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A process for rationalizing master customer data: A joint white paper by Accenture and IBM

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Contents

Introduction

For most businesses, customer information is an extremely important and valuable asset. However, in the effort to automate and streamline customer interactions, companies have dispersed customer data across multiple operational systems. This process has led to an inability to get complete, accurate and consistent information about customers from across those disparate systems. Multiple technologies can be applied to solving this problem, but ultimately a solution involves both technology and process, and the appropriate approach should be determined by the desired goals and objectives of the business.

The centralization of customer data has been an ongoing investment for most companies for the past decade. In fact, the desire to better manage customer information and the processes that touch customers is the primary driver behind investments in customer relationship management (CRM) systems. Companies implement these systems to streamline their interactions with customers. A natural assumption is that a net result of implementing CRM would be a complete and accurate understanding of customer information. However, these systems are primarily focused on the processes involving customers, not the resulting information. In addition, CRM systems maintain only partial slices of information relating to customers. Other systems may contain additional data that either has not been implemented into the CRM system or for which there is no facility within CRM to manage. This could include information like purchase history, product history, cross-channel interactions or other information that may be vital to obtaining a true understanding of who customers really are, what motivates and interests them, and how they are related to other people, entities and events the business knows.

This paper describes a process for rationalizing master customer data across the various systems that independently maintain it. This process has been proven in successful implementations within companies across multiple industries. It is generic enough to apply to any technology environment and provides the flexibility to implement a choice of customer synchronization alternatives based on business needs.

Context: Recognizing the problem

The lack of customer data integration is ultimately an issue of data quality. According to Gartner, most large organizations fail to recognize data quality as a strategic issue and reactively deploy tactical solutions only after quality issues are identified.[1] This failure to recognize the problem usually results from the fact that different aspects of customer data are managed by different groups. There is no single point of ownership or responsibility across applications, channels and customer types. Each group perceives its data to be complete and accurate, even though when taken on the whole, data inconsistencies and inaccuracies exist. A 2002 report by the Data Warehousing Institute estimated that poor-quality customer data costs U.S. businesses over US$600 billion per year in mailing and printing costs alone.[2]

The following symptoms are likely indicators that a problem exists and that data is not being properly rationalized across systems:

- *Business units are unaware when customers have additional accounts within other business units.*
- *Customers are identified as marketing targets for products they already own or for which they are not eligible.*
- *Obtaining a report on total customer value takes a long time and may involve manual effort.*
- *Different business units debate about which group has the most accurate customer data.*
- *Duplicate customer records are frequently encountered.*
- *Account planning activities and strategic account programs lack "good" data.*
- *Customers complain about repetitive or mistargeted marketing.*
- *Customer support activities do not have insight into the value or history of customers.*
- *Customer up-sell and cross-sell programs are not effective.*

In some cases, recognizing this problem is not an issue. Companies know that they do not have adequate visibility into their customers and that they are missing opportunities because of it. However, quantifying the scale of the problem and the value of the missed opportunities often is a difficult proposition. Often, quantifying the problem is as important as recognizing the problem to begin with, since it forms the foundation upon which to build a business case for investing in a solution. Making this business case and obtaining executive sponsorship are vital to the success of these projects, so this issue is extremely important to success.
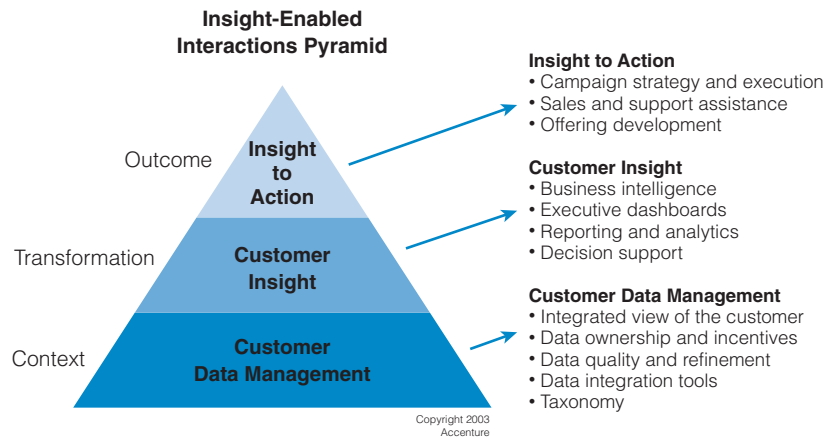
Strategy: Making customer information actionable

Customer data rationalization focuses on obtaining a single view of customers across all systems that maintain different aspects of customer data. This represents one aspect of customer master data management, which is the foundation upon which companies can truly leverage information to better manage their operational processes. Companies must invest in customer master data management in order to maximize the value of their customer relationships.

Accenture has defined a concept called Insight-Enabled Customer Interactions to describe the end state in which integrated and enriched customer data is analyzed and tracked, with the resulting information transformed into insight and plugged directly into business processes to enable differentiated customer interactions. Employing this concept, companies can use customer information to directly influence the attainment of business objectives. For example, they can significantly enhance their selling effectiveness by providing situation-specific insight at key points along the sales process.

The Insight-Enabled Customer Interactions concept consists of three sets of capabilities, shown in Figure 1. At the foundation, companies must implement customer master data management. This capability is the technical focus of this white paper and involves creating a single authoritative representation of customer data across systems and helping to ensure that this data is as rich and accurate as possible.

