



# TIBCO Collaborative Information Manager

## Statement of Direction

### July 2008

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Master data management (MDM) ensures that master data (assets, people, locations) is accurate and consistent across multiple transactional systems. It enforces the necessary processes, policies, and procedures so that clean data stays clean. It allows organizations to manage the complex hierarchies and relationships within their data.

Through effective MDM, organizations can eliminate errors and accelerate critical processes such as new product introductions, service provisioning, cross-sell/up-sell, and customer service. Additionally, MDM builds a data services foundation that supports IT initiatives such as SOA and BPM.

TIBCO Collaborative Information Manager™ software provides a comprehensive approach to managing master data. TIBCO Collaborative Information Manager takes a unique process-centric approach to MDM. By enforcing rules for data validation and orchestrating and controlling the manner in which master data is introduced, modified, and consumed, it ensures that data governance standards are enforced as part of ongoing business activities. This is critical for a long lasting solution that delivers value to the business. TIBCO puts master data ownership and control back in the hands of business users, the natural owners of the data.



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# TIBCO Collaborative Information Manager 7.1

TIBCO Collaborative Information Manager is comprised of five key capabilities that power the application:

## INFORMATION REPOSITORY

- Extensible repository to store master and metadata
- Relationship and hierarchy management

## DATA GOVERNANCE

- Data quality and business validation rules
- Permissions
- Precedence

## PROCESS AUTOMATION

- On-boarding and maintaining master data
- Approvals, exception handling

## INTERNAL AND EXTERNAL SYNCHRONIZATION

- Process-based synchronization to internal and external systems
- Web services API
- Cache

## REPORTING AND BUSINESS INTELLIGENCE

- Auditing, versioning, metrics



## Statement of Direction

### OPERATIONAL MDM

TIBCO is already the leader in collaborative, workflow-based MDM, which is common to the asset domain (products, parts, assets, bundles, etc.). Collaborative MDM solutions allow business users across departments to create and maintain an enterprise product record, subsets of which are used by different systems such as billing, fulfillment, e-commerce, etc.

Operational MDM focuses on the distribution of master data to operational systems in high volume, with very little workflow or modification. It primarily relies on other systems as the source of master data. It aggregates the master data record, performs some basic cleansing and maintenance, and exposes it as services with low latency. Operational use cases are more common when handling customer data.

Typically platforms excel either in collaborative or operational MDM. TIBCO believes customers will demand both from a common platform. For example, a collaborative MDM application would create a product or customer record. A customer would then log in to an e-commerce web portal. The MDM system would provide the e-commerce system with the necessary product and customer information to support the transaction in milliseconds. Alternatively, the MDM system would need to accept high volume market data feeds, as is common in financial services, and then distribute that information internally. Today, customers typically create operational data stores to support these use cases and manage the overhead of replicating and maintaining the redundant store.

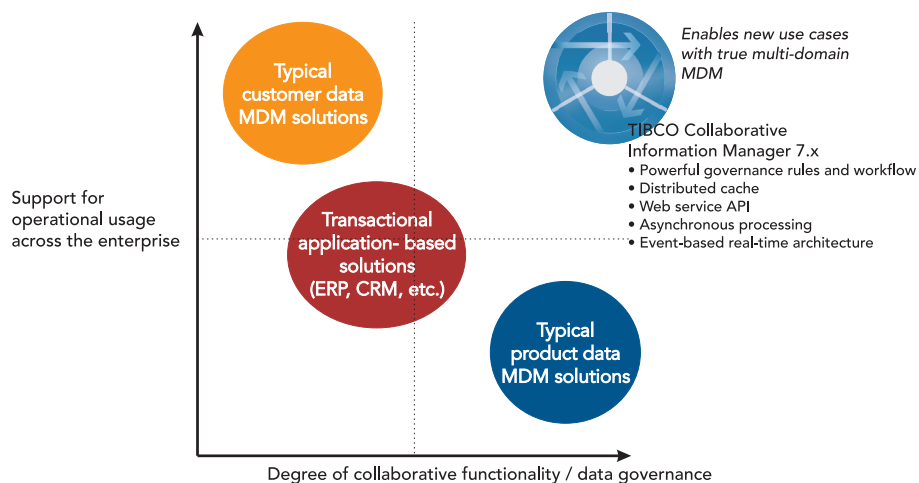
Building on our experience in high volume distributed computing in verticals such as financial services, telecommunications, and energy, TIBCO has made performance and SOA a focus for the Collaborative Information Manager architecture on a scale that traditional MDM systems cannot match.

