White paper

Scaling the data mountain

July 2011

In the information age, master data management should be everyone’s priority
## Contents

**Executive summary** ........................................... p 3  
**Data mountains, information molehills** ..................... p 4  
**Customer relations** ........................................... p 5  
**Poor data management means poor insight** ................. p 8  
**Sharing and collaboration** .................................... p 9  
**A problem shared** ............................................. p 10  
**Conclusion** .................................................... p 11  
**About the sponsor, Talend** ................................... p 13  

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Executive summary

Nearly 60 percent of organisations say that their core data is their business, and without it they would fail. However, an exclusive Computing survey found that only 22 percent of organisations use master data management (MDM) techniques, with many saying there is no perceived need for it, and that they have other, more urgent priorities.

With high-profile data breaches filling the news headlines week after week, and with customers becoming ever more choosy and less loyal, the need for data to be secure, accessible, complete, de-duplicated, consistent and manageable should be greater than ever.

A large majority of respondents do see MDM as primarily a business challenge, but the survey found that relatively few regard it as a priority. These organisations may be storing up a mass of problems for the future, creating a much bigger obstacle to overcome.
Data mountains, information molehills

Some organisations gather a mountain of data to gain a molehill of accurate, useful information.

In an information economy, where data is the currency that matters, gathering it is an essential exercise for organisations of every size and type. But poor processes, lax management, human error or even simple laziness can mean that data may be duplicated, inaccurate, incomplete, out of date or lacking in meaningful context – a massive data mountain that may prove difficult to scale.

An exclusive Computing survey of senior IT decision makers in 175 UK enterprises found that nearly 60 percent of organisations say that core data is their business, and without it they would fail.

Seventy-six percent of the organisations surveyed employ over 1,000 people, with 37 percent employing more than 10,000 staff. Within each organisation and across the whole economy, therefore, a lot of jobs and working hours are dependent on the integrity of organisations’ core data.

Alongside the 59 percent who say that their core data is synonymous with their business, a further 32 percent state that it is “vitaly important, it informs everything we do”. This means that a total of over 90 percent of UK enterprises see their core data as essential to business success – or even to survival (Fig. 1).

Fig. 1: “How central is your core data to your business?”

<table>
<thead>
<tr>
<th>Importance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitally important: our core data is our enterprise. Without it we would fail</td>
<td>59%</td>
</tr>
<tr>
<td>Important: it informs everything we do, but it is not the core business of our enterprise</td>
<td>32%</td>
</tr>
<tr>
<td>Quite important: it is helpful, but we could live without it for 24 hours</td>
<td>6%</td>
</tr>
<tr>
<td>Not that important: our enterprise is not about information</td>
<td>2%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1%</td>
</tr>
</tbody>
</table>

Master data is key business information about customers, products, employees, supply chains, parts, contracts and the like which supports transactional processes, analytics and reporting. As such it is important that for all the various processes and departments that access the master data that this information is accurate and dependable.

Despite the vital importance of accurate, reliable and consistent data to over 90 percent of UK enterprises, the survey found that only 22 percent of organisations use MDM techniques. Data management, it would seem, is not a priority for most, with 38 percent stating that they have “other, more urgent priorities – such as getting on with business”. But “getting on with business” is a challenge when it is based on a mountain of inaccurate, incomplete or inconsistent data.
Gaining a single version of ‘the truth’ is known to be a problem for organisations of every size, because of the challenge of integrating data from disparate systems. As a result, many companies have a partial, or fragmented view of the truth – of their trusted enterprise data, in other words.

Firms, may be unable to link up data that might prove vital in creating new sales opportunities – or identifying problems and minimising losses, for example.

But just as great a challenge is having too many versions of the truth – multiple versions of core business data that have been input by different members of staff in the same department, by different departments across the organisation, or even by the same person multiple times because they are not following simple procedures.

Only six percent of respondents said that their core data is stored in a central resource, addressable by different enterprise applications. Fifty percent of the organisations surveyed stated that their core data resides across multiple systems, and a further 13 percent said that it is mainly spread across multiple systems (Fig. 2). Despite the sometimes good reasons for multiple systems, this nevertheless poses a challenge to any organisation that wants to operate efficiently with a single set of trustworthy master data.