Figure 1: The three tiers of the Insight-Enabled Interactions Pyramid

Insight-Enabled Interactions Pyramid

Outcome — **Insight to Action**

Transformation — **Customer Insight**

Context — **Customer Data Management**

Insight to Action
• Campaign strategy and execution
• Sales and support assistance
• Offering development

Customer Insight
• Business intelligence
• Executive dashboards
• Reporting and analytics
• Decision support

Customer Data Management
• Integrated view of the customer
• Data ownership and incentives
• Data quality and refinement
• Data integration tools
• Taxonomy

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Once management of customer data is in place, customer insight can be layered on top of it. Customer insight is focused on analyzing customer interactions over time, analyzing trends across customers and measuring the results of specific events and activities. Many companies do this, but only within the context of a separate copy of customer data stored in a data warehouse. This approach does not leverage the benefit of all available sources of data within the organization. However, when this approach is layered on top of a customer master data management approach, the quality, completeness and consistency of the information is improved and the information is more valuable to the company.

Turning that insight into action requires alignment of this information with specific business objectives and the conversion of static information into monitors or automated triggers that can affect processes on demand. The most important elements are the alignment in measurement of key indicators to specific business objectives and the awareness of how processes can be optimized based on information obtained in customer insight.
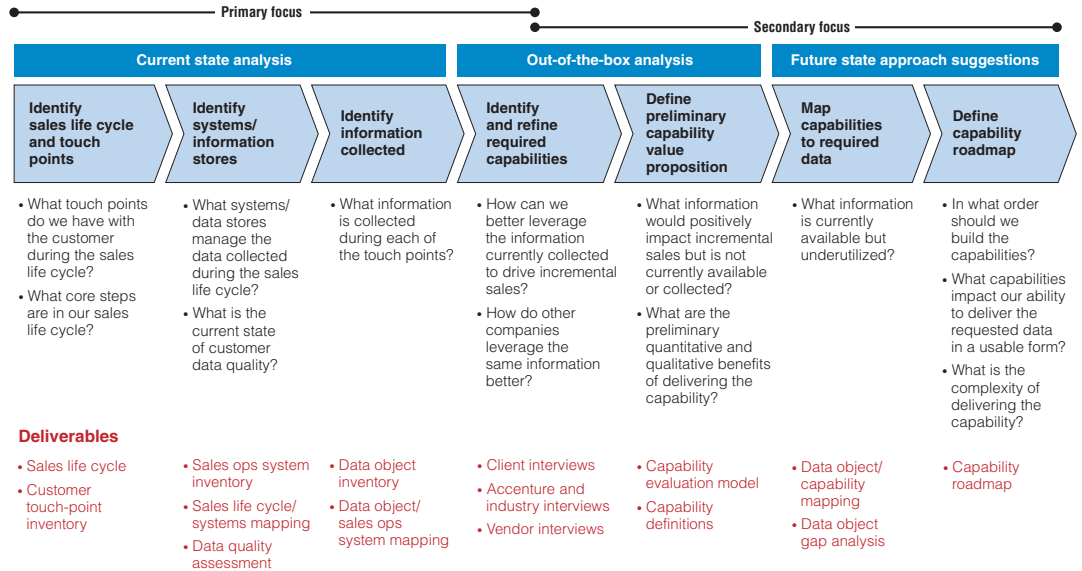
Understanding the key indicators and business objectives upfront is a vital part of the planning process for implementing master data rationalization. It makes two important contributions. First, it ensures that adequate information is being captured within the customer master data management layer. Second, it ties IT investments within that layer to specific business objectives, helping to justify and establish metrics for these projects. Finally, it is the key to obtaining executive support, a critical success factor for these projects.

Process and tools

Like every large project, a customer master data management project should start with a manageable scope that is large enough to deliver immediate value, but small enough to ensure success. Selecting an initial project involves selecting the key indicators and business objectives that will provide the highest benefit at the lowest risk. The selection process needs to involve executive-level sponsors from the business units that will be affected. Interviews and work sessions provide insight into the types of information these units would like to use to measure and govern their activities. Not all of these objectives will be met in the initial project, but they need to be understood and prioritized prior to starting any project.

At this point, the project teams are really focused on building evidence to make a case for change. This involves identifying the key indicators and business objectives, and assigning risk and benefit ratings to each of them. Working with business-line sponsors, the project team should emphasize capturing the benefits that key indicators and customer insight information would bring if they were available. This information can then be used to prioritize the initiatives within the business case.

Figure 2: An illustrative set of discovery questions and deliverables

	Primary focus			Secondary focus		
Current state analysis			**Out-of-the-box analysis**		**Future state approach suggestions**	
Identify sales life cycle and touch points	**Identify systems/ information stores**	**Identify information collected**	**Identify and refine required capabilities**	**Define preliminary capability value proposition**	**Map capabilities to required data**	**Define capability roadmap**
• What touch points do we have with the customer during the sales life cycle? • What core steps are in our sales life cycle?	• What systems/ data stores manage the data collected during the sales life cycle? • What is the current state of customer data quality?	• What information is collected during each of the touch points?	• How can we better leverage the information currently collected to drive incremental sales? • How do other companies leverage the same information better?	• What information would positively impact incremental sales but is not currently available or collected? • What are the preliminary quantitative and qualitative benefits of delivering the capability?	• What information is currently available but underutilized?	• In what order should we build the capabilities? • What capabilities impact our ability to deliver the requested data in a usable form? • What is the complexity of delivering the capability?
Deliverables						
• Sales life cycle • Customer touch-point inventory	• Sales ops system inventory • Sales life cycle/ systems mapping • Data quality assessment	• Data object inventory • Data object/ sales ops system mapping	• Client interviews • Accenture and industry interviews • Vendor interviews	• Capability evaluation model • Capability definitions	• Data object/ capability mapping • Data object gap analysis	• Capability roadmap

During this discovery process, a series of questions and deliverables are defined. These questions help to pinpoint the places and processes within the organization that can derive the highest benefit from improved customer insight. The deliverables constitute the input to the initial proof of concept, helping to define the projects and design the appropriate solutions. An example of some potential questions and deliverables within the discovery phase can be found in Figure 2.

Even within this process, however, some organizations find it difficult to find and measure the extent of the benefits. One approach that has proven to be successful in many companies is to focus on customer data quality, since diminished customer data quality is often one of the leading indicators of a problem and it is fairly easy to establish measurable benefits for data quality correction. Data quality assessment can provide a quick measure of the extent of the problem, providing executives with tangible evidence of the benefits of a master data initiative.

From the information obtained in this discovery process, the scope can be defined for an initial project. The scope of this project will be completely dependent upon the findings, but it should be limited to a three- to six-month delivery cycle. In some cases, a starting point may simply be a prototype and design for a new management dashboard for customer data. In other cases, it may be a proof of concept leveraging a prebuilt customer analytics factory. The key is to map this initial scope to the targets defined during the discovery process. In the case of the data quality approach, an initial project may be to simply cleanse the customer data to improve the quality baseline.

The goal of the initial project is to be a proof of concept for the ongoing master data effort and to operationalize prioritized initiatives and realize benefits quickly. The results should provide a measurable benefit that can be linked to one or more business objectives defined during discovery. During this process a project is being delivered, but a foundation is also being laid for the ongoing customer master roadmap, including a data and technical architecture and a set of processes for capturing and maintaining master customer data. Once this foundation is in place and an initial measurable success is established, executive sponsorship is assured. At this point, subsequent projects can be defined that feed into the architectural approach and move the company forward toward the goal of customer insight. The idea is to institutionalize customer insight and its metrics throughout the organization and to create a center of excellence around customer data.

Technology approach

The technology approach differs from the project approach. The goal of the project approach is to rapidly demonstrate measurable benefits and to ensure that projects are always linked back to business objectives. The goal of the technology approach is to define a sustainable architecture that is capable of meeting both long- and short-term objectives. The technology approach also often has to conform to enterprise standards and leverage available skill sets where possible. Because of varying standards and skill sets, no single approach can be defined that meets every organization's requirements.

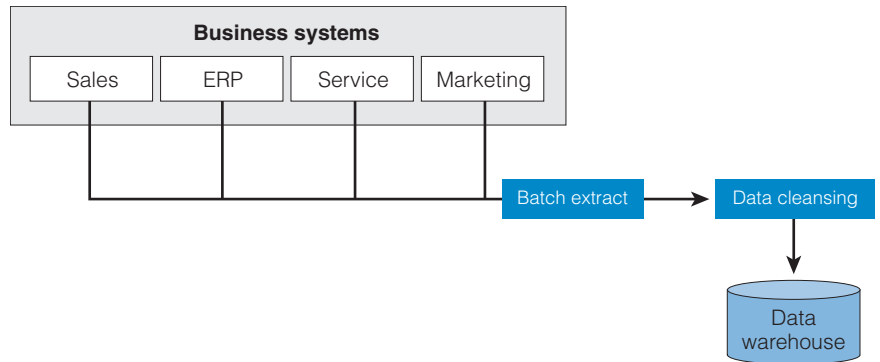Figure 3: External reference approach
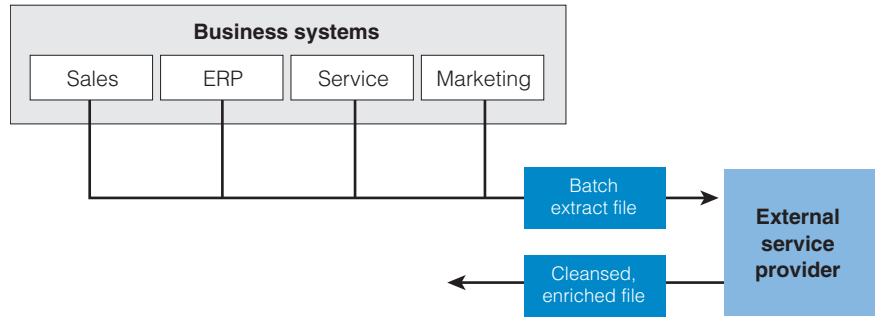
However, the approaches to master customer data management generally fall into four categories: external reference, data warehouse, cross-reference and full record.

External reference

The external reference approach, shown in Figure 3, uses an external customer data integration service provider to maintain the integrity of customer data. These service providers maintain independent databases of consumer and business entity data that are kept constantly up to date through a variety of unrelated channels, such as credit interactions, corporate actions and so on. Within this approach, companies ship their customer data to these service providers to cleanse, match, link, enrich and assign unique identifiers to the data. The service provider has the benefit of detailed updated information on household and corporate relationships that can provide further insight into customers. Services like this are available from companies like Acxiom and Experian for consumer data and Dun & Bradstreet and Factiva for business data. Once the initial cleansing is completed, updates can occur either through periodic batch exchanges or through real-time services.

Figure 4: Data warehouse approach

Business systems

| Sales | ERP | Service | Marketing |

Batch extract → Data cleansing

Data warehouse

The external reference approach provides the advantage of an independently maintained set of reference data, but it does not take into account all internal corporate information, such as customer transactions and service records. Therefore, this approach needs to be supplemented with additional internal information to provide the detailed insight most businesses are seeking. In addition, the business requirements may dictate that the business rules applied to the data must be maintained internally, and there may not be tolerance for the inherent latency of dealing with an external provider.

Data warehouse
Oftentimes, this supplemental information comes from the second approach, which involves using a data warehouse as an information factory for customer insight (see Figure 4). This approach is by far the most commonly implemented. Within this approach, customer data is off-loaded from source systems into a data warehouse. Data quality technologies are applied to cleanse and enrich the data and to match and link records from within and across systems. Additional analysis, like historical or categorical trend analysis, is often performed in the data warehouse to provide insight into customers beyond what is available within the raw data from source systems.

