

# Incremental Implementation of SQL Server 2008 R2 Master Data Services

We have all experienced the case where a company markets to us as if we were not an existing customer. For example, you receive a mailer from your current bank offering an incentive to open a new account. The marketing organization is not aware that they are sending the letter to an existing customer. At the root of this is a Master Data issue. It calls into question the ability of the organization to properly manage their data (and your money).

Master Data Management (MDM) broadly refers to the tools and processes that manage the non-transactional data of an organization. Some good examples of “master data” are customer records or a product numbers. A Master Data Management program around customer records would outline the processes, standards, and checks to ensure that customer records are accurate and complete as defined by the business.

There are tools available to assist organizations in managing master data. Traditionally, the tools for Master Data Management have required separate licensing and additional costs over and above the enterprise database. That recently changed when Microsoft released the Master Data Services (MDS) product as part of SQL Server 2008 R2. Now, end to end solutions can be built on the Microsoft SQL server platform without additional licensing costs.

Out of the box, the MDS platform can be imposing. The front end does not intuitively lead the developer through the question of...”How do I get started on Master Data Services?” The thing to keep in mind is that Master Data Services does not need to be completely integrated in key business processes to begin yielding useful results. This white paper shows how MDS can be implemented in a phased approach to allow both technical staff and the business to manage the evolution of process needed to implement an effective Master Data Management program.

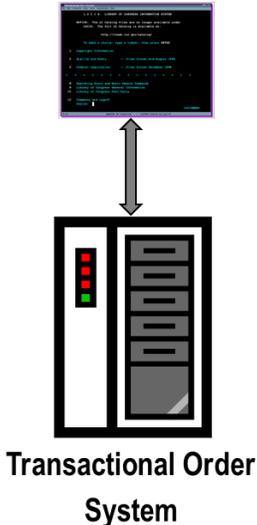


Figure 1: Account Creation in Legacy Order System

Figure 1 shows the account creation process for a typical enterprise legacy order system. Accounts are created in a terminal environment where data validation can be difficult and costly to implement. It is difficult for example, to build in an address validation check that verifies a customer address prior to account creation. The end result is often duplicate accounts with incomplete or undeliverable addresses.

In addition, this data tends to be “siloes” in the legacy order system and difficult to access or integrate with other systems. When the marketing department wishes to gather a current list of customers, it can involve a custom query run against the database that must be scheduled within the context of an “offline job”.

One of the first steps to be taken in addressing a data quality problem is to obtain some hard metrics that quantify the issue at hand. Master Data Services can be used for this first step.

Figure 2 shows how MDS can be used in a disconnected batch approach to profile the customer data. A snapshot customer data extract (in the form of a text file) is loaded into MDS. Once loaded, the web front end to MDS can be utilized to build data quality rules that will show records that violate these rules. This rather simple first step allows you to make progress on several fronts:

1. You can quantify the data quality problem at hand (e.g. 427 customer records have an incomplete ZIP Code).
2. You can begin to discuss with the business what rules should be turned into data standards moving forward.
3. The loading of these records requires that a schema is built for the customers within MDS. This is an ideal opportunity to begin standardizing naming conventions and business terminology.

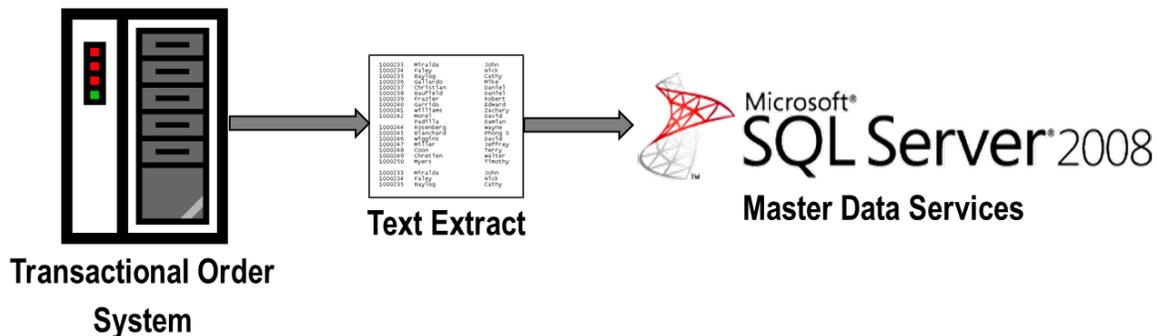
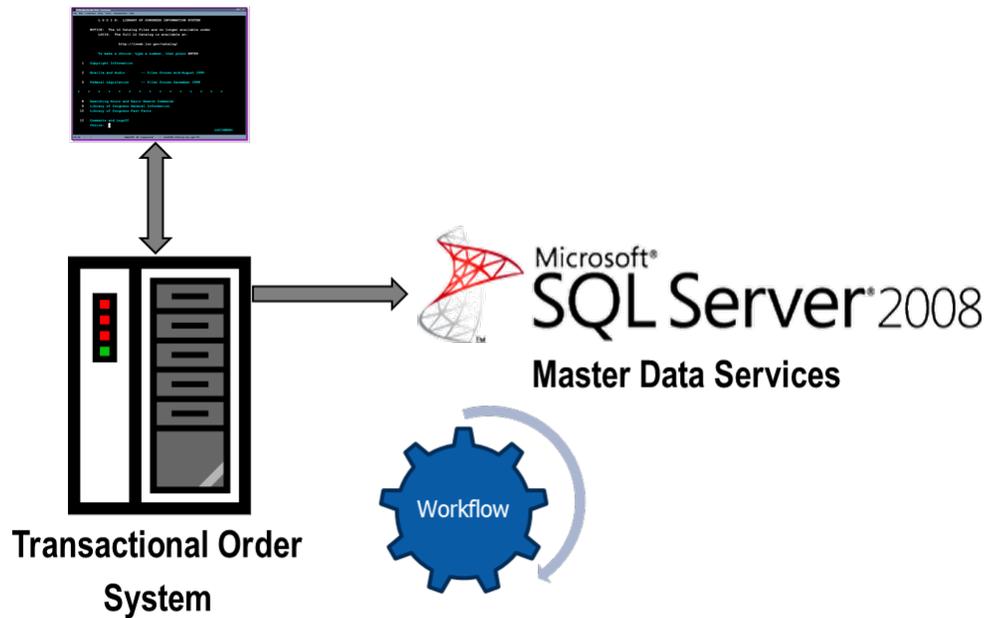


