Microsoft

Microsoft SQL Server Master Data Services Roadmap

Introduction

In June 2007, Microsoft announced the acquisition of Stratature, a privately held company based in Alpharetta, Georgia, and a leading provider of master data management (MDM) software. This was the first step in Microsoft establishing a presence in the master data management space, and will accelerate Microsoft's delivery of technology in the MDM market.

The Microsoft MDM product codename is "Bulldog". Bulldog includes Microsoft process and standards applied to the Stratature code base as well as several important new capabilities described below. This document introduces an update to the short term roadmap for master data management at Microsoft and the timelines for reintroducing an enhanced master data management product in the near future. Microsoft customers want a solution that leverages their technology investment, integrates with their software assets, is easy to install and maintain, and provides a low total cost of ownership. Bulldog will meet these requirements while building on a long-term vision for master data management at Microsoft.

On initial scoping, it was determined that "Bulldog" would ship as part of Microsoft Office SharePoint in the O14 wave. At TechEd 2009, we announced a change in packaging for the new MDM capabilities. Project Bulldog will now ship as part of SQL Server 2008 R2 as "SQL Server Master Data Services."

This means that in addition to new capabilities such as Self Service BI and multi-server management, SQL Server 2008 R2 will also provide customers with a rich platform for MDM through SQL Server Master Data Services (MDS). Customers who have purchased Software Assurance (SA) should view this as net new value and innovation that they will have access to as a result of their investments in SA.

Product Priorities

Microsoft understands customer pain around managing master data. Microsoft also understands that current solutions tend to be implementation heavy, time consuming, risky and expensive. The following product priorities are targeted at reducing such barriers to master data management solutions.

Utilizing Existing Technologies

Microsoft has a wealth of existing and emerging technologies to apply to and support a master data management solution. The Microsoft MDM solution will be built upon the solid foundations of Microsoft SQL Server, Microsoft Office SharePoint Server, Windows Communication Foundation, the ADO.Net Entity Data Model (EDM), Integration Services, BizTalk Server, and other key Microsoft technologies.

Rapid Time-to-Value

Current MDM projects, at a minimum, consume more than half of the project budget in services focused on implementation and customization of a chosen MDM solution to meet site specific requirements—in fact, a service to software ratio of 10:1 is common. Time to value is a measurement of how long it takes to start deriving value from an MDM solution. Microsoft MDM will focus on building an application that will reduce time to value and increase early return on investment.

Product

Stratature

Stratature's MDM product, called +EDM, is a master data hub with a web UI, business rules, simple human workflow and notification, entity and hierarchy management, versioning, transaction logging, and an open subscription interface.

Master Data Hub

Stratature's master data hub is a SQL Server application that provides central management of master data entities and hierarchies. A comprehensive role based security model ensures fine-grained, secure access to master data.

Data Modeling

The entities, attributes, hierarchies, and business rules used to store and validate master data are completely defined in a metadata driven data model. There is no predefined model for master data so administrators are free to define the data model in any way that satisfies the needs of their organization. As new business entities appear or current business entities change, the master data hub data model can change to accommodate the new business requirements.

Thin Client UI

Stratature's UI is based on ASP.Net and AJAX, and provides flexible thin client and role-based access to the hub for browsing, editing, auditing, approving, and authoring master data.

Business Rules

+EDM supports the definition and enforcement of a wide variety of business rules that ensure the quality of data entered in the master data hub. The business rules engine is efficient, flexible and extensible.

Human Workflow

All changes to master data are validated against the business rules defined for the entities and hierarchies involved. Any business rule violations are recorded and assigned to the owner of the entity, attribute or hierarchy that violates the business rule. Additionally, the owner is notified by email of the violations. Notifications can be sent for every violation or grouped together for periodic notification.

Versioning

All data entities and hierarchies are versioned. New versions can be created by an administrator whenever they are required. For example, a new version of chart of accounts data might be created quarterly after reports are complete and a new version of the item master might be created monthly.

Transaction Logging

Every change to master data is traced in a transaction table. What data was changed, who made the changes, when the changes were made and the actual change are all recorded. In addition to being a

very useful audit trail, the transaction log can be used to selectively reverse changes. This capability is vitally important to the data steward.

Hierarchy Management

Master data contains a wide variety of hierarchies. The roll-up hierarchies for accounts in a chart of accounts, the reporting hierarchy for employees, the organizational structure of a customer's business, and categories of items in an item master are typical examples of hierarchies. These hierarchies are often hard coded into business systems or defined in a number of Excel spreadsheets. Hierarchies can be defined by attribute relationships: for example, city belongs to state and state belongs to region. These derived hierarchy relationships change whenever an attribute value changes. Hierarchies can also be defined as parent-child relationships that may have an arbitrary depth along any path (ragged). The Stratature solution allows both types of hierarchies to be leveraged into a new derived hierarchy. The advantage of reuse is that it ensures that there is only one definition of the relationship at any point in time.

Subscription Interface

The Stratature master data hub is the source for clean, managed master data for a wide variety of operational and analytical purposes. This data is exposed to other systems through a set of SQL Server views which can be accessed by any tools that can consume SQL Server data – SSIS, BizTalk, Excel, Reporting Services, etc. These views are dynamically maintained so they automatically include any new entities, attributes, or hierarchies added to the master data model.

Security

Stratature enables security by application function, model (subject area), individual entity (table/list), and attribute. For example, a user might be able to see the entire product catalog but only change the color of any specific product. Access rights may be cascaded down an attribute relationship to present a subset of the master data to a specific user. For example, each location belongs to a city, city belongs to a country, and country belongs to region. One user may be granted read access to Europe, and write access to Belgium. When that user logs into her account, she only sees European locations and can only edit locations that belong to Belgium.

SQL Server Master Data Services

SQL Server MDS is about making Stratature +EDM a Microsoft product. Bulldog will remain almost identical to +EDM with some the following enhancements. Microsoft plans to improve the out of box experience, simplify setup and perform the full suite of prerelease processes such as security reviews. In addition, Microsoft will extend +EDM with improvements to the API, better integration into other applications, and better integration with the Microsoft data platform. The following are enhancements under consideration for SQL Server MDS:

Setup and Deployment

Microsoft plans to improve the out of box experience for the +EDM product. Currently, there are a few manual steps required to prepare the server before installing +EDM. SQL Server MDS setup will detect and install dependencies and guide the user through configuration steps and be serviceable through Microsoft Update.

Web Services Integration

SQL Server MDS will include a web services API to enable easier access, integration and implementation. The API will expose both metadata and master data to support real-time, seamless integration with other Microsoft products and other vendor's service-oriented products. Customers and partners can

extend the value of MDM by developing and implementing custom solutions, using their preferred development technologies.

Integration with Microsoft Applications

The master data management team is working closely with PerformancePoint, Dynamics, SharePoint, Excel and other product teams to integrate the master data hub into those applications. It is still early in this process and so no details are available as to what the integration capabilities will be for each of these applications.

Security, Identity and AD Enablement

MDS will include enhanced security features. These capabilities are not finalized yet, but considerations include single sign on support and seamless Active Directory integration for identity, authentication and authorization. In addition, the MDS code will be completely reviewed to the high security standards required of all Microsoft products.

Model Deployment

MDS will include the ability to serialize both master data model definitions and data for deployment on other instances. This capability supports deployment of changes through a development, test and production environments as well as enabling partners to develop template models for rapid deployment.

Model Metadata

MDS will include a special model to document all of the models, entities, attributes and hierarchies in an MDS instance. Users can enter free-form documentation as well as required, domain-enforced attributes such as “owner” and “source system”. Model metadata also includes the ability to annotate transactions to capture the reasoning behind a change to the master data.

Internationalization

MDS will be world-ready with Unicode character support and support for multiple regions and languages on a single installation.

Ship Vehicle

MDS will ship with the SQL Server 2008 R2 “Kilimanjaro” release. We are still working through licensing & packaging details and at this point in time are not making any announcements on editions, licensing or specific feature differentiation for SQL Server 2008 R2.

Schedule & Milestones

Availability

CTP

Bulldog will use Community Technology Previews for early visibility into the product. The public CTP for SQL Server MDS will ship in H2 of 2009.

Release

General availability for SQL Server 2008 R2 is currently planned to ship in H1 2010.

Summary

Microsoft's acquisition of Stratature, investment in the MDM team, commitment to early releases, and commitment to our partners are all driven by our commitment to meet our customer need for a simpler, better, less expensive, more integrated MDM solution. Our commitment to quality, scalability and ease of use will provide Microsoft customers with a robust MDM solution capable of handling any size environment and delivering the quickest time to value in the MDM space today.