baseline
CONSULTING
Data Mastered. Value Unleashed.℠

Client INSIGHT™

The Baseline Client Newsletter

Second Quarter 2007

In this issue...

Welcome to Insight!

Thomas Jefferson once said that society needs a revolution every 20 years. He was advocating moving forward, decrying stagnation, not ossifying around a single model. Jefferson's statement was as true for consulting companies as it is for governments. With the New Year comes a new look for Baseline.

Those of you who have been our clients for a while know that in the past several years we've expanded our reach beyond data warehousing. This has been driven as much by our clients' evolving needs as it has by technology innovations and market changes.

These changes have driven change within Baseline. And in the process, Baseline has become the go-to consulting firm for all things data—from our traditional expertise in data warehousing and business analytics, to our new crop of offerings around data management and data integration.

We've formalized our consulting practice around the four domains of the enterprise information strategy—data warehousing, business analytics, data integration, and data management. Each has its own mission statement. And each includes its own set of service offerings accompanied by unique processes, delivery methodologies, and rich skill sets.

With formalized practices comes a change in our messaging, along with a change in our corporate look and feel. A bright new collateral set provides you with complete descriptions of our practices, service offerings, skills, and approach. You may have noticed our new logo. The revised logo echoes the early days of Baseline, when we envisioned "data as the baseline of your business," so again we re-embrace the underline of our company name.

You'll discover this logo on a fresh new website, overhauled to align with our practice areas and color in our service offerings. We know that many of you use our website to read about our real-world client experiences, research our products, and find out about buzz-worthy industry events. We hope you'll continue to count on the site as a resource, and we'll continue to update it with the latest news and case studies.

Yes, it's a new look. But rest assured—we're the same Baseline. We push our employees out of IT and toward business innovation. We impel the hidden genius of the clients who hire us. And we still believe that corporations—even specialty consulting firms—can be a force in social change. After all, it's tackling our clients' data challenges that still lights us up.

Jill Dyché
Baseline Partner
Baseline Client Insight Editor

MDM 2.0

by Jill Dyché and Evan Levy

So you're looking into MDM—that's great! Only a year or two ago, Master Data Management and Customer Data Integration (CDI) technologies were being lumped in with business intelligence efforts. That's changing fast—and so are the requirements, delivery processes, and skill sets necessary to make MDM successful in the long-term.

The conversations started in 2004, when we sensed the momentum building for operational data integration. But 2005 was the year we began writing our CDI book in earnest. We understood the value of integrated customer data and how it could help companies needing to dynamically and accurately deploy it. Our clients were telling us that it was high time. They had to identify buyers at the time of purchase, reconcile patient records, build sustainable customer hierarchies, and resolve conflicting records about the same customer. They wanted research to determine if CDI hub technologies could do the hard work of supporting the operational integration of customer data.

But when it came to finding case studies—actual companies that had deployed CDI capabilities and were reaping the rewards—we discovered there were lots of MDM "wanna-bes."

These wanna-be companies were building customer databases. These databases supported historic and analytic queries that allowed them to analyze inventory and sales operations, understand which products were selling well, and which customers were valuable, and how to keep them. But these companies were unable to match customer records across sales, returns, and support inquiries, since these are all managed by different, heterogeneous systems, and there were no means by which to reconcile conflicting customer details.

Despite their technical prowess, these firms had no consistent way of truly integrating their customer data. They used ETL to standardize their data before loading it into their data warehouses. When there were two different addresses for a customer, there was no systematic or rule-driven way to choose the right one, so they just picked the most recent address and hoped for the best. From a business standpoint, this was risky given the regular acquisition of third-party data. Conflicting or overlapping elements were often simply discarded.

Jill Dyché and Evan Levy

Jill Dyché and Evan Levy are partners at Baseline Consulting. They both speak and write on the business value of data, and are the authors of the acclaimed book, *Customer Data Integration: Reaching a Single Version of the Truth* (John Wiley and Sons, 2006).

These firms weren't integrating their data, they were simply tacking it onto existing records as it came in. They hadn't recognized the differences between data transformation, data enhancement, data augmentation, and data integration. "Our dirty little secret is that we dump the data directly from the operational system onto the warehouse," one data warehouse vendor's reference customer told us. "We 'slam' records together with no real due diligence." Ouch.

