TIBCO MDM Overview and Direction

Barry Wooffitt

#TIBCONOW
SAFE HARBOR DISCLOSURE

During the course of this presentation, TIBCO or its representatives may make forward-looking statements regarding future events, TIBCO’s future results or our future financial performance. Although we believe that the expectations reflected in the forward-looking statements contained in this presentation are reasonable, these expectations or any of the forward-looking statements could prove to be incorrect and actual results or financial performance could differ materially from those stated herein.

TIBCO could experience factors that could cause actual results or financial performance to differ materially from those contained in any forward-looking statement made in connection with this presentation. TIBCO does not undertake to update any forward-looking statements that may be made from time to time or on its behalf.
DISCLAIMER

This document (including, without limitation, any product roadmap or statement of direction data) illustrates the planned testing, release and availability dates for TIBCO products and services. This document is provided for informational purposes only and its contents are subject to change without notice. TIBCO makes no warranties, express or implied, in or relating to this document or any information in it, including, without limitation, that this document, or any information in it, is error-free or meets any conditions of merchantability or fitness for a particular purpose. This document may not be reproduced or transmitted in any form or by any means without our prior written permission.

The material provided is for informational purposes only, and should not be relied on in making a purchasing decision. The information is not a commitment, promise or legal obligation to deliver any material, code, or functionality. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

During the course of this presentation TIBCO or its representatives may make forward-looking statements regarding future events, TIBCO’s future results or our future financial performance. These statements are based on management’s current expectations. Although we believe that the expectations reflected in the forward-looking statements contained in this presentation are reasonable, these expectations or any of the forward-looking statements could prove to be incorrect and actual results or financial performance could differ materially from those stated herein. TIBCO does not undertake to update any forward-looking statement that may be made from time to time or on its behalf.
The following information is proprietary information of TIBCO Software Inc. Use, duplication, transmission, or republication for any purpose without the prior written consent of TIBCO is expressly prohibited.
Agenda

1. TIBCO MDM - Overview
2. Introducing MDM 9
3. MDM Direction
TIBCO® MDM

Product Overview
Required capabilities of an MDM solution

What does an MDM solution need to do?

- **Consume / Create**
  - Real-time / Batch / UI

- **Cleanse & Enrich**
  - Standards + Reference data

- **Match**
  - Identity, Relationships

- **Trust**
  - Survivorship, Security

- **Share**
  - Real-time / Batch / UI / API

How does TIBCO MDM do it better?

- **Process-centric**
  - Configurable human + machine workflows

- **Visual**
  - Rich UI + Analytics + Custom (Data / Quality / Process)

- **Agile**
  - Any Domain: Studio-driven + Templates
    - Auto-adaptation of components

- **On-demand**
  - In-memory + Linear scaling

- **Event-driven**
  - Fully real-time messaging

- **Deployment options**
  - On-Premise + Cloud

This document (including, without limitation, any product roadmap or statement of direction data) illustrates the planned testing, release and availability dates for TIBCO products and services. It is for informational purposes only and its contents are subject to change without notice.

© Copyright 2000-2016 TIBCO Software Inc. All rights reserved. TIBCO Confidential & Proprietary Information.
Introducing MDM 9
TIBCO MDM 9 – Delivering 3 Key Themes

Intelligent Data Quality
- Faster time to value
- Built-in machine learning engine

Real time
- Extended real-time access with improved performance (at least 50% faster than previous versions)

Accessible
- Extended MDM API’s for consuming Master data in any business application
- Low-code, rapid development for role specific interface to master data.
• Automate and simplify data matching and linking with an enhanced machine learning engine that replicates human insight
  ▪ Ensure a single version of every customer and product
  ▪ Uncover relationships between data to increase value

• Improve data accuracy with intelligent survivorship rules that understand how data quality can decay over time
  ▪ Higher data accuracy drives better insights and decision making
### Are these customer records the same?

<table>
<thead>
<tr>
<th>Rec</th>
<th>First</th>
<th>Last</th>
<th>DOB</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Height</th>
<th>Hair color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mike</td>
<td>Gagan</td>
<td>12/1/71</td>
<td>200 Classen</td>
<td>St. Paul</td>
<td>MN</td>
<td>5’10”</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Michael</td>
<td>Geoghegan</td>
<td>12/1/71</td>
<td>200 N Classon St</td>
<td>St Paul</td>
<td>MN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rec</th>
<th>First</th>
<th>Last</th>
<th>DOB</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Height</th>
<th>Hair color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jason</td>
<td>Fitzgerald</td>
<td>12/1/71</td>
<td>200 Classen</td>
<td>St. Paul</td>
<td>MN</td>
<td>5’10”</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>200 N Classen</td>
<td>Fitzgerald</td>
<td>12/1/71</td>
<td>Jasoz</td>
<td>Saint Paul</td>
<td>MN</td>
<td>5-11</td>
<td>Brown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rec</th>
<th>First</th>
<th>Last</th>
<th>DOB</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Height</th>
<th>Hair color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brenda</td>
<td>Fitzgerald</td>
<td>12/1/72</td>
<td>100 Classen</td>
<td>St. Paul</td>
<td>MN</td>
<td>5’1”</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>Brandon</td>
<td>Fitzgerald</td>
<td></td>
<td>100 Classen</td>
<td>St Paul</td>
<td>MN</td>
<td>5’11”</td>
<td>Brown</td>
</tr>
</tbody>
</table>
The Problem: Record Matching is Hard

• People are very good at recognizing patterns in data

• People find it hard to express exactly what it is that causes them to come to that decision

• Writing, refining and maintaining rules that capture all the built in human knowledge and experience is next to impossible
### Why do they match/not match?

<table>
<thead>
<tr>
<th>Rec</th>
<th>First</th>
<th>Last</th>
<th>DOB</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Height</th>
<th>Hair color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mike</td>
<td>Gagan</td>
<td>12/1/1971</td>
<td>200 Classen</td>
<td>St. Paul</td>
<td>MN</td>
<td>5’10”</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Michael</td>
<td>Geoghegan</td>
<td>12/1/1971</td>
<td>200 N Classon St</td>
<td>St Paul</td>
<td>MN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This document (including, without limitation, any product roadmap or statement of direction data) illustrates the planned testing, release and availability dates for TIBCO products and services. It is for informational purposes only and its contents are subject to change without notice.

© Copyright 2000-2016 TIBCO Software Inc. All rights reserved. TIBCO Confidential & Proprietary Information.

#TIBCONOW
### Mathematical models are needed:

<table>
<thead>
<tr>
<th>First</th>
<th>Last</th>
<th>DOB</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Height</th>
<th>Hair color</th>
</tr>
</thead>
<tbody>
<tr>
<td>.62</td>
<td>.55</td>
<td>1.0</td>
<td>.59</td>
<td>.95</td>
<td>1.0</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>.48</td>
<td>.42</td>
<td>-1</td>
<td>.41</td>
<td>.22</td>
<td>1.0</td>
<td>.75</td>
<td>.83</td>
</tr>
<tr>
<td>.63</td>
<td>.96</td>
<td>-1</td>
<td>.94</td>
<td>.96</td>
<td>1.0</td>
<td>.25</td>
<td>.50</td>
</tr>
<tr>
<td>.34</td>
<td>.44</td>
<td>.93</td>
<td>.97</td>
<td>.89</td>
<td>-1</td>
<td>-1</td>
<td>.33</td>
</tr>
<tr>
<td>.64</td>
<td>.61</td>
<td>.11</td>
<td>.62</td>
<td>.77</td>
<td>-1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>.52</td>
<td>.91</td>
<td>.23</td>
<td>.89</td>
<td>.52</td>
<td>.50</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>.59</td>
<td>.24</td>
<td>.89</td>
<td>.21</td>
<td>.88</td>
<td>-1</td>
<td>.25</td>
<td>-1</td>
</tr>
<tr>
<td>.71</td>
<td>.35</td>
<td>-1</td>
<td>.18</td>
<td>.12</td>
<td>1.0</td>
<td>.50</td>
<td>-1</td>
</tr>
<tr>
<td>.93</td>
<td>.98</td>
<td>.16</td>
<td>-1</td>
<td>.99</td>
<td>-1</td>
<td>.75</td>
<td>-1</td>
</tr>
</tbody>
</table>
# TIBCO MDM 9 - Machine Learning Matching

<table>
<thead>
<tr>
<th>Problem</th>
<th>Competitor Solutions</th>
<th>TIBCO Innovations</th>
<th>TIBCO MDM 9 Advantages</th>
</tr>
</thead>
</table>
| **Data Matching**             | Soundex, NYSIIS, Edit Distance, Metaphone etc | Mathematically model and mimic human perception of similarity | • Superior accuracy  
• No guessing of rules, parameters etc.  
• Fast, efficient & scalable  
• Data independent - people, assets, products, companies  
• Language independent  
• Sparse data support built-in  
• Symmetric error-tolerance  
• Easily embeddable  
• Quick and easy deployment |
| **Record Matching**           | Custom built complex rule sets + optional stats. Iterative guesswork. Inflexible | Mathematically model human decisions with machine learning |
Automated Hierarchy Match and Merging

Survivorship with Decay

<table>
<thead>
<tr>
<th>Source</th>
<th>Attribute</th>
<th>Weighting</th>
<th>Decay</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDM</td>
<td>Address</td>
<td>100%</td>
<td>Linear to Zero over 6 months</td>
</tr>
<tr>
<td>SAP</td>
<td>Address</td>
<td>70%</td>
<td>None</td>
</tr>
<tr>
<td>Excel</td>
<td>Address</td>
<td>60%</td>
<td>Linear to Zero over 3 months</td>
</tr>
<tr>
<td>CRM</td>
<td>Address</td>
<td>60%</td>
<td>Linear to Zero over 3 months</td>
</tr>
</tbody>
</table>

User Interface for Manual Linking

- More Accurate matches
- Faster Implementations
- Simpler to use
TIBCO MDM 9 – Providing a Personalized user experience

Create the right UI for the task at hand

- Flattened model
- Single Screen
- No unnecessary fields
- Include external data

+ Branding
+ Images
+ Any HTML
TIBCO MDM 9 – Real-time Access to Large Data Sets

- Pressure on our customers to operate in real-time continues to grow

  Cloud = more integration points
  Omni-channel experience = real-time customer interactions
  Mobile dominance = Richer API capabilities

- MDM 9 delivers a huge leap forward in data query and update times

  Actual results:
  - Address Update from 1.3 secs to 70 msec
  - Query and retrieval with 50% improvement
TIBCO MDM 9 – A whole lot more

- Manual Merge
  - Enable a user to trigger a merge of multiple existing golden records

- Performance Improvements
  - UI Responsiveness
  - Large bundle scaling
  - Large attribute set scaling

- Perspective Updates
  - Support for Workflows
  - Support for attributes

- Parallel Rule-base Execution

- Web Service – Process Record

- Developer simple install

- And more…
TIBCO MDM - Direction
MDM Direction – 5 Key Themes

- Data Consumption
- Contextual Data on Demand
- Vertical Focus
- Cloud Delivery
- Ease of Use

MDM

© Copyright 2000-2016 TIBCO Software Inc. All rights reserved. TIBCO Confidential & Proprietary Information.
Theme: Personalization Tools

• Personalization - Providing fast, simple tools to personalize the MDM solution to the unique needs of every customer, role or user

Out of the box capabilities

General Purpose User Interface

Operational Analytics

Default Workflows

Examples of personalized user experience

Personalization Tools

CSR Customer View

Customer Non-Delivery Dashboard

New client onboarding process

Examples of personalized user experience

Out of the box capabilities

General Purpose User Interface

Operational Analytics

Default Workflows

Personalization Tools

CSR Customer View

Customer Non-Delivery Dashboard

New client onboarding process
Example - Data Steward Dashboard

Key metrics visible

Thresholds and Alerts

Configurable ‘cards’
Theme: Contextual Data

• Data On Demand - Providing high quality, complete, master data to real time transactions, events and streams

Golden Copy master data should be highly available, features for consideration include:
- Non relational storage tuned for read access
- Contextual bundles for immediate usage
- Kept up to date from the robust MDM governance processes
- Enriched with contextual data from other sources
Theme: Data Consumption

- Data Consumption - Consuming data is a key part of MDM solutions. As data volumes and velocity of change increases new ways of consuming data are required to provide the performance, simplicity and flexibility needed.

Considering an “Import Workbench” for design and runtime
- Describe data flows from source to MDM
- Centralized design and deployment
- Monitoring and notifications

Embedded TIBCO Clarity for ad-hoc imports and cleansing
Theme: Vertical Focus

Focus on providing richer capabilities for key industry. Examples could include:

• Vertical data models – Leverage TIBCO’s many years of experience with Retail customers to deliver ready to use models, examples could include:
  • Customer models to B2C retailers
  • Product/Sku models for product information management
  • Supplier models for B2B marketplaces such as 1WorldSync

• Vertical User Interfaces – End users don’t think MDM. They focus on their use cases such as launching new products or onboarding a new customer. The MDM UI can focus on specific vertical use cases.

• Workflows, Rules, Matching – Many areas of MDM can be modified to provide a vertical specific experience.
Theme: Cloud Delivery

• Cloud Platform – Deliver the power of TIBCO MDM with the flexibility of cloud deployments