The data warehouse approach provides the "richest" data, since it augments raw data with detailed analysis. However, it is usually an analysis-only environment, which is not consistently synchronized with operational systems. This makes it more difficult to make the information actionable, since the data may not be current. It also prevents the data warehouse from being the authoritative source of customer information in most cases. However, almost all successful customer insight strategies include a data warehouse to provide supplemental analytical information on customers. Companies like Kalido and IBM provide tools for defining master customer data warehouses that can easily adapt to changes over time. When adopting this approach, these tools should be considered to help reduce the maintenance risk over time.

Cross-reference

The cross-reference approach provides a lightweight internal repository for authoritative customer information. Gartner refers to this as the "registry style" of customer data integration.[3] Cross-references leverage data quality technology to uniquely identify matching customer records within and across systems. The cross-reference database assigns a primary key to each unique record and stores the identifiers of all linked records in all source systems. It also stores enough identifying data for the customer to allow matching identification when incomplete records are received and primary keys are not known.

Figure 5: Cross-reference approach
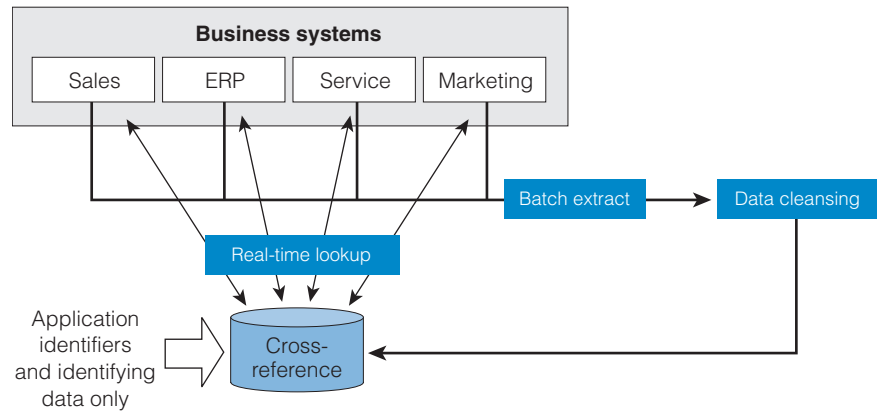
Cross-references may also store the rules by which an authoritative record is derived from the various source systems, shown in Figure 5. As updates are made to source systems, cross-reference (matching) services help ensure that duplicates are not created. When an inbound record is identified as a match, existing data about the customer can be assembled together from source systems on the fly, based on the linkage information and the survivorship rules. In addition, any updates that affect the cross-reference database can be captured and enforced in near real time.

The cross-reference approach acts as an operational data store, allowing it to constantly remain synchronized with source systems. It provides a detailed record of how records within different source systems are related, without losing or overriding the context of any of the sources. By itself, however, it does not provide additional analytical insight into the data. In addition, it is only as good as the source system data. As such, the cross-reference approach can still benefit from both the data warehousing approach that provides analytical information and the external reference approach that provides better identification accuracy.

Full record

The full record approach is conceptually similar to the cross-reference approach, but rather than storing just the cross-reference, it stores a complete unique record for each customer. This approach creates a copy of the best data from different source systems and stores that copy in an operational data store that can then be used as an authoritative source of customer information. It works similarly to the cross-reference approach, utilizing data quality technology to uniquely identify, match and link records within and across systems. However, in this case, it optionally stores a single survived record, based on survivorship rules, from across the various sources. To be operationally effective, this master data store must be kept synchronized with source systems, which requires that processes are put in place to ensure this synchronization. These processes are triggered by updates in any individual source system and optionally from updates to the customer master database.

The full record approach, shown in Figure 6, assumes a complete customer data model that is appropriate to represent all business requirements. This data model may be derived from a source system schema, representing a "superset" of those schemas, or it may be an industry- or solution-specific model. For example, when implementing the SAP master data management solution, the vendor determines the model and sources are simply mapped to this model. It is likely that this model will still benefit from additional analytics provided by a data warehouse, so there may still be an external linkage to this data.

Figure 6: Full record approach
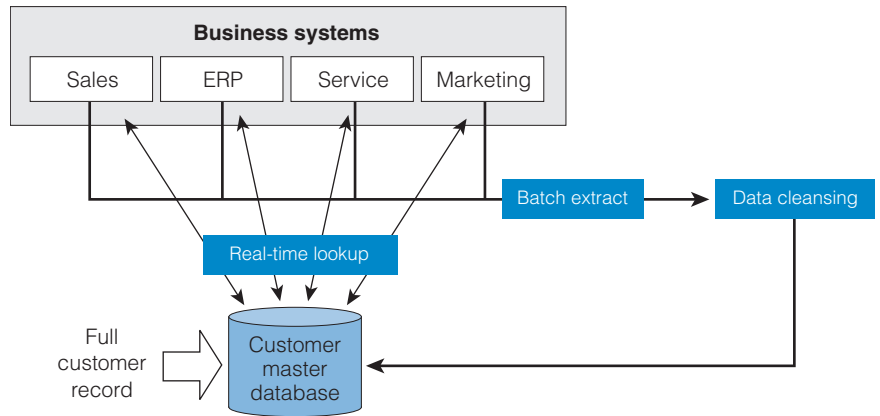
The full record approach is the most complete solution to the master customer data problem. In fact, Gartner predicts that the creation of a master customer information database will deliver the most-accurate, up-to-date and complete single view of the customer across multiple channels and business lines in heterogeneous IT environments through 2008.[4] However, a complete implementation of this approach can be very challenging for many organizations. Building the synchronization and management processes can be one of the most challenging aspects of this approach. Packaged solutions from companies like IBM and SAP provide prebuilt synchronization and management processes. While not as flexible as a custom approach, they can help lower the implementation risk.

When using a packaged solution from a vendor, it is still important to rationalize a set of master customer data across systems prior to implementation. According to META Group, these packaged solutions emphasize the need for master data rationalization because their function is the syndication and management of master customer data objects.[5]
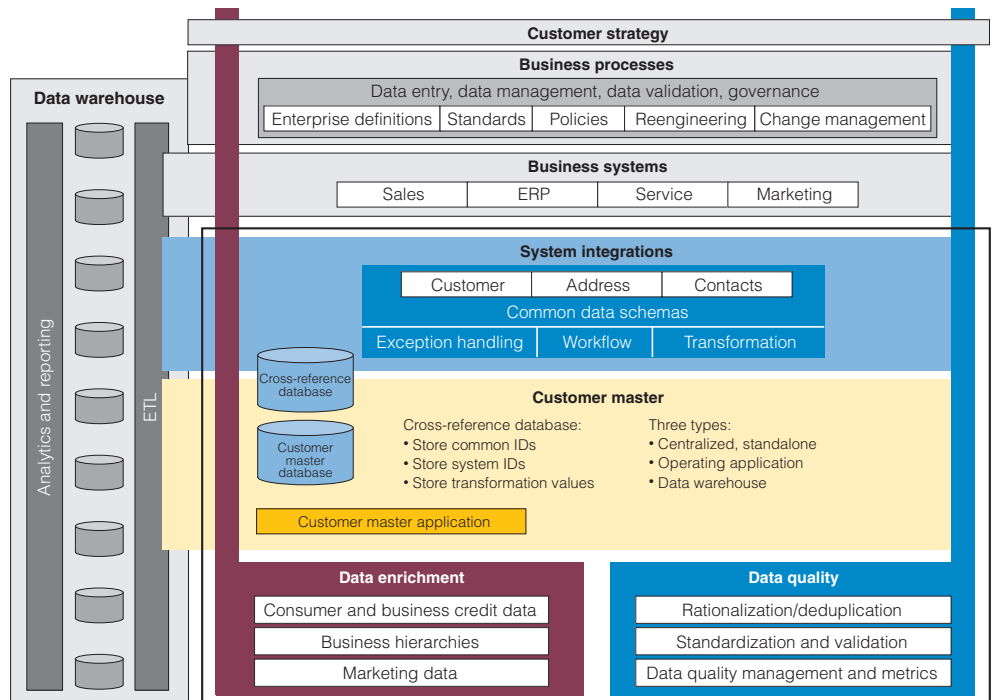
Selecting an approach

In most cases, the right approach is some combination of these four approaches. For example, most companies start by implementing a data quality product to achieve an initial quality baseline of customer records. The company may then choose to augment this with an external service provider to provide better details on household or corporate affiliations. The company may also implement a customer data warehouse to provide rich analysis of customer data that can be tied into the unique identifiers assigned by the external provider. At the same time, the company may implement an internal cross-reference to keep various systems updated with the appropriate record linkages, ensure that inbound records are not duplicates and allow them to dynamically assemble a complete master record when they need it. Over time, this cross-reference approach may be enhanced to become a full record approach.

A reference architecture

Accenture has defined a reference architecture for customer master data management, illustrated in Figure 7. This reference architecture can be applied to any of the approaches and is generic enough to be used in almost any customer master scenario. It forms the basis of the customer data management tier within the Insight-Enabled Customer Interactions Pyramid (see Figure 1).

Figure 7: The customer master reference architecture

Customer strategy				

Business processes

Data entry, data management, data validation, governance

Enterprise definitions	Standards	Policies	Reengineering	Change management

Business systems

Sales	ERP	Service	Marketing

Data warehouse

Analytics and reporting

ETL

System integrations

Customer	Address	Contacts

Common data schemas

Exception handling	Workflow	Transformation

Cross-reference database

Customer master database

Customer master

Cross-reference database:
• Store common IDs
• Store system IDs
• Store transformation values

Three types:
• Centralized, standalone
• Operating application
• Data warehouse

Customer master application

Data enrichment

Consumer and business credit data

Business hierarchies

Marketing data

Data quality

Rationalization/deduplication

Standardization and validation

Data quality management and metrics

While the selected approach will determine which aspects of the architecture are emphasized, all of the technologies and vendors discussed in this white paper can be classified into it. Each represents a key capability within the architecture, required for complete, accurate and consistent customer information.

Within this reference architecture, four primary areas comprise the master data approach. These areas are represented by the system integrations, customer master, data enrichment and data quality boxes within the diagram. These areas need to be retrofitted into existing business systems and processes, and they must coexist with existing data warehouse implementations.

The data profiling pattern is mapped to the reference architecture in Figure 8. In this case, IBM® Information Server extracts data from source systems to a staging database. This process allows the intensive profiling operations to take place without any impact on operational systems. Profiling performed by IBM Information Server determines the rules and relationships within the data and facilitates the creation of common metadata understanding across source systems. This information is stored in the metadata repository of IBM Information Server.

Figure 8: Data profiling pattern mapped to the reference architecture
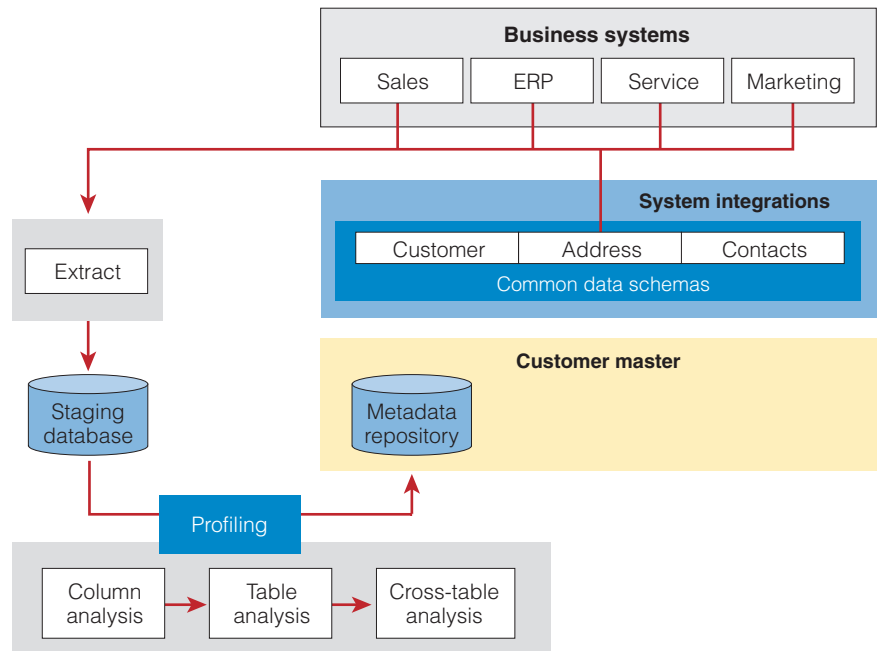
Data quality

Data quality is an essential ingredient of all master data initiatives. In a data quality process, data is internally cleansed and enriched, and records within and across systems are linked. Even in cases where an external reference service is used to cleanse and identify unique records, an initial pass with data quality technology can reduce the costs of using external services. IBM Information Server is an example of an automated data quality solution that can provide customer data refinement and address hygiene, matching and linking, persistent identification, data enhancement and record survivorship. These capabilities have been highlighted by Gartner as being critical steps for creating accurate, rich customer data.[6] Unlike most other data quality technologies, IBM Information Server uses probabilistic algorithms to create a higher match rate and better protection against false positives. It also is capable of matching data other than names and addresses, including product catalogs, bills of materials, suppliers, charts of accounts or any other type of master data.

The data quality pattern is mapped to the reference architecture in Figure 9. In this pattern, IBM Information Server is used to investigate the data to determine match patterns and standardization rules within the data. These rules are defined and stored within the business rules repository. With the rules in place, the data is standardized and address information is certified against postal references. Records are then compared together using probabilistic matching to determine potential duplicates or matches across systems. Records that are likely matches can be automatically linked or gathered for administrative review. Linked records can be merged together according to custom survivorship rules or a simple cross-reference record can be created that indicates the linkage. Data can also be enriched using IBM Information Server and external services to provide additional contextual information.

Figure 9: Data quality and transformation and delivery patterns mapped to the reference architecture
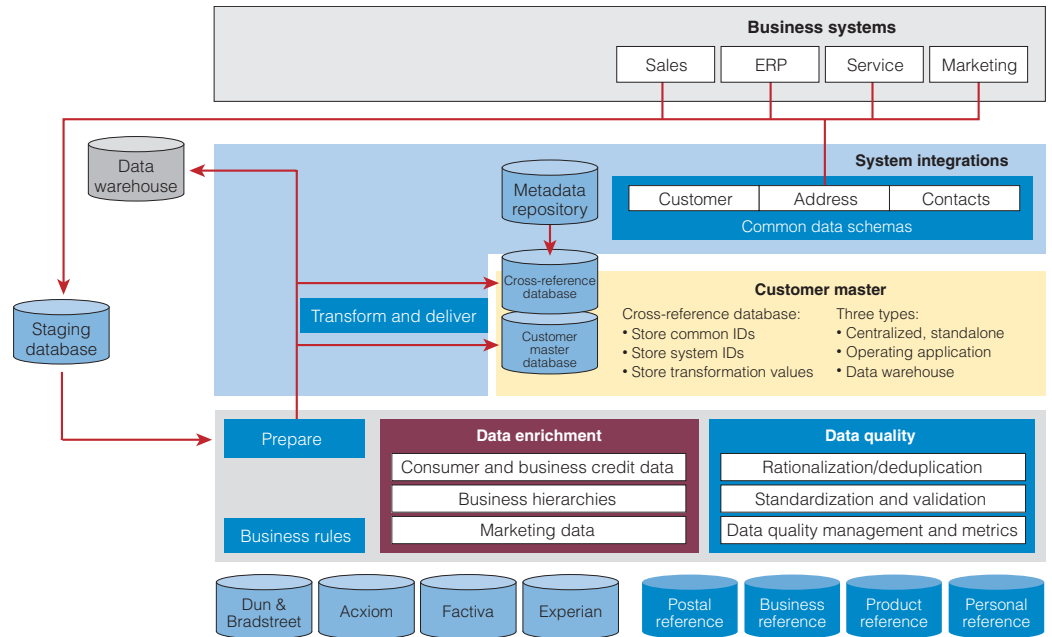
Data transformation and delivery

Each of the outlined approaches involves extracting large amounts of data from source systems and transforming it to a common format. The rules governing this activity are consistent across both batch and per-transaction scenarios within each approach. Ideally, these rules should be defined once and applied consistently across both scenarios. IBM Information Server is an example of a data integration solution that allows rules to be defined for transformation and delivery that can be used in both batch and real-time scenarios. IBM Information Server can support the intensive processing requirements for moving very large bulk data sets and the complex transformation requirements for creating analytical views of data within a data warehouse.
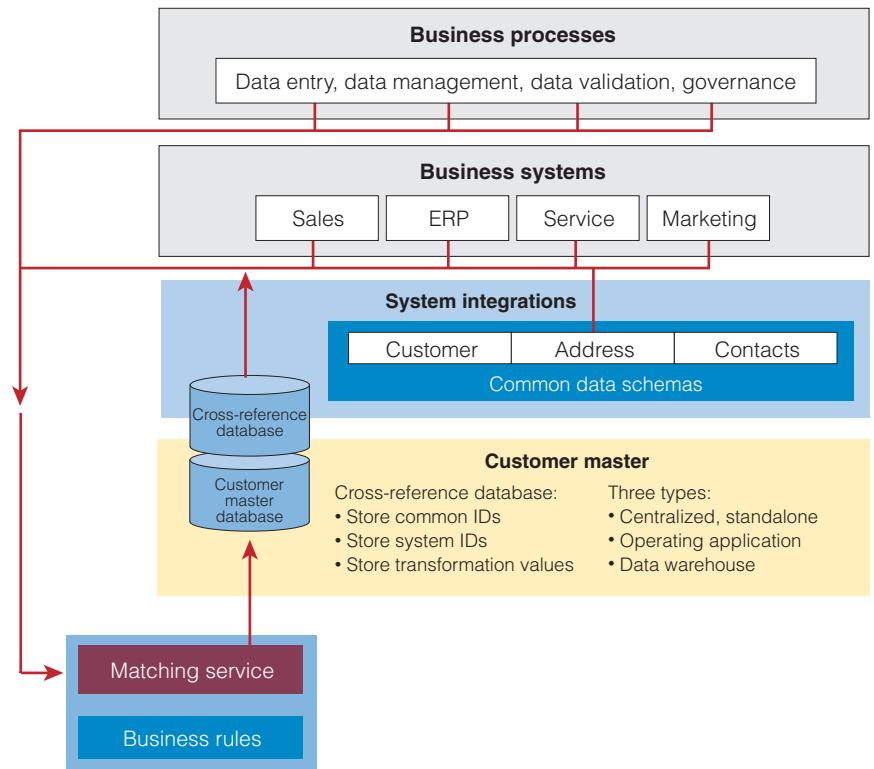
The data transformation and delivery pattern is also shown in Figure 9. This pattern uses IBM Information Server to transform and load the cross-reference, master data database and data warehouse, according to the chosen architectural approach and utilizes the metadata gathered during the profiling and data cleansing to automate and ease the creation of these target schemas.

Matching services

Matching services help ensure the ongoing integrity of data. These services take the rules defined in the data quality technology and make them available to be called on the fly by any application that creates customer data. This approach helps ensure that new data entering the system is not producing a duplicate record and that it is appropriately linked to existing records. These services may also allow new information within an inbound duplicate record to be "survived" into a master record. For example, new address data may be received for an existing customer. It is important not to create a duplicate record, but it is also important not to lose the new address.

The matching services pattern is shown in Figure 10. In this pattern, the same quality rules defined and used to create the cross-reference or master database are published as services that can be called on demand from business systems or processes. This pattern allows data to be standardized, certified, matched and enriched at the point of entry to help ensure that data is consistent and that duplicates can never be created.

Figure 10: Matching services pattern applied to the reference architecture
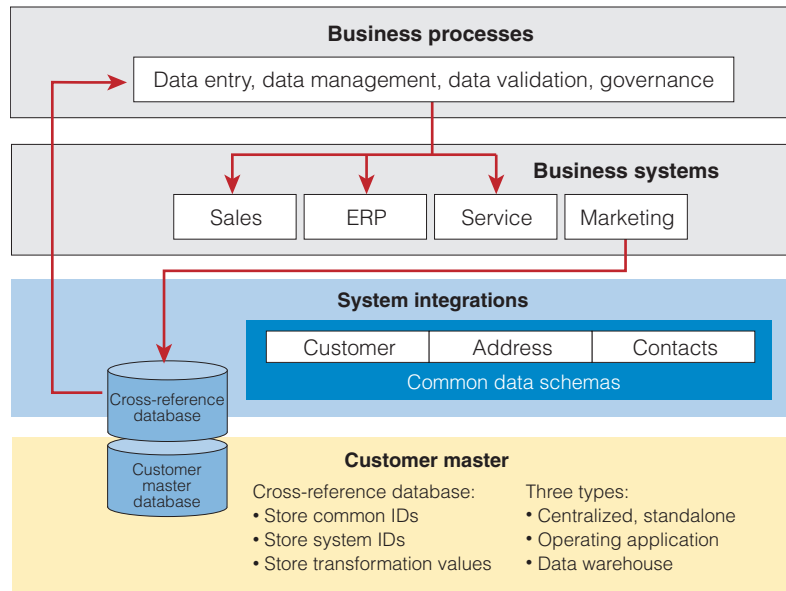

Business processes

Data entry, data management, data validation, governance

Business systems

| Sales | ERP | Service | Marketing |

System integrations

| Customer | Address | Contacts |

Common data schemas

Cross-reference database

Customer master database

Customer master

Cross-reference database:
• Store common IDs
• Store system IDs
• Store transformation values

Three types:
• Centralized, standalone
• Operating application
• Data warehouse

Matching service

Business rules

Synchronization services

Synchronization is the process of maintaining consistency across the master data store and all source systems. Synchronization is a very complex process since it involves keeping track of changes to any source and to the master data store. When a change occurs, it needs to be replicated to all affected systems according to survivorship rules, which are typically governed by the data quality solution.

During the synchronization process, transactional integrity is very important. If one system gets updated, it is important that all systems receive that update as quickly as possible to avoid discrepancies, and if one update fails, the others should be rolled back. This level of process synchronization requires specialized technologies that can integrate with any type of source system and help to ensure transactional integrity. Prepackaged operating applications like the IBM WebSphere® Customer Center and those offered by SAP provide these services as part of the package, but they force the solution to a specific master data model.

Figure 11: Synchronization services pattern applied to the reference architecture

Business processes

Data entry, data management, data validation, governance

Business systems

| Sales | ERP | Service | Marketing |

System integrations

| Customer | Address | Contacts |

Common data schemas

Cross-reference database

Customer master database

Customer master

Cross-reference database:
• Store common IDs
• Store system IDs
• Store transformation values

Three types:
• Centralized, standalone
• Operating application
• Data warehouse

The synchronization services pattern is shown in Figure 11. In this case, customer data is updated in the marketing system. This update then needs to be propagated to the other systems. In this example, the synchronization is managed by a business process; however, it could be managed by a packaged master data application or an enterprise application integration technology. IBM Information Server can be used as the integration layer among these systems, receiving event triggers from the applications and transforming and routing the data to the various involved systems.

Best practices

Accenture and IBM have identified some best practices that can help ensure that your customer insight project is a success:

- ***Build a detailed business case*** *and be sure you have completed a value analysis prior to beginning the project. The considerable investment of time and resources required for these projects and the number of departments and groups required to participate make this mandatory.*
- ***Align the project initiatives with business objectives*** *and ensure executive sponsorship of those objectives. Make sure that your projects support the corporate strategy and try to encourage executives to provide incentives to align the various involved business units and functions.*
- ***Design the project to produce quick hits*** *with measurable return on investment. Use prototyping and proof of concept where possible to avoid long product cycles and maintain business involvement throughout the process.*
- ***Understand the customer interaction life cycle.*** *This knowledge will provide better understanding of the business requirements, ensure that you are getting the right data and help to scope your projects.*
- ***Implement a data stewardship process***, *where possible, to provide governance oversight of the data and help in conflict resolution between groups.*
- ***Avoid complex data architecture and integration science projects.*** *Focus each release on providing a complete top-to-bottom slice of scope, including data, insight and action. This process helps to ensure that each project is moving the architecture forward, while still addressing the business objectives.*

- *Make sure you define success and measurements up front.* *Getting agreement on the measures of success and establishing the measurement criteria help ensure that value can be proven.*
- *Select a proven approach and proven technologies.* *Experience is the key to making these projects successful.*
- *Profile your systems up front* *and use the same rule set for initial customer de-duplication and ongoing customer identification.*

Results

According to Gartner, the creation of an accurate, timely and rich single view of the customer across channels and lines of business will be a key enabler for reducing costs, managing risk and increasing revenue and profitability in customer-centric organizations.[7] Companies that have implemented customer master initiatives have seen an enormous return on investment. Fundamentally, the more customers that perceive a company understands them, the higher their satisfaction, which can lead to higher top-line profits. For example, one study showed that a 5 percent increase in customer retention will result in a 75 percent increase in aggregate lifetime profits from an individual customer.[8]

Customer retention is just one of the benefits of this approach. Other benefits include the following:

- *Improved customer satisfaction*
- *Improved profitability per customer*
- *Greater market share*
- *Better penetration of existing customers*
- *Larger deal sizes, shorter cycles and improved win rates*
- *Improved cross-sell and up-sell performance*
- *Improved return on marketing spend*
- *Greater leverage with service costs*
- *Enhanced product marketing and solution development capabilities*
- *Better executive decision making*

A case study

Accenture and IBM have successfully implemented this process with many customers across multiple industries. An excellent example of IBM and Accenture working together to provide a customer insight solution involves one of the world's leading software companies.

This company felt it was not fully leveraging its customer base. Part of the problem was a lack of visibility to customer information across systems. The company was unable to achieve a unified view of customer information across the 30 systems that stored various aspects of customer data. In addition, no consistent controls were in place to govern the 12 entry points for customer data, resulting in constant addition of duplicate and inaccurate data. The company felt it could provide better customer service, more proactively recognize and manage maintenance contract issues, and optimize cross-sell and up-sell opportunities if it could achieve a single view of its customers.

The company enlisted Accenture to help with this initiative. Accenture helped the company to identify the business constituencies and define the key indicators, business objectives and measurements that would make the project a success. Accenture also helped to define a target architecture for the customer insight initiatives. The company adopted a cross-reference approach, augmented by reference data enrichment from external service providers.

Within this approach, the company selected IBM Information Server to cleanse and link records across multiple source systems, which included PeopleSoft, Siebel and Clarify. The company used IBM Information Server to create a set of cross-reference tables from this information and enrich this data with information from Dun & Bradstreet and Factiva. The same IBM Information Server matching logic was used to publish matching services as Web services, which were called from an enterprise application integration (EAI) product. The EAI product then managed the synchronization process, calling the matching service to determine any links and performing the appropriate updates when necessary.

The entire system was designed quickly, and a complete top-to-bottom slice of functionality was provided within a six-month delivery cycle. The result was a system that was capable of providing a complete view of customer data, assembled across multiple systems. This single view allowed the company to provide better customer service and to be more proactive in its cross-sell programs. The solution works across all channels and the success metrics are directly tied to the way the company measures its business success. The company is now measurably more efficient and effective in its customer interactions.

Conclusion

Companies that can effectively manage customer information can derive much greater returns from their customer relationships. To be successful, organizations need to recognize the problem, link resolution to specific and measurable business objectives, and select an approach that maximizes their existing technology components and skills. By selecting a proven approach and proven technologies and implementing best practices in their adoption, companies can achieve a very rapid return on their investments and meet both short-term and strategic business goals.

For more information

For more information about the products or processes discussed in this paper, please visit IBM at **ibm.com** or Accenture at accenture.com.

To learn more about IBM Information Integration offerings, contact your IBM marketing representative or IBM Business Partner or visit **ibm.com**/software/data/integration/

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