TIBCO is already a multi-domain MDM solution, supporting all types of master data – be it product, customer, location, or financial data – from one application. Furthermore, TIBCO will be the only platform to effectively support both operational and collaborative use cases from the same application. This provides customers with fewer moving parts (and thus lower implementation and maintenance costs), less risk, and a lower total cost of ownership. As customer needs expand they can leverage their existing solution rather than having to acquire additional software.

**We believe TIBCO is the only vendor actively supporting operational and collaborative use cases on one platform.**



Figure 1. TIBCO Collaborative Information Manager supports multiple architectural patterns.



### SOA

TIBCO Collaborative Information Manager is the leading MDM product for SOA environments. The challenge is that SOA and MDM represent different paradigms. Where SOA is distributed, MDM is centralized with a repository (database) as a bottleneck. Virtual implementations of MDM attempt to circumvent that problem but run into their own problems with performance, transaction management, and data quality. TIBCO reconciles the two architectures by providing features such as a distributed cache that virtualizes the database, a fine grained web service API, and Web 2.0 GUI widgets. Our roadmap will continue to leverage our strengths in distributed real-time technologies and event and service architectures to further differentiate our product as the only MDM platform suitable for complex heterogeneous environments.

### BEST IN CLASS USER EXPERIENCE

TIBCO has always believed that the creation and maintenance of master data belongs in the hands of the business users, ideally the main consumer and stakeholder of the data. A master data solution that provides distributed authoring, ownership, and control of master data but retains the benefits of centralized visibility and administration, enables MDM to be built into daily business activities rather than being a periodic disruptive IT function.



With that goal in mind TIBCO Collaborative Information Manager continues to enhance its UI with Web 2.0 technologies and the latest design and interaction methodologies including configurable dashboards and workbenches.

### **DATA QUALITY AND GOVERNANCE**

The value of an MDM solution is not only its ability to build a single view repository but more importantly to keep data current over time despite the fast changing fast moving nature of information. Best in class data quality and governance tools allow for the automated maintenance of data and thus a long lasting solution that business users trust. Collaborative Information Manager, with its heritage in collaborative MDM, provides industry leading rules and workflow capabilities. Due to the pivotal nature of rules and workflow within MDM we will continue to enhance this area of functionality, while strengthening other areas such as in-line data quality.

## **Roadmap**

TIBCO Collaborative Information Manager features that support our vision and strategy include:

### **CACHE FIRST ARCHITECTURE WITH INTELLIGENT REFRESH AND WRITE-BEHIND**

- Collaborative Information Manager currently uses an embedded distributed cache to serve up commonly requested master data attributes to requesting services and systems.
- The cache is also used internally to increase system processing performance. The cache is used for workflow states, hierarchy and relationship information, user credentials, web service responses, UI components, etc.
- In the future the cache will become the primary source of master data with intelligent refresh and write-behind based on latency rules down to the attribute level.
- Collaborative Information Manager will continue to expand the use of cache for the internal functioning of the application greatly boosting performance. For example, workflow payloads will no longer be persisted to the file system and workflow processing will be entirely done in memory.



### **WEB SERVICES**

- TIBCO Collaborative Information Manager will continue to expand the number of web services that ship with the product. This includes fine-grained access to records, relationships, search, inbox work items, workflow states, synchronization activities, etc. Examples of planned Web services include:
  - Pause, restart, cancel an event
  - Initiate a synchronization

### **USABILITY**

- Configurable roles-based dashboards and workbenches.
- Enhanced Ajax-based rules builder UI.
- Better GUI-based track and trace of workflows.
- Workbench for publishing to print catalogues and desktop publishing systems.
- Reduced UI response time through intelligent caching, including large drop-down lists
- UI builder
  - Currently all screens required are provided out of the box and are dynamic and metadata driven. No screen painting is required.
  - Customer GUI screens can be built using an external UI builder such as TIBCO's Ajax product, TIBCO General Interface™.
  - An internal UI builder is planned that will allow the development of rich custom screens from within the application itself, eliminating the need for an external UI builder tool.

### **IN-LINE DATA QUALITY**

- Currently, TIBCO partners with best-of-breed data quality providers for name and address standardization and advanced pattern matching/fuzzy logic algorithms. TIBCO integrates with such providers either in batch via file exchanges or in real-time over web services.
- TIBCO continues to improve its native data quality abilities. In 7.1 we included a web service to do inexact probabilistic matching
- Future versions will add a more sophisticated UI for match selection and merge options.



- Out-of-the-box un-merge. TIBCO Collaborative Information Manager currently maintains the audit trail to un-merge, but the un-merge processes themselves require configuration.

#### **TIGHTER METADATA INTERCHANGE BETWEEN TIBCO PRODUCTS**

- Currently metadata integration between Collaborative Information Manager and other TIBCO products is via automated import and export processes and file exchanges via the file watcher utility. The goal is for Collaborative Information Manager to share metadata with our integration, rules, and workflow products in a more native fashion with built-in templates and rules for synchronization. This becomes critical as customers continue to ask for MDM as an integrated piece of their SOA/business process platform infrastructure,
- This capability puts TIBCO in the unique position of seamlessly fulfilling integrated vertical solutions such as order fulfillment in telecom, fraud detection in financial services, and up-sell/cross-sell in retail.

#### **OTHER ENTERPRISE IMPROVEMENTS**

TIBCO's dynamic claims management approach enables greater process efficiencies by delivering:

- Ability to switch off record versioning for improved performance.
- Workflow restart at the point of failure.
- Improve purge performance.
- Repeatable attributes – attribute arrays. This would allow for multiple versions of the same attribute value to be maintained. For example, a product record for an apparel company could maintain a single attribute array called "Style" with two values within the array – "Low-cut" and "Casual." Currently, while Collaborative Information Manager puts no limitations on the number and types of attributes a record can have, only one value per attribute is allowed.
- Process Workflow Machine – Convergence to a single workflow engine across TIBCO SOA, BPM, MDM, and other technologies.
- Full internationalization and national language packs.



### **TIBCO COLLABORATIVE INFORMATION MANAGER PROCESS DESIGNER (CPD)**

TIBCO CPD is an Eclipse-based graphical process modeler built on top of TIBCO Business Studio™, TIBCO's standard process modeler environment across multiple workflow products including TIBCO's enterprise BPM product, TIBCO iProcess Suite™. TIBCO CPD serves as a plug-in for Business Studio, translating Business Studio output into the right XML syntax expected by Collaborative Information Manager. This allows users to drag and drop activities and transitions to create master data on-boarding and maintenance processes. New functionalities for CPD include:

- Update to reflect new versions of the underlying Business Studio product.
- Support for Java transitions.
- Additional out-of-the-box activities.
- Built-in XPath and XSLT editor – currently an external editor such as TIBCO BusinessWorks™ is required.
- Tightly integrated process deployments, eliminating the need for metadata import and export processes.

### **PLATFORM AND INFRASTRUCTURE**

- Support for updated versions of Oracle, DB2, WebSphere, WebLogic, JBoss and JDK.
- Adherence to new GDSN standards for the 1Sync and Agentrics data pools.
- Single bundle install including the Collaborative Information Manager application, the JMS queue (TIBCO Enterprise Message Service™), and the App Server (JBoss).
- Automated copying of Collaborative Information Manager instances from one environment to another.
- Ongoing improvements in install and configuration functionality, especially for multi-instance distributed environments.



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