**Fig. 2 : “Does your core data reside in a single, central resource, or is it spread across multiple enterprise systems?”**

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Across multiple systems (50%)</td>
<td></td>
</tr>
<tr>
<td>Mainly in a single resource, but with some data stored in separate systems (25%)</td>
<td></td>
</tr>
<tr>
<td>Mainly in separate systems, but with a small core of central data (13%)</td>
<td></td>
</tr>
<tr>
<td>A single resource, addressable by different enterprise systems (6%)</td>
<td></td>
</tr>
<tr>
<td>Don’t know (5%)</td>
<td></td>
</tr>
<tr>
<td>Other (1%)</td>
<td></td>
</tr>
</tbody>
</table>

**Customer relations**

Customer relations are just one example of where poor MDM can create problems. As we emerge from a protracted recession into a fragile recovery, the importance of good customer relations has never been greater. However, the Computing survey suggests that many enterprises are letting deficient data management have a significant impact on this most precious of relationships.
Only 19 percent of organisations said that they have an “excellent relationship” with their customers. Conversely, 13 percent said that customers had complained about inaccurate bills and 11 percent said customers had reported inaccurate transactions.

Ten percent of respondents to the survey said that customers had got right to the heart of the matter and complained about the organisation’s incomplete records (Fig. 3). Nineteen percent said that they did not know whether relationships with customers were generally good or bad – meaning that IT decision makers at nearly one-fifth of UK organisations have little insight into the basic health of the relationship that is core to their business success.

**Fig. 3 : “Describe your organisation’s relationships with its customers”**

Many organisations are falling down in other areas on the ‘excellence’ scale, suggests the survey. Only 39 percent of the UK’s IT strategists rate their data security as excellent; just 19 percent rate their own data accessibility as excellent; 13 percent describe their data completeness as excellent; and a mere 12 percent rate both the consistency and management of their core data as excellent (Fig. 4). Most rate themselves as ‘fair to good’ in these vital categories of MDM, but middling performance is not an option in a climate where every customer counts.
Removal of duplicates is the worst performing area of data integrity, according to the survey: just nine percent of respondents rated it as excellent within their own organisation, with 28 percent rating it as barely adequate or poor.

This pain point is just one where MDM techniques and supporting technologies can help. After all, any one duplicate record may equate to hours of wasted time and money when factored across the whole organisation. Multiply that duplicate record by hundreds or thousands, and it is clear that an organisation would be haemorrhaging money unnecessarily – at a time when many enterprises are making departmental cuts to find cost savings.

Within all types of organisation, the master data used by the enterprise should also be in standard forms, consistent across all fields. Failure to standardise data is another obstacle to efficient business, and one that can be addressed by deploying MDM techniques.

The customer angle is important in many ways beyond such key factors as whether their bills or transactions are correct. As we exit recession, customer feelings and behaviours have changed, and loyalty is hard won and easily lost.

Customers feel stressed and insecure, especially in matters of finance or the provision of essential services. Those feelings can translate into latent hostility towards companies that hassle them or waste their time. Situations like this can arise when back-end systems are poorly integrated, but they can also occur when data is in poor condition, and there are multiple, inconsistent records across internal departments.
Poor management of records risks antagonising customers at a time when their brand loyalty and patience may be weak – especially when it occurs within markets such as credit, finance and essential utility services. These are markets where customers like to feel secure, and not to have their privacy invaded or their time wasted.

Some customers want to be kept abreast of new offers and better deals and opt to receive this kind of information, because it helps them manage their lives and finances better. In these cases, having masses of duplicate and inconsistent records means opportunities are being squandered to up-sell and cross-sell to the right people, and maximise both revenues and customer retention for the enterprise.

If data is duplicated or lacking in context, then customers who have opted in to receive updates and special offers may be needlessly antagonised – or feel that their chosen brand does not listen to them, or has not kept a proper record of their loyalty. MDM techniques and supporting technologies can address these problems, and help avoid them in future.

**Poor data management means poor insight**

Analysts at Gartner estimate that the volume of corporate data is growing by as much as 60 percent per year. The ability to turn this mountain of data into insight is what drives the information economy; however, if enterprises are gathering masses of unused data, or data that is inconsistent, duplicated, poorly sorted or incorrectly tagged, then they are storing up management problems for the future.

Tackling these problems while they are small and addressing the root causes is a better strategy, especially for young businesses, or for web-based organisations whose staff numbers may be small, but whose online impact might be large.

Despite this, only 22 percent of IT decision makers say that, yes, they are using MDM techniques and technologies. Seventeen percent of respondents answered that they are “probably” using MