No single implementation style will meet all your MDM objectives as they differ by domain, use case and industry.



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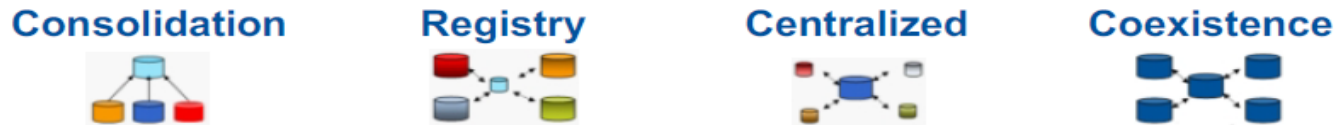
Recommendations

- For initial MDM programs, focus on a single or few data domains that leverage the same implementation style.
- Leverage this early understanding in order to explore the limits of the characteristics of different MDM systems and styles to determine which best suits your needs, now and for short-term planning.
- Determine your MDM implementation style needs based on overall MDM strategy and ensure that your vendor partners have the experience and strategic vision to meet those needs.
- For large, complex, distributed, even global MDM programs, assume that a mixed style will be your long-term direction.



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Attributes that Characterize MDM Implementation Styles



	Consolidation	Registry	Centralized	Coexistence
Authorship vs. Hub	Author is separate from hub	Author is separate from hub	Authorship or harmonization takes place in Hub	Author anywhere
Persistence vs. Hub	Hub stores copy separate from author/source	Hub stores index for master data; master exists at edge	Master persists in hub, though copies may exist at edge	Persist anywhere
Validation	Hub is system of reference	Hub is system of reference	Hub is system of record	Mixed system of record/ reference
Primary Consumer	Downstream analytics and reporting	Both operational and analytical	Upstream operations	Upstream operations
Data Latency	Batch to real time	Batch to event-driven	Real time	Event-driven, pub/sub
Search Complexity	Relatively light	Very complex	Relatively light	Reasonably complex

Explicitly Cleans Up Source Data/Processes

Source: Gartner (November 2011)



MDM Journeys

- **Start with one domain** (e.g. Customer), a small number of contributing source systems (2 or 3) **in a registry deployment** providing high speed high quality probabilistic matching, linking and searching.
- **Make the registry hub actionable** through definition of “virtual” (composite) views of master data held in the registry which can be pushed out to consuming systems – e.g. CSR using a CRM app. conducts a search (against the registry hub) for a customer. Registry returns customer data as determined by the “virtual” view. CSR confirms this is the correct customer and data returned from the registry is used to automatically populate fields on the screen of the CRM app.
- **Expand the number of source systems** contributing data to the registry.
- **Expand the number of consuming systems** receiving data from the registry.
- **Extend to other types of parties** – prospects, suppliers, agents, employees etc.
- **Extend to other domains of master data** – product, contract/account, reference
- **Extend the registry to a hybrid deployment** incorporating a **fully actionable transaction hub** (for selected domains).



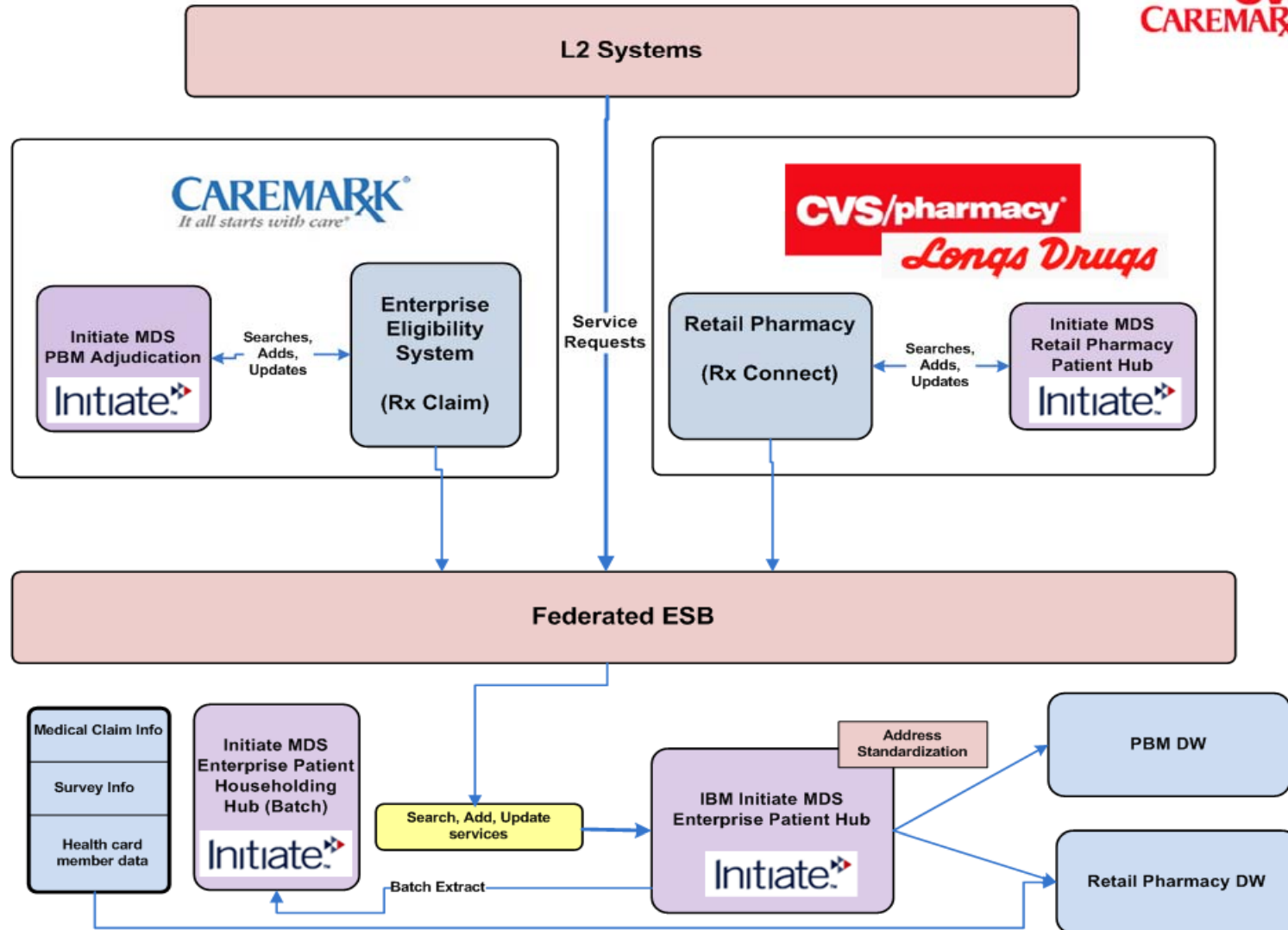
Sample IBM MDM Customer Journeys



Extend Initial Style	Co-Existence	Extend Domains	Hub of Hubs	Move From Registry to Transactional
<ul style="list-style-type: none"> ➤ Nearly 100% of Our Customer Base ➤ More source systems, more consuming systems, more domains, more real-time 	<ul style="list-style-type: none"> ➤ United Health Group ➤ Wellpoint ➤ Walmart 	<ul style="list-style-type: none"> ➤ Strong Interest including: ➤ FSS Industry ➤ Telco Industry 	<ul style="list-style-type: none"> ➤ CVS ➤ Barclays 	<ul style="list-style-type: none"> ➤ Quest ➤ Fidelity



CVS – Caremark



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CVS – Caremark

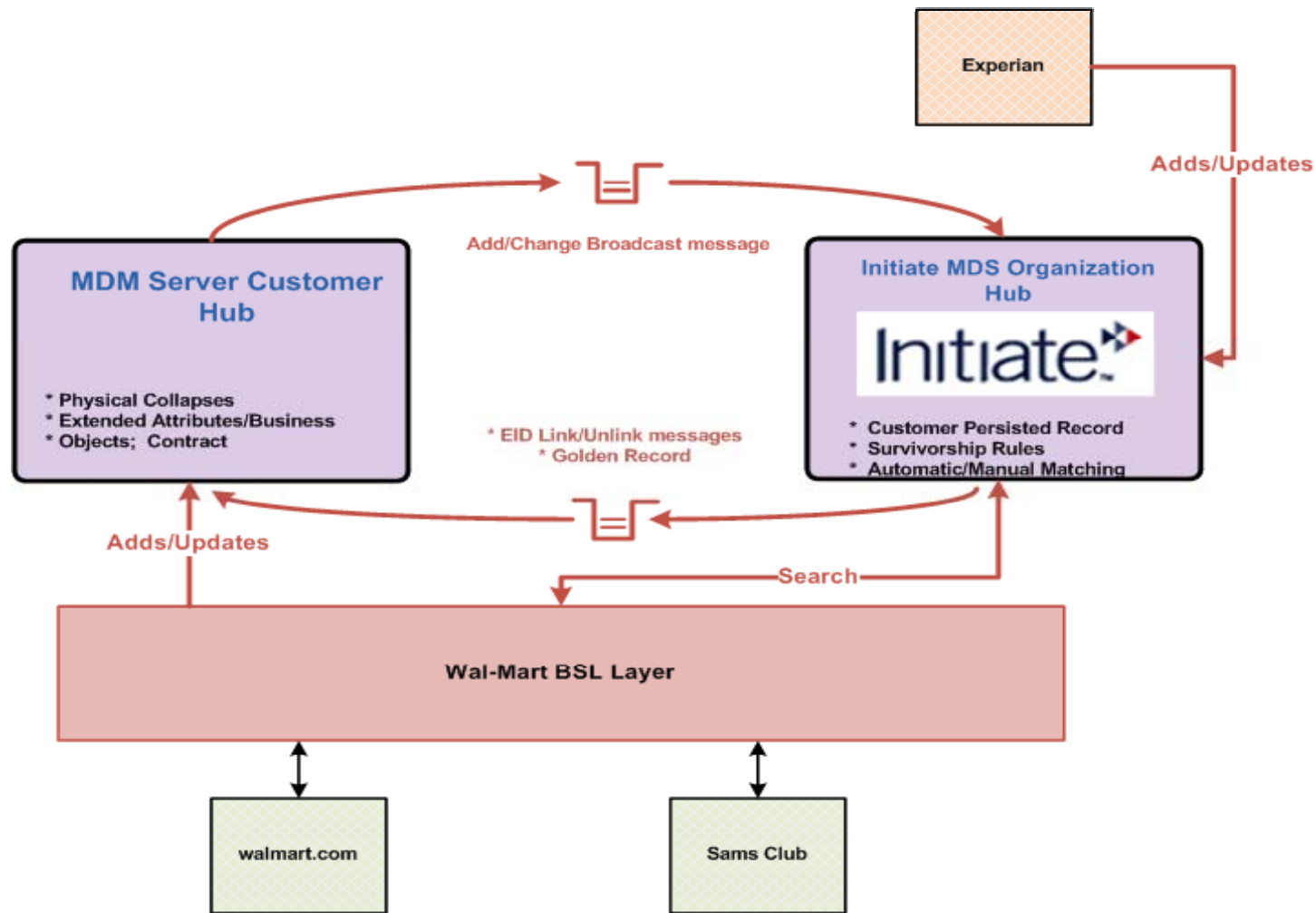


- Started with CVS Pharmacy patient data to establish a Retail Pharmacy Hub (2006)
 - Started with 350M+ Patient records from 7000+ stores
 - Consolidated into 100M Persisted Patient Records
 - Algorithm tuning optimized to search, match, and manage pharmacy customer data
- Caremark Merger (2007); MDM Integration happened in 2009
- Longs Acquisition (2008)
 - Minor Tuning of primary matching algorithm (to account for new geographies)
 - Integration of Longs Drugs and CVS hubs took only a few weeks.
- ODS holds extended transactional information (RxConnect)
 - Is the primary interface for services against the Pharmacy Hub
- Defined an Enterprise Patient Hub (EPH)
 - Gets feeds from RxConnect and Caremark sources
 - EPH provides output to Caremark and CVS EDW's
 - EPH also provides Enterprise Household view of customer data
 - Address Standardization



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Wal-Mart



Wal-Mart

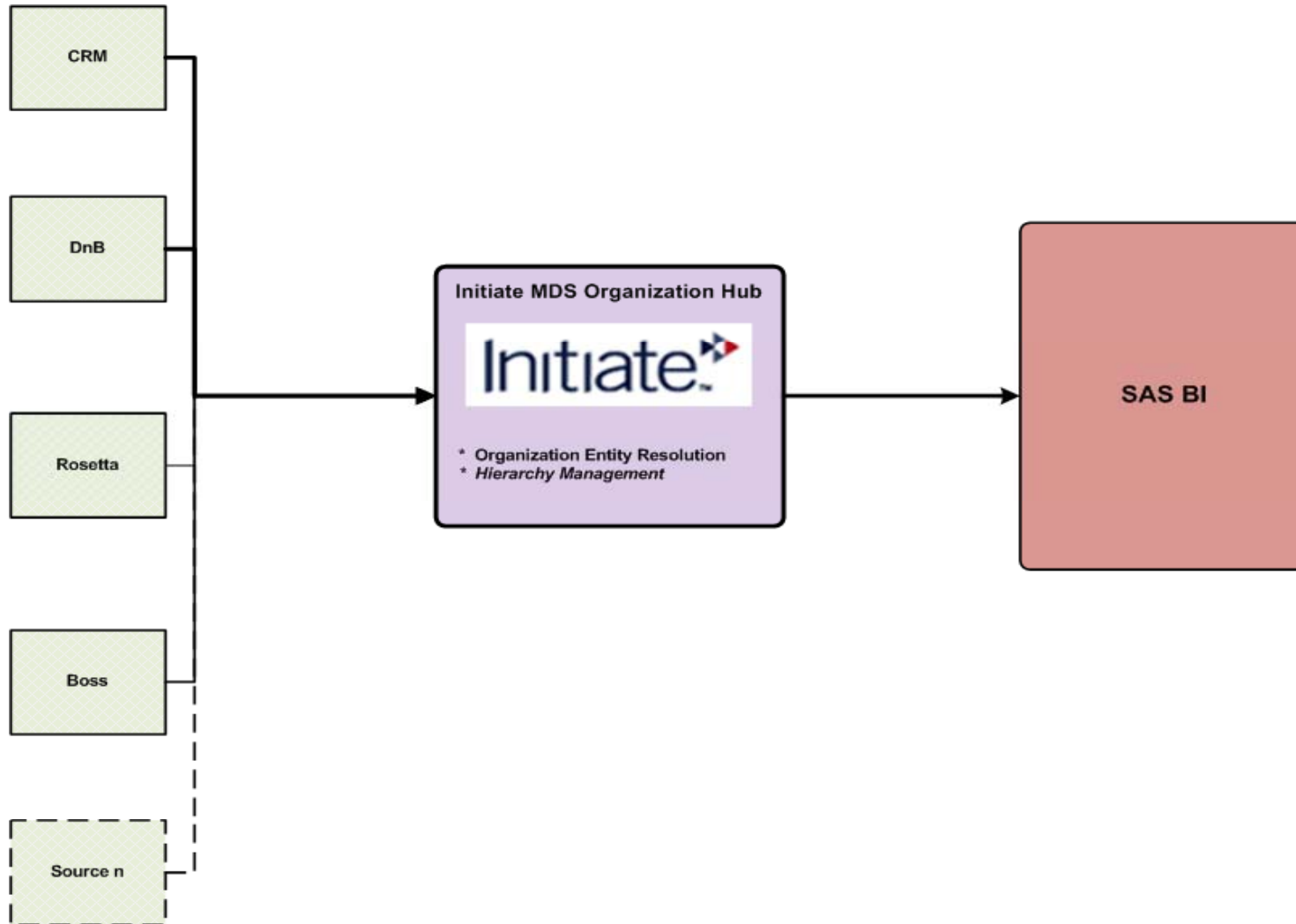


- Started with MDM Server in 2008 – prior to the Initiate acquisition
- Deployed Initiate to provide superior matching and searching capabilities, and to enable external third party data to be used to identify potential prospects.
- Matching decisions provided by Initiate – MDM Server applies data survivorship rules to create the golden record.
- Third party and prospect data held only in Initiate – customer data only in MDM Server
- Wal-Mart built a Business Services Integration Layer – BSL
- Process Flow:
 - Customer details passed to Initiate for probabilistic search
 - If found, a view of that customer is returned to the calling system where the data is augmented
 - Final customer info sent to MDM Server . If new customer golden record persisted in MDM Server and synchronized with Initiate.



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United Health Group – Initial State



United Health Group – Initial State

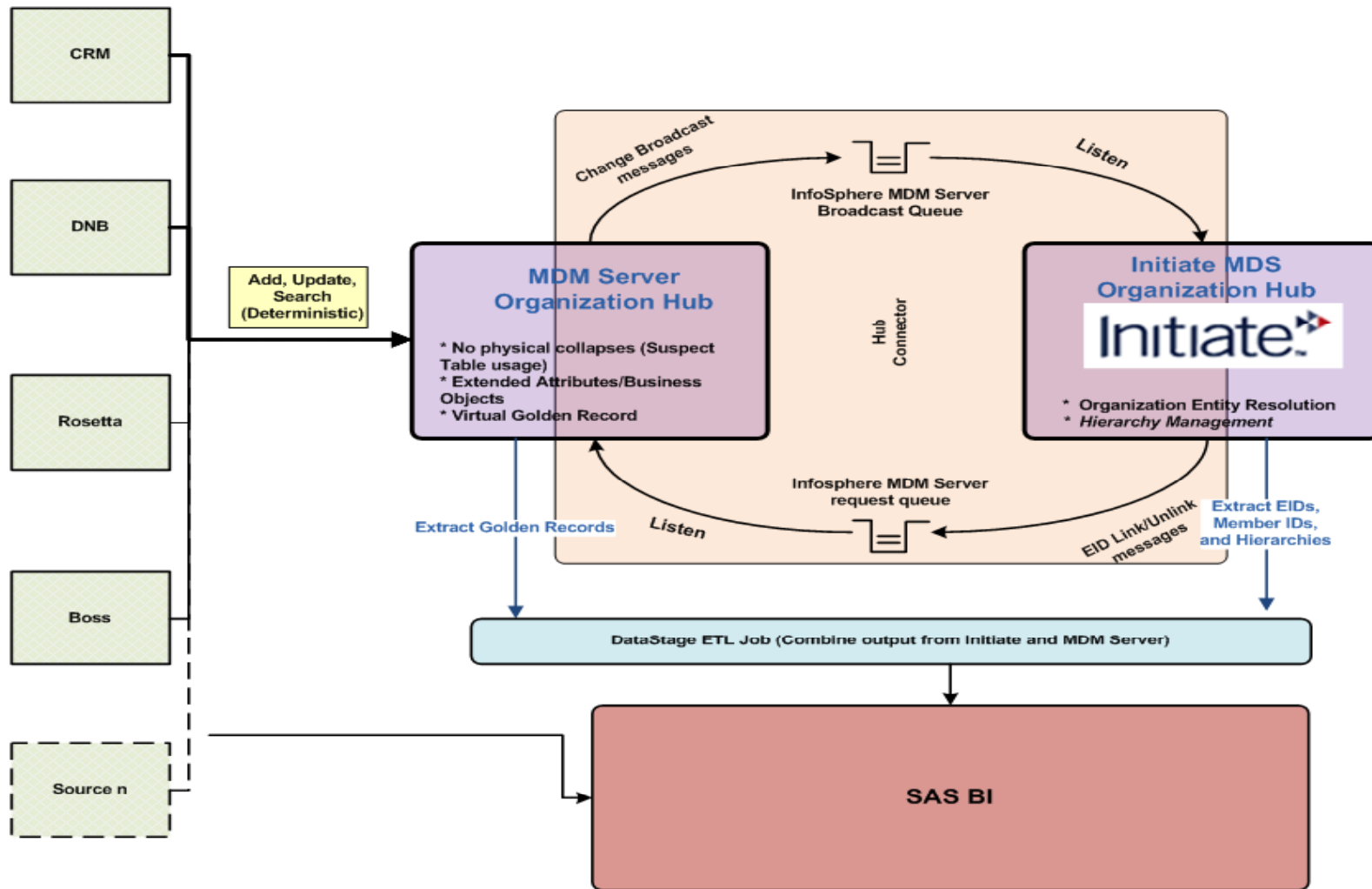


- Initiate Organization Hub implementation done in 2010 (pre-acquisition)
- Poor Data Quality
 - Data not well populated across attributes
 - Minimal business process to enable good quality data in source systems
 - Number of acquisitions with inconsistent and different data management policies across source systems
 - Very high duplication within same sources and across sources
 - In some cases, 200+ party records representing the same Organization
- Batch Inbound Integration
- Only Outbound integration with SAS BI

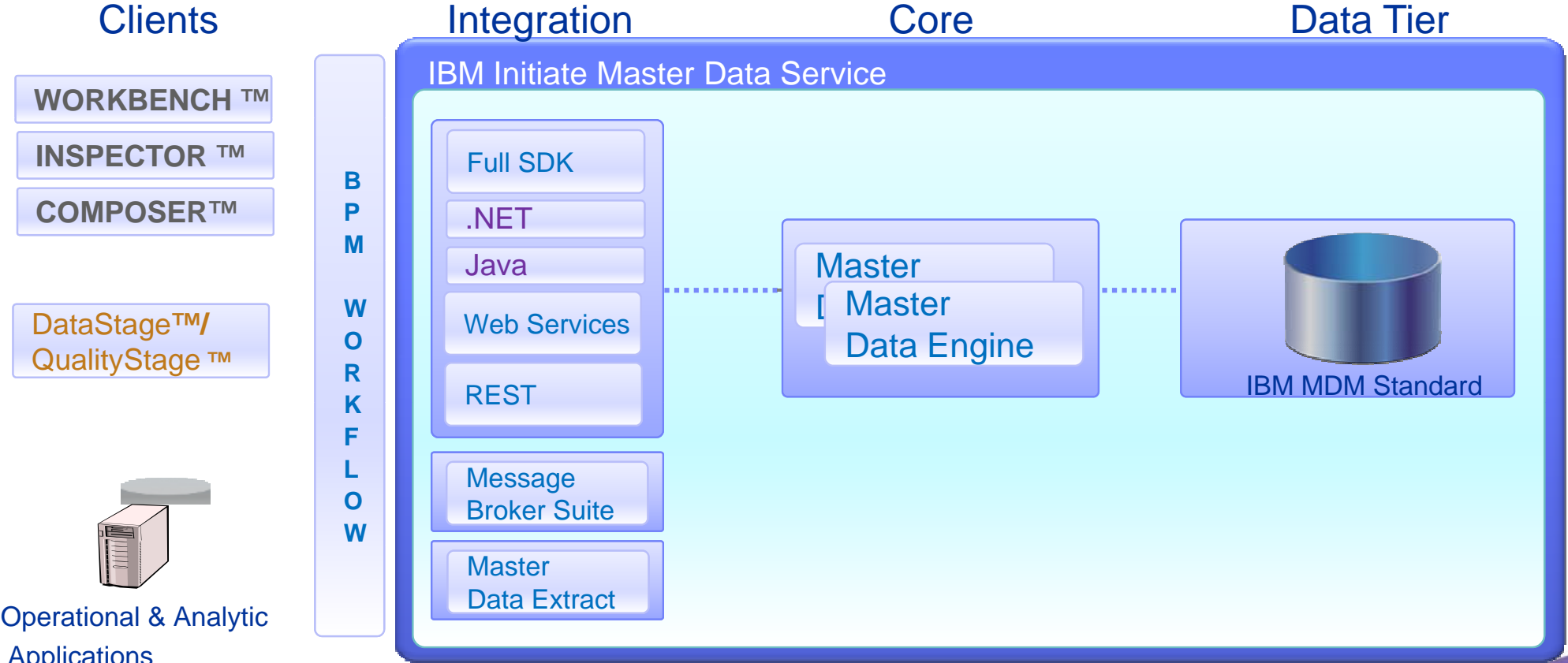


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United Health Group – Current State

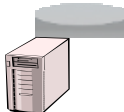


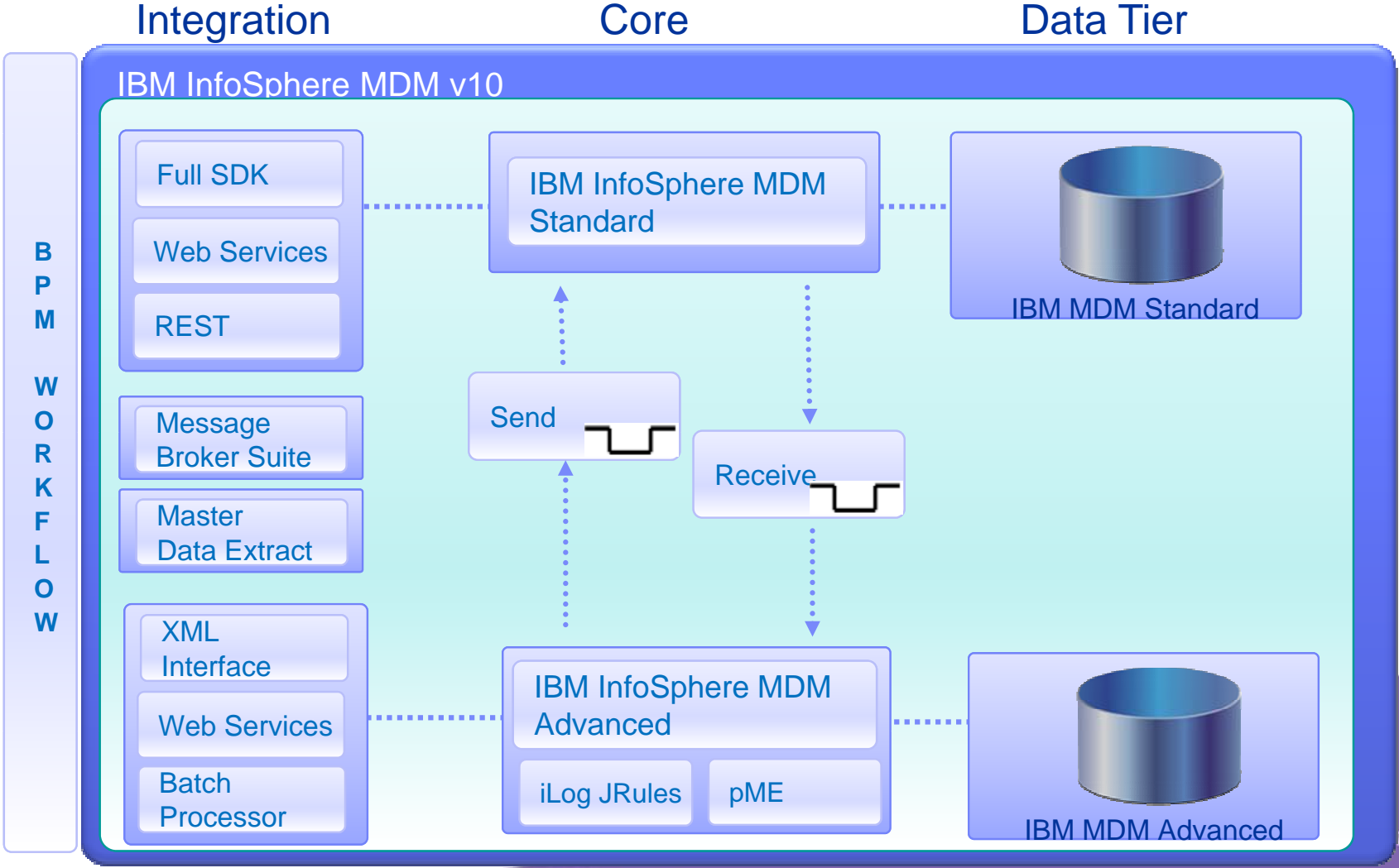
Journey Steps - Standard Edition – Registry deployment



Journey Steps - Advanced Edition - Hybrid and Transactional



- Clients**
- WORKBENCH™
 - INSPECTOR™
 - COMPOSER™
- DataStage™/
QualityStage™
- 
- Operational & Analytic Applications
- WORKBENCH™
 - ADMIN UI™
 - DS UI™
 - EverGreen UI™



IBM InfoSphere Adaptive MDM: 3 core competencies

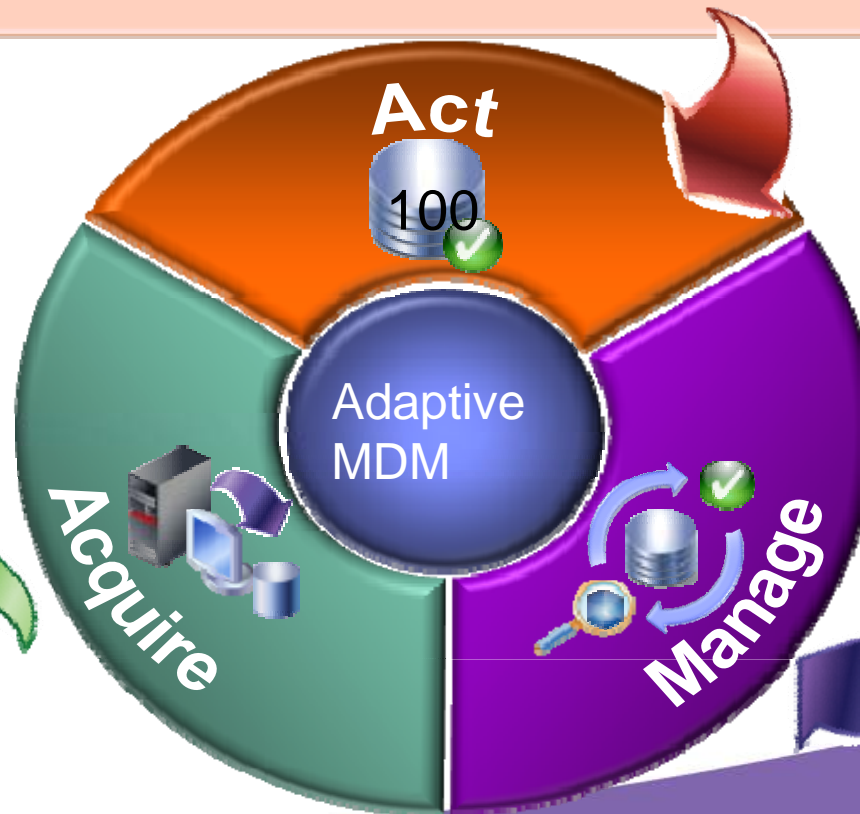


Purpose: Active usage within applications and business processes

- MDM Business Services
- MDM UI generation - widgets/views
- MDM UIs
- Event notification

Purpose: Setup MDM and acquire source systems

- Discover, Profile, Load
- Configure MDM



Purpose: Create & proactively maintain master data

- Data quality and matching
- Multi-domain data
- Enrich core master data

Making Data Actionable through Business Services



CRM

5. New cross-sell and up-sell offers proposed to customers

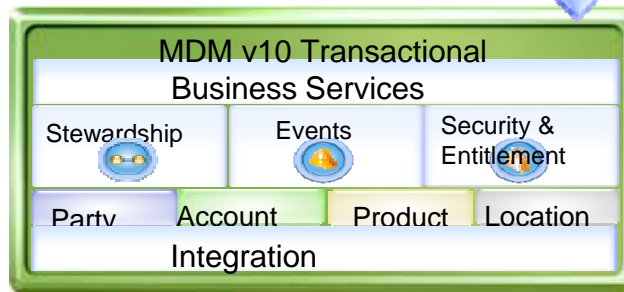
New Revenue Opportunities



Campaign Management

4. MDM Server Delivers new account information to Campaign management and captures response information

Improved Marketing Effectiveness



3. MDM Server Delivers new account information to Analytics systems and captures customer value score

Greater Insight



Data Warehouse and BI/Analytics

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1. CRM requests golden version of the customer and delivers New Account update to the MDM hub

Reduction of Errors Impacting Efficiency



Web Self-Service

2. MDM Server updates Web Self-Service
- Enhanced Customer Service Levels

IBM InfoSphere Master Data Management V10

Proven, Trusted MDM



Enterprise Edition

Comprehensive

address all your MDM needs with a single comprehensive solution

Advanced Edition

Strategic

strategically transform your organization through improved business processes and applications

Standard Edition

Quickest Time to Value

delivers business value for MDM projects with the quickest time to value

Collaborative Edition

***Collaborative
Authoring***

streamline workflow activities across users involved in authoring and defining master information



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Infrastructure Common components included out-of-the-box



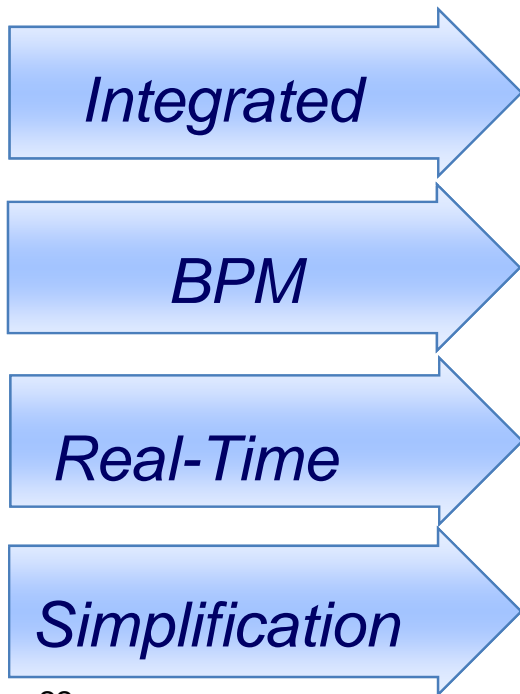
- **BPM Express V7.5** –multi-step / multi-role workflow to support data stewardship & data governance.
- **DB2 Enterprise Server Edition 9.7** – persistent storage of master data.
- **Websphere Application Server ND 7.0** - Java EE application execution environment
- **Blueprint Director 2.0** - strengthens alignment of business and information technology by collaborating on actionable information blueprints that connect the business vision with the corresponding technical metadata.
- **Rational Software Architect for WebSphere Software v8.0.3** - The Workbenches and Application Toolkit are implemented as Eclipse Plug-ins that plug into RSA.
- **Tivoli Directory Server v6.3** - provides security information in an LDAP environment - user authentication, group associations.
- **Cognos BI Reporting v10** - a reporting engine that delivers predefined reports that focus on data stewardship and MDM KPIs.
- **Websphere MQ 7.0.1** - used to manage messaging and provides a "guaranteed delivery" mechanism
- **Content Integrator 8.6** - interface between MDM hub and any content management system.



IBM InfoSphere Master Data Management V10



MDM Specific Common Components



Unified Matching Engine	<ul style="list-style-type: none">• Interchangeable – consistent probabilistic matching across editions• Easily configurable – works ootb, or configure through a new lightweight web interface for basic configurations• Accurate – leverage highly accurate / scalable master data engine
BPM Express for MDM	<ul style="list-style-type: none">• BPM improves master data consistency• Put data into the business process context• Implement policies and coordinate multi-step / multi-role workflow for data stewardship and data governance
Application Toolkit / Adaptive Services Interface	<ul style="list-style-type: none">• Build flexible / reusable MDM-powered apps on data you can trust• Leverage out-of-the-box widgets and embed into 3rd party apps• Map data models and services to an abstraction level that supports interfacing directly aligned with the consuming app or process.
Faster Time to Value	<ul style="list-style-type: none">• Lower the skill set required to implement an MDM project• Accelerate the overall time to value and reduce risk by decreasing the time to go live for an MDM project• Lower the overall TCO for the project

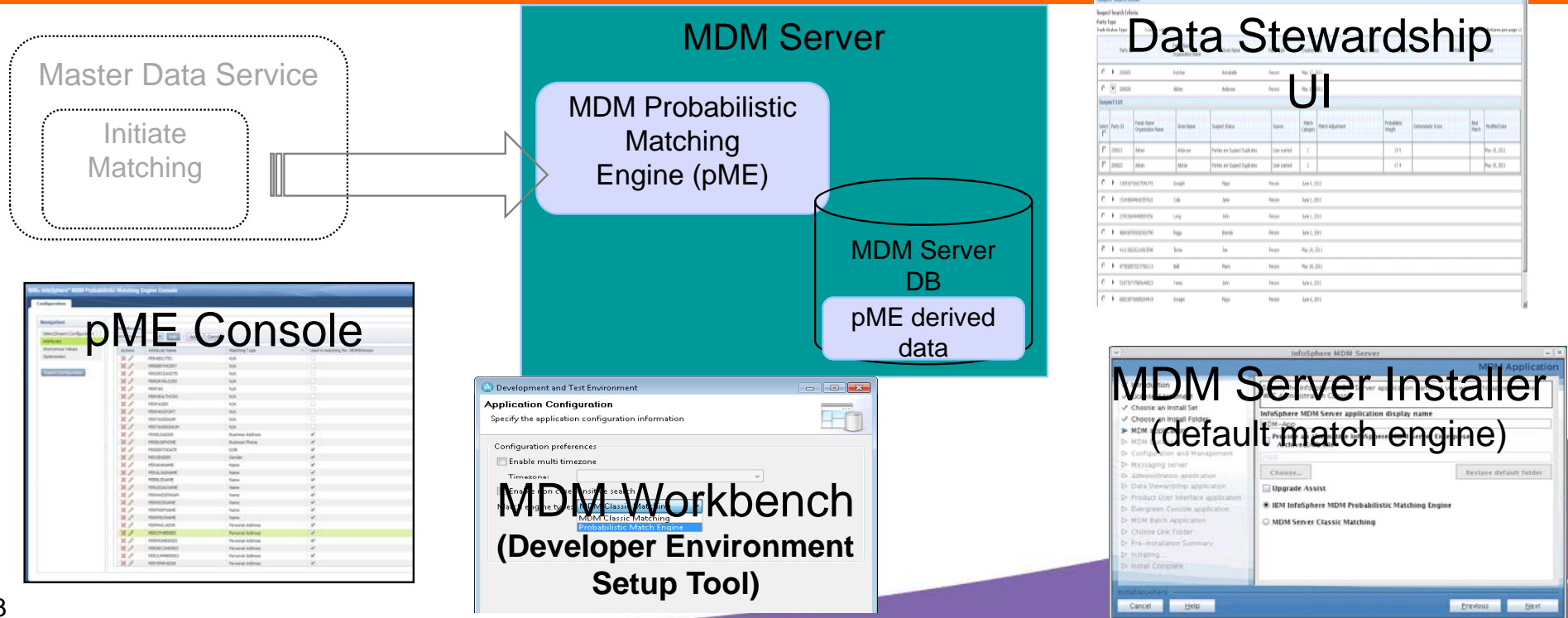
Unified Probabilistic Matching Engine

What is it?

- An embedded, preconfigured and integrated version of the Initiate Master Data Service matching engine
- Easily configurable – works ootb, or configure through a new lightweight web interface for basic configurations
- Accurate – leverage highly accurate / scalable master data engine

Why is it important?

- Better matching outcomes
- Improved efficiency: suspect search and matching combined into one step
- Configurable state of the art algorithm
- Leverage common matching for journey
- consistent probabilistic matching across editions



BPM Express Enables Data Stewardship Process Management

What is it?

- BPM Express V7.5 included as part of the Enterprise, Advanced and Standard Editions
- Implement policies and coordinate multi-step / multi-role workflow for data stewardship and data governance
Example:
Ensure Address Field updates for key accounts always have Manual Approval check by Account Managers

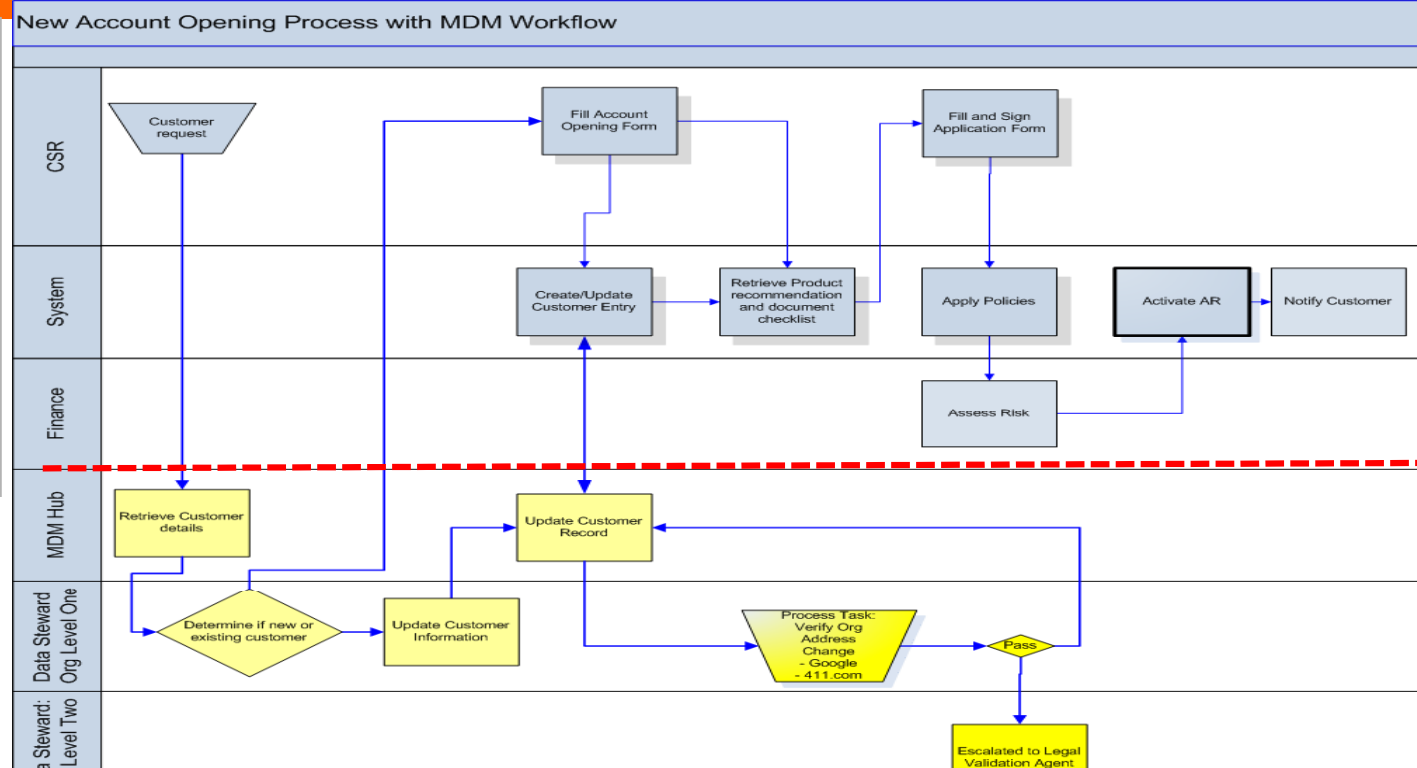
Why Important?

- COTS (Commercial Off The Shelf) workflow capabilities
- MDM data stewardship and data governance processes enforce MDM data quality policies
- Thought leadership – recognition by the industry that MDM and BPM offer great synergy

Data Stewardship

- Manage Process End-to-End
- Support Agility
- Support human and automated tasks
- Monitoring/Reports
- Support business rules

MDM Centric Processes



MDM Application Toolkit

What is it?

- A library of MDM application building blocks that make MDM capabilities available to end-users
- Integrated across both Registry and Transactional
- Embed widgets in other application UI's
- Extend an out-of-the-box widget
- Assemble a stand-alone web-browser app.

Why important?

- Accelerate the development of MDM powered applications
- MDM-powered applications make accurate, complete master data available to end-users
- Existing applications are enhanced by integrating with master data management
- Easily move across MDM styles without rewriting your app

Search Results								
Score	Name		Date of birth	Identification		Street	Location City	Country
	Given name	Surname		Type	Id number			
52	Guillermo	ZERMENO BELTRAN	1977-12-20	R.F.C.	ZEBG771220-PE6	c/o FABRIDIESEL	Los Mochis	Mexico
19	Lionel	DUMONT	1971-01-21					France
19	Kamel	DJERMANE	1965					Algeria
9	Guillermo	REYES VERGARA					Panama City	Panama
9	Rosario	BELTRAN SANCHEZ	1952-10-05			c/o FABRIDIESEL, S.A. DE C.V.	Los Mochis	Mexico
9	Hector	BELTRAN LEYVA	1960-01-01					Mexico
9	Francisco	ARELLANO	1969-11-21					

Search BELTRAN SANCHEZ, Rosario X

BELTRAN SANCHEZ, Rosario

General information

Address

Alternate names

Identification

General information

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Given name	Rosario
Surname	BELTRAN SANCHEZ

Mexico

Mexico

Los Mochis, Sinaloa, Mexico

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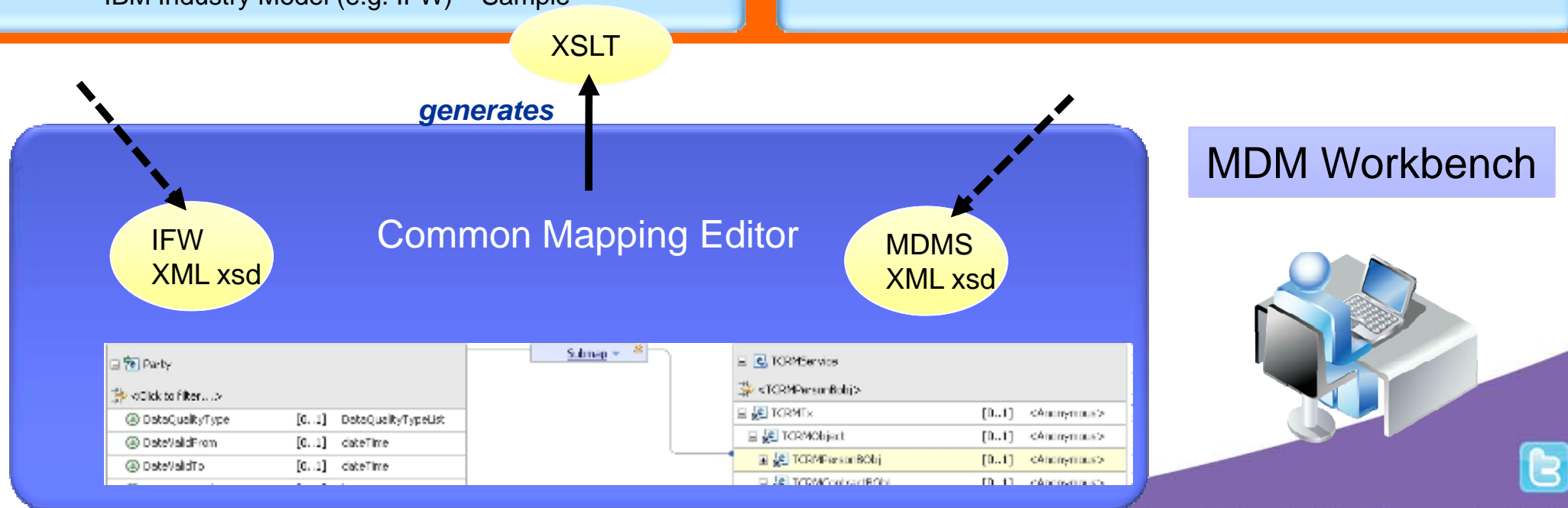
Adaptive Services Interface

What is it?

- **An abstraction layer to the services and data model**
- **Web Services Tailoring**
Create “slimmed down” versions of the OOTB Web services
Easier to ingest by other applications and tools
- **Interfacing on “terms of the consuming application”**
 - Industry message standard (e.g. ACORD)
 - IBM Industry Model (e.g. IFW) – Sample

Why Important?

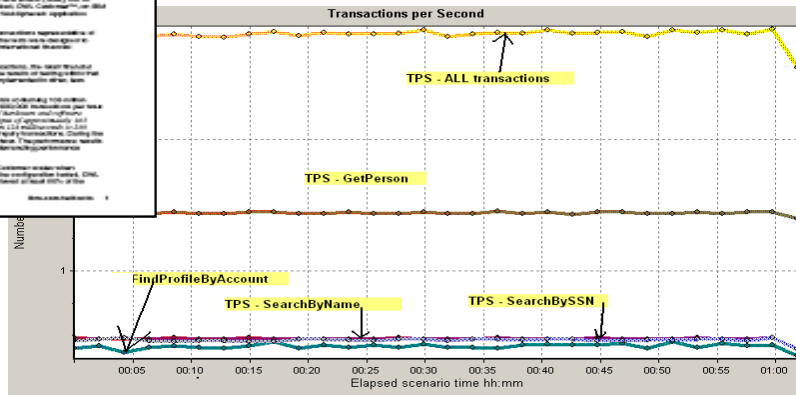
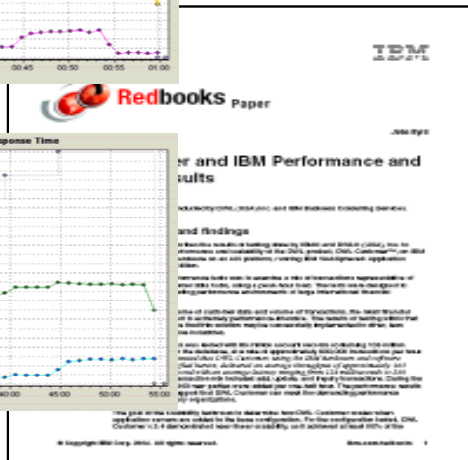
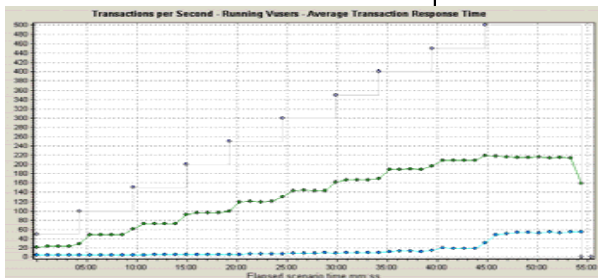
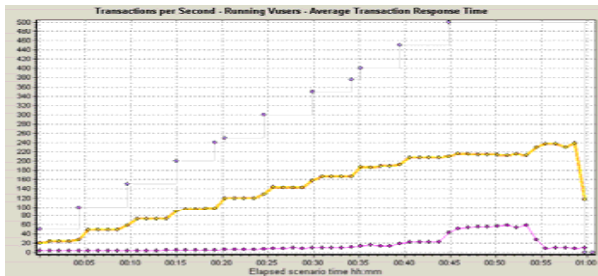
- Simplifies knowledge to setup, manage and use master data
- Makes it easier and faster to integrate MDM services to support predefined interfaces for applications and business processes.
- Enables easy publishing and lookup of MDM services



Market-leading Performance and Scalability



- Largest customer implementation with sub-second response time
 - 110 million customers
 - 60 million transactions per day
 - 700 TPS on average, 2000 TPS at Peak
 - < 250 milliseconds average response time
- USD\$5M spent by customers on performance testing
- Vertical and horizontal scalability indexes between 0.89 – 0.91



IBM is a leading MDM vendor...



- #1 market share
- >600 customers across a variety of different industries
- Clients with 10+ years in production
- Recognized MDM leader in
 - Banking
 - Insurance
 - Healthcare
 - Government
- A single unified offering across
 - All domains
 - All use cases
 - All implementation styles
 - All industries



IBM Leadership in MDM market



#1
40.3%

MDM for Customer Data

IBM #1
20.1%

MDM for Product Data

#2
11.2%



100



MDM for Financial Services – Case Studies

Capital One

Improve marketing effectiveness



- Increase product and account penetration via up-sell and cross-sell
- Optimize marketing effectiveness through targeted rewards programs and up-sell/cross-sell offers
- Improve privacy compliance, including opt-out management.

Wells Fargo

Prevent duplicate customer records



- MDM identified a 10% duplication rate and reduced that to < 1%.
- Benefits were annual cost savings in the millions and improved customer interaction at every point of service and privacy compliance

MetLife

Meet corporate growth targets



- Brought together multiple disparate legacy systems (30+); InfoSphere MDM Server is the system-of-record
- ROI: Cost reduction = Service differentiation; reduced mailing errors; consolidated mailings; email capabilities; reduced IT costs

Bank Of America

Customer Relationship Management



- Reduce systems from 5 to 1 thus decreasing costs, gain 360 degree view, improve data quality
- Benefits: Speed to Market and Initiative Costs improved by 30-50%; IT spend cost savings of >\$50M
- Started with customer domain and now moved to product domain



MDM for Retail & Distribution – Case Studies



Panasonic *Supply Chain Speed To Revenue*



- Operational savings of €5 million annually
- Better partner collaboration led to 25% cost reduction
- Two additional weeks of sales for new products leading to 3.5% increase in revenue

Staples *Customer Relationship Management*

- Increased speed to market for new products, reduced occurrence of Out-of-Stocks, improved merchandising performance, reduced warehousing and distribution costs

Best Buy *Operational Efficiency*



- Streamline the buyer process to set up new items and increase vendor accountability to improve item data accuracy
 - Elimination of manual item setup processes
 - Improved data quality
 - Efficiently leveraging a single view of “Item Data” across the enterprise

Truffaut *Product Information Management*



- Created a single, up-to-date repository of product information
- Automates the publication of product information on its website
- Increase client satisfaction by giving them 100 details about a product
- Updates require fewer human resources and help improve reactivity

MDM for Public Sector – Case Studies



Un-Named Department of Taxation and Finance For Large US State

- Prevented \$400 million in questionable 2010 tax returns from being disbursed
- Recovered \$83 million in delinquent taxes. An 8% increase from 2009 / double the average increase in prior years without the new technology capability.
- Increased overall collections from field staff by 12 percent

Alameda County Services Agency



- Investigators now receive high ROI case alerts such as child & adult endangerment, “double dipping”, fraudulent representation
- Decrease false positives & negatives and reduce investigation time for increased fraud ROI
 - **Annual return on investment (ROI) 631%**
 - **Payback period (years) 0.17**
 - **Average annual benefit 24,725,000**

New York Police Department



- Support more proactive policing tactics by virtue of an ability to see crime trends as they are happening
- More efficient use of NYPD resources,
- Faster and higher rate of case-closing
- Precincts get quicker access to data
- Crime analysts are able to spend more time on proactive crime analysis rather than data manipulation

Toronto Department

Police



- Uncovered 35% duplication in their data
- Uncovered hidden relationships and linkages i.e. 2 gang members from different gangs sharing the same phone number.
- Discovered the level of data quality within their systems – very poor
- Uncovered multiple repeat offenders
- Uncovered relationships/linkages that were new information for their Intel Division

MDM for Healthcare Payer/Provider – Case Studies

Cedars-Sinai Medical Center



- Improve patient information access process
- Duplicate record creation reduced by 70%
- Improve quality of care by enabling electronic access from the hospital portal to the right outpatient information (medications, allergies, diagnosis)
- Improve revenue cycle by creating a comprehensive bill with timely and accurate demographic and payer information

HealthNow Health Insurance Plan



- Driver: Move from a system-centric to member-centric view
- Reduced duplicate mailing to the same member resulting in \$756K annual savings.
 - Improved reliable delivery of End of Benefits (EOB) notification to the correct person, preventing potential compliance fines of \$1.5M per infraction.

Blue Cross Blue Shield of Minnesota Health Insurance Plan



- Driver: Increase efficiencies and automatic claims adjudication
- 50% reduction in manual claims review
 - Annual automatic claims increase of 372,000
 - Reduced manual claims resolution staff by 75%

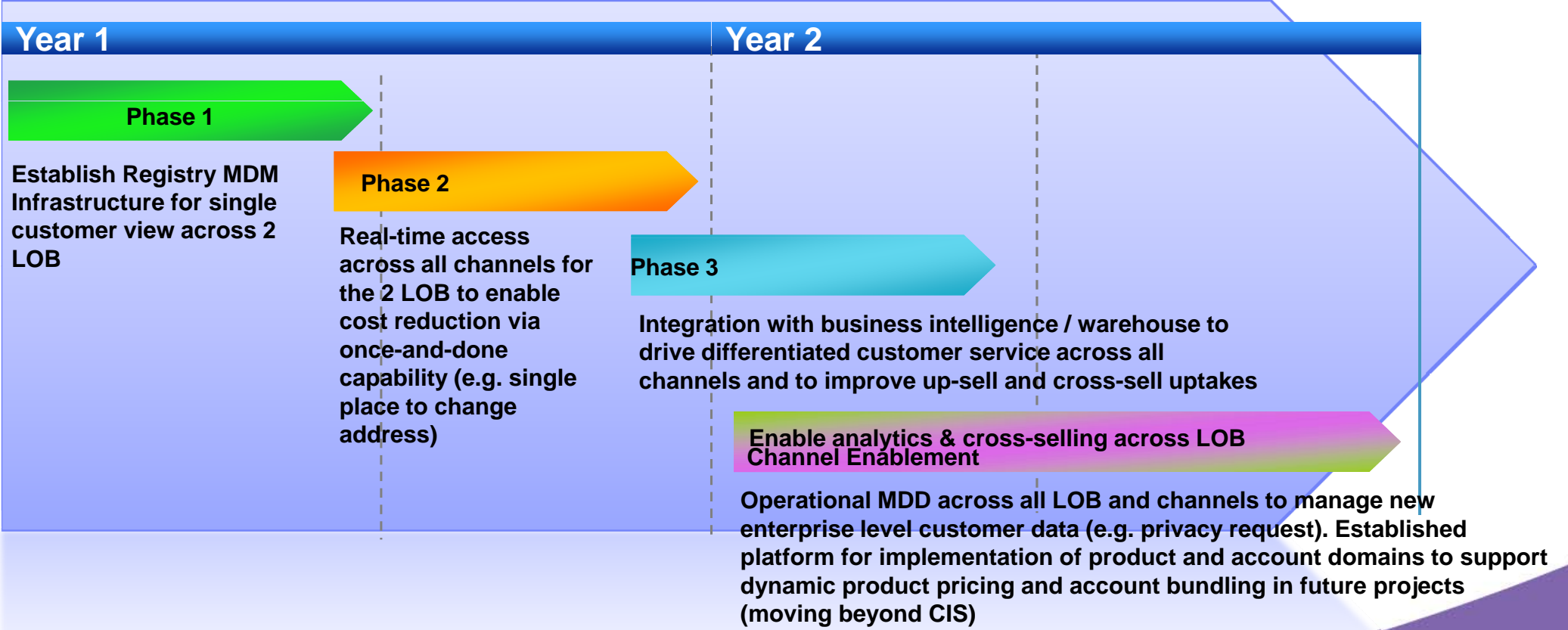
Public Hospital Consortium in Switzerland

- Driver: Identify and reduce the duplicate records in patient database
- Patients recognized at the point of registration resulting in fewer duplicate records and improved customer service
 - Duplication rate reduced from 5-10% to <1%
 - Consortium participants receive feedback on the quality of the data in their systems and records that require correction



Phased Implementation Approach

Business value-focused approach combined with smaller, targeted, releases creates predictable results



Note: Estimated timeline to show intended approach. Actual timeline will vary.



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Questions?