So imagine our surprise when we encountered Amgen, who had acquired the matching capabilities of a data quality vendor and had them "baked in" to a larger physician reconciliation capability via a Service Oriented Architecture (SOA) framework. Or Intuit, whose philosophy of "loosely coupled" extends to a purpose-built CDI hub that functions as a service to the enterprise. Or Intrawest, a resort conglomerate who can recognize a customer whether he's reserving a room, buying a lift ticket, or signing in for a massage.

One thing we now know for sure is that the more companies truly understand the different value proposition of MDM, the more likely it is that they will embrace it as a discrete effort, important to—but separate from—the data warehouse. MDM is already in motion, but lately we've watched as it's gotten its second wind. Companies have institutionalized MDM into their very operations and are now reaping the benefits. We call this MDM 2.0.

What are the distinguishing features of MDM 2.0 companies? Here are a few:

- They extend data management to operational systems. MDM early-adopters have adopted data management functions, including data modeling, naming standards, data profiling and error correction, into their CDI or PIM programs. For instance a large pharmaceutical company we work with understands that it's impractical to implement MDM—thereby providing a standard means of integrating data across operational and analytical systems—until they marry the data management activities

that have traditionally existed in the BI environment with the development activities of the MDM hub.

- They deploy the MDM hub as the system of record. True MDM means never having to say "we don't know where that data came from." And when aligned with a Service Oriented Architecture, MDM technologies propagate reference details to applications without the applications having to support specific system location and navigation processing.
- They have formally established data standardization and correction processes. For instance, a large cable company discontinues a product in its base service. This isn't a one-time-only business event—the cable company introduces and cancels products often. Consequently the process by which a product is added or deleted from the MDM system should also be standardized. Likewise, a data correction process ensures that an inaccurate value—discovered via the MDM hub "flagging" the value and pushing it to the administrative dashboard—is corrected and re-introduced into the system. Traditionally this type of work has been done in a haphazard way based on subjective interpretation of data ownership.
- They launch bona-fide data governance efforts. Data governance establishes the rules and details that vary based upon business metrics. As such, it engages business stakeholders. Data governance not only ensures that business definitions match data definitions, but also ensures that data standardization and correction match accepted business practices. For instance, take GAAP—Generally Accepted Accounting Practices. GAAP represents a collection of standards that circumscribe rules for financial decisions, say, whether a piece of new equipment should be capitalized or expensed. This is a business rule that has inherent data and processing constraints. The data governance serves the function of correlating business practices to actual data.
- They undertake broader metadata support. Companies are challenging their data warehouse and data management groups to transcend their BI boundaries and deploy metadata universally. The premise of a CDI hub is that it supports the reconciliation and propagation of customer data to multiple applications. Metadata crisply defines the contents of the hub so that various applications can exploit the valuable customer data within it.

Early MDM adopters have started to see the business payoff. One of our clients, a media company that acquires an average of ten new companies a year, has deployed a CDI hub to integrate existing clients from the multiple firms. As a result, the media company has seen a reduction in the number of overlapping sales groups talking to clients. Our pharmaceutical client can now recognize—and have a relevant and timely conversation with—a prescribing doctor who is also a clinical trials researcher. The benefits of MDM are industry-specific, cross-functional, and significant.

If you're just starting out on your MDM project, we recommend envisioning these types of business benefits. MDM usually addresses big-ticket problems. Inasmuch as we argue that MDM is a core component of the technology infrastructure, indeed a major service to enterprise processing, it has immediate, real, and far-reaching impact. MDM is usually the solution to a problem that's acknowledged company-wide, like the ability to recognize an individual customer at the time of the purchase interaction—even if she's paying cash—or knowing that a pharmacy customer has a drug allergy because access to enterprise master patient data says so.

Yes, MDM can truly be a life-or-death solution. But it can also be a career-enhancing move. As companies acknowledge the importance of BI, they also recognize the value of reconciled data, dynamically deployed and understood by the enterprise at-large.

Indeed, with the evolution of purpose-built MDM technologies and the large enterprise application vendors jumping on the MDM bandwagon, finding great MDM success stories isn't as hard as it used to be. But we'd still love to hear your MDM success story! Please share it by contacting us at our Website, **www.baseline-consulting.com.**

A Health Care Provider Masters Its Data

by Jil Dyché and Evan Levy

When it comes to integrated data, the health care industry has often been accused of being a late adopter. But, with the cost and regulatory pressures to replace reams of paper-based patient history with electronic patient records, health care institutions are being propelled into becoming MDM best-practices.

A health care network based here in the west has taken this challenge head-on. The network's management team, many of whom are also M.D.s, foresaw the need to analyze newly-digitized patient data on a data warehouse. An enterprise data warehouse—and an accompanying suite of business intelligence capabilities—would allow the health care provider's disparate departments to share patient data, reduce medical errors, and alert staff to operational improvements.

However, the health care provider had an even bigger problem: the ability to track a patient across the continuum of care. This meant the need to reconcile an individual patient's identity across the network's disparate systems. For instance, if the patient's primary care physician had diagnosed a drug allergy, for instance, there was no guarantee that a pharmacy within the network would recognize the patient and register the allergy when filling her prescription.

This capability wasn't just about analyzing patient data. It was about recognizing an individual patient at the time of the interaction. And for that, the health care provider needed MDM.

After an initial assessment of its current environment—including the identification of gaps in the provider's data management, data integration, technology architecture, and data governance capabilities—the provider the provider selected Baseline to implement their CDI (customer data integration) initiative. The goal of the CDI initiative was to match an individual patient's records across dozens of heterogeneous data sources. These sources house data about a patient's hospital visits, rehabilitation, pharmaceutical services, and senior-care centers. These operational systems include both custom-built systems and packaged applications—each with its own unique way of identifying a patient.

By acquiring, matching, and reconciling large volumes of disparate data about an individual patient, the health care provider generates an Enterprise Master Patient Index (EMPI), which contains comprehensive and current data on over 5 million individual patients. By availing this EMPI to a range of systems that need patient data, the company's CDI hub achieves something the provider had never before accomplished: the interoperability of disparate systems with common patient data. The network's doctors, clinicians, pharmacists, and researchers now have on-demand access to up-to-the-minute patient information.

The CDI hub made the heath care provider's new enterprise data warehouse (EDW) much easier to implement. By doing the "heavy lifting" matching and reconciliation of patient data as it is processed throughout the business, the CDI hub has become the de-facto data quality engjne for all patient data. This renders the ETL jobs feeding the EDW easier to implement, and much less costly to maintain. The provider's manager of application development estimates that their EMPI capabilities have saved the company $10 million a year in IT efficiencies alone.

The provider's newfound MDM capabilities—represented by the new CDI hub housing the Enterprise Master Patient Index, clean, current data on the EDW, and beefed up data management capabilities, and a new data governance framework for data decision making—have had a significant impact on operations. Aside from the economies of scale provided by automated matching and integration of patient details, the provider has seen an improvement in the quality of care.

"It's not enough to just replace paper-based medical records with digitized ones," explains the health care network's CIO.

(continued on page 7)

Jill Dyché and Evan Levy

Jill Dyché and Evan Levy are partners at Baseline Consulting. They both speak and write on the business value of data, and are the authors of the acclaimed book, *Customer Data Integration: Reaching a Single Version of the Truth* (John Wiley and Sons, 2006).

Defining CDI Requirements for Pharmaceutical Firms

by Fernando Martinez-Campos

The pharmaceutical industry has analyzed customer data for decades but, like companies across industries, the growth of disparate customer "data silos" for applications has created many problems. In pharma, customers can be doctors, clinicians, industry advocates, and even patients themselves. Understanding multiple relationships—often with a single individual—is the holy grail.

Fernando Martinez-Campos

Fernando Martinez-Campos is a Senior Consultant with Baseline Consulting, specializing in data integration and management. He has written for DM Review, spoken at TDWI and DAMA events, and has worked at several pharmaceutical companies to help them manage their master data.

The common phenomena of customer information not being he common phenomenon of customer not being synchronized consistently across the databases is nothing new. Nor are the different reporting results across these data silos. The manual reconciliation of customer names and addresses is both costly and error prone. That's why understanding the different meanings of customer within the pharmaceutical industry is the key to defining CDI requirements.

Different Meanings of Customer

Since different departments of the pharmaceutical industry use customer data for multiple purposes, the varying definitions of "Customer" depend on the business function:

- A customer may be a doctor writing prescriptions. These "scripts" are tracked to understand how products are being dispensed in the field.
- R&D identifies customers as investigators dealing in clinical trials which require extensive data analysis to correlate results.
- Billing and financial reporting understands customers as people who order, pay bills, and receive shipments.
- A customer may be a business entity: an institution, a professional organization or a distributor.

As a result, customers may have different roles as they relate to business functions. The sales force, accounting and product development have different requirements to track the customer roles and relationships in their business processes. Add to this the fact that pharma companies are early-adopters of CRM technologies, and the definition of customer is often deeply entrenched in packaged applications used by sales reps and marketing analysts.

On its most fundamental level a customer is an external "party" with which the company interacts for a purpose. It may be heretical in pharma, but customer is not always sales related. The classic challenge has been to provide a complete view of a customer with all its different business purposes. The emerging challenge is to reconcile disparate records about an individual customer in an operational way.

Defining Customer Roles

Pharma companies need to approach the definition of customer based on the business function that uses it. This often involves using roles that identify the main customer reference data (Customer ID, customer profile and addresses) and how each relationship interacts with its intended business purpose. Example roles may be doctor, nurse practitioner, research investigator, and insurance administrator. These roles can also be aggregated to group customers and business entities together—for example: identifying doctors belonging to a group practice. It may be a local clinic, identified with a Customer ID, associated hierarchically to the clinic's national parent company.

Marketing organizations also have a variety of customer requirements. Most pharma companies segment doctors based on their specialties, for instance oncology or dermatology, and then target messages or promotions to those segments. Marketing may want to track doctors who are speakers in professional programs, or advocates for specific drug therapies. Moreover, a physician as a customer in the system may request

(continued on page 6)

Defining CDI Requirements for Pharmaceutical Firms

(continued from page5)

"opt out" status to prevent mailings, phone calls and sales visits. Each of these uses can be represented by different roles and data attributes that serve as filters for reporting and campaign management.

State compliance is a significant and potentially costly issue. Pharmaceutical companies have spending limits for physicians, the limits vary according to the laws of each state. Some countries have privacy laws that constrain the data that can be collected for doctors. Since new laws emerge every year, new data attributes need to be added to customer profiles for reporting so pharma companies can pinpoint specific physicians for certain compliance reports. Conflicting or duplicate data about a physician can result in inaccurate activity reports, and even financial penalties.

Different pharmaceutical product lines have different distribution models. Traditional products may be shipped to wholesalers which ship to pharmacies. Distribution of drug samples —so called "sample drops"—are usually done by sales people directly to doctors. The samples need to be tracked for product usage by each doctor. Vaccine distribution may ship directly to offices that dispense the vaccines. All these distribution models require flexible ways to identify not only individual customers but the group practices they might belong to, as well as the ship-to destinations and billing addresses.

CDI to the Rescue

Customer Data Integration (CDI) is both a process and a technology. The business process of collecting customer records from disparate systems, cleansing, standardizing, and matching the data, is complex and processing-intensive. The business rules necessary to synchronize these records are critical. Most data quality technologies already have many features that cleanse names and addresses, but requirements analysis is key to ensuring the proper alignment of the tool functionality with the way the company wants to standardize the master version of the customer's data.

Data Modeling and Metadata for CDI

Defining CDI requirements mandates analyzing the entities and attributes that define a customer. Logical data modeling is critical here, as it defines the main entities used for customers. The fundamental master data for customer (Name, addresses, roles, and demographic attributes) should be the starting point to develop integration requirements. Transactional data that relates to customer (contact events, sales, and billing) should also be modeled.

During the analysis process, a set of data attribute definitionss is developed to begin instilling a common vocabulary across the enterprise, including official meanings that clearly define each customer relationship and attribute. The different sources for customer data are then mapped to the entities and attributes along with the business rules that transform the data in the CDI hub.

If an assessment needs to be made of your CDI requirements, here are some key questions to start with:

- What are the systems of record for customer reference data ?
- How are standardization, cleansing and matching done today? (When in doubt, pharma companies should examine their CRM systems for clues.)
- What is the turnaround time for inputting new customers and making them available to other applications? Is it acceptable?
- When a new source needs to share its data, is it time consuming to incorporate the source into the environment ?
- If a new law comes into effect, will enhancing customer attributes in the data base become a major project ?
- What are R&D's requirements for customer detail, and how do they differ from sales and marketing's requirements?
- Is there a need to match and deploy data from global sources?
- How are customers related for purposes of understanding affiliations and group practices ?

CDI technologies can help ease the burden of these and other problems for pharma companies. The emergence of purpose-built solutions can often make these problems easier to fix.

(continued on page 7)

Defining CDI Requirements for Pharmaceutical Firms

(continued from page 6)

Build Versus Buy

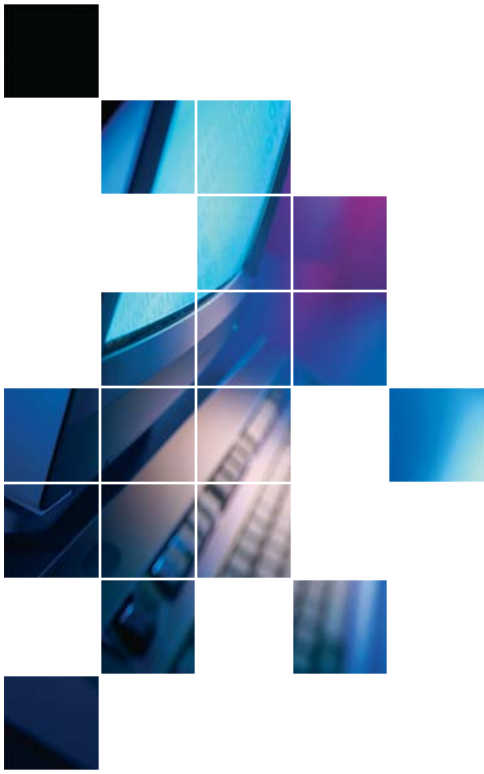
Analyzing CDI requirements requires interviewing stakeholders, documenting process and data requirements, and assessing current capability gaps. Different software vendors of CDI and MDM solutions vendors offer functionality for data standardization and matching, interfaces for delivering customer referenced data, and proven production-ready platforms that support security, availability, performance, and scalability. These products also provide ease of configurability when adding new sources and attributes. Evaluating these products must be done in the context of how the customer data management process occurs within the enterprise and how much customization will need to be done for applications to interface with the CDI hub.

CDI will reduce costs and streamline business functions across the enterprise. It is an enabler for building effective business processes that are adaptable to new requirements and regulations. As pharmaceutical companies continue to face daunting competition, tighter regulations, and more demanding customers, CDI hubs will become not only a critical infrastructure component, but a strategic mandate.

A Health Care Provider Masters Its Data

(continued from page 4)

"You have to drive business improvement. We are able to personalize our patients' care plans like we never could before. With our new MDM capabilities, we know who our patients are and how to treat them. With our new data warehouse, we know what's worked and what hasn't, and we can run our business even better. The combination of MDM and data warehousing will do nothing short of improve people's health."



Upcoming Events

Baseline Experts Talk
Visit www.baseline-consulting.com for details.

- March 25-27, 2007. CDI-MDM Summit, San Francisco.
  Building the Agile MDM Team - Speaker: Evan Levy
- May 1-3, 2007. Informatica World, Orlando
  MDM 2.0: Master Data Deployment in the Real World - Speakers: Jill Dyché and Evan Levy.
- May 9-11, 2007. Microsoft BI Conference, Seattle,
  The Business Value of MDM - Speaker: Jill Dyché.
- May 8, 2007. Dataflux CDI-MDM Executive Summit, Denver.
  MDM and CDI in the Year of Execution - Speaker: Jill Dyché.
- May 22, 2007. Dataflux CDI-MDM Executive Summit, Chicago.
  MDM and CDI in the Year of Execution - Speaker: Jill Dyché.
- May 23, 2007. Dataflux CDI-MDM Executive Summit, Minneapolis.
  MDM and CDI in the Year of Execution - Speaker: Jill Dyché.

Learning Center

Baseline Publications
Visit www.baseline-consulting.com for your copy.

- Ten Mistakes to Avoid When Planning Your CDI/MDM Project by Evan Levy
  Some companies like Amgen and RBC have already delivered early wins in master data management. Discover the biggest barriers to your success.
- Your Data: Right or Wrong by Evan Levy
  Thinking of your data warehouse as just another corporate database? Find out why there's more to database implementation than designing physical data models and database administration.
- Governance: A BI Best Practice by Beth Leonard
  Use a very practical framework as a tool to design and communicate the BI program governance. Establish BI guiding principles, align decision-making bodies with decision areas, and define oversight mechanisms. As business leaders work through the steps of the framework, they build consensus on the need for BI Governance, and develop a sense of ownership and commitment. .

baseline
CONSULTING
Data Mastered. Value Unleashed.℠

15300 Ventura Blvd., Suite 523
Sherman Oaks, CA 91403

1-818-906-7638

www.baseline-consulting.com

Baseline Consulting is a management and technology consulting firm specializing in data integration and business analytic services to help companies enhance the value of enterprise data and improve the performance of their business. Baseline's proven, structured approaches uniquely position us to help clients achieve self-sufficiency in designing, delivering, and managing data as a corporate asset.

BCI-2007-01