Figure 2: Profiling Customer Data “Off-line”

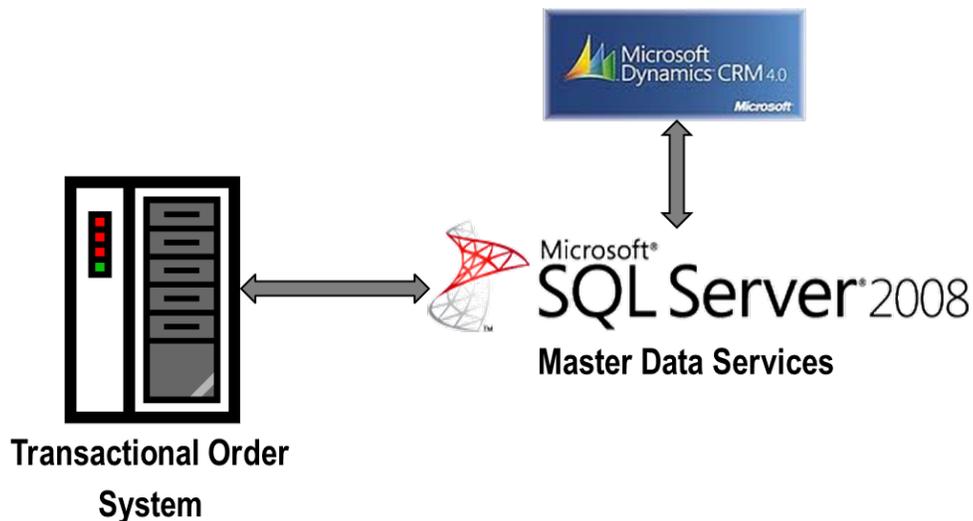
A logical next step in the integration and implementation continuum is to utilize the MDS API to receive new and modified accounts directly from the order system as they are created. This process is shown in Figure 3.



**Figure 3: Using MDS to Monitor New Account Creations and Updates**

Note that the terminal environment is still being used for account creation and maintenance. The only difference is that the two systems have been loosely coupled through an API call. Now, when MDS receives a new or updated customer record, the data quality rules that were developed earlier can be utilized to invoke built-in workflow capabilities upon violation. This is not yet an ideal solution because the errors are being caught “after the fact” but it brings out an awareness of the need to adhere to data quality standards.

In addition, current customer record data is now in MDS. Marketing extracts can be automated or run by end users with no fear of impacting production systems. These data extracts also no longer require custom development or extract jobs.



**Figure 4: MDS Integrated with Legacy Application and CRM**

Figure 4 shows how MDS could be fully integrated into this sample business scenario. Now the organization has a CRM system which is coupled to the MDS API. Customer records are no longer created or maintained in the order system. The CRM front end is used for these operations and the data is stored in MDS where it now is the master source of all customer data. Some of the advantages include:

- The CRM GUI for account management is easier to modify and update.
- Data standards are enforced at customer creation. An incomplete record cannot be created.
- Other enterprise systems may now access customer data through the MDS API with the confidence that those records are consistent in all subscribing applications.
- The process for legacy application upgrades and replacement is made easier by this architecture.

This is a simple example, but is meant to demonstrate how the MDS platform can be gradually molded into the business. A phased evolution provides clear steps and measurable benefits that will help get everyone onboard for a successful Master Data Management program.

Innovative Architects has extensive experience in all phases of MDM implementation. This includes program implementation using the new Microsoft Master Data Services (MDS) product which was just released with SQL Server 2008 R2. The goal of our Master Data Management offering is to leverage our experience in developing and implementing MDM to deliver a solution that fits your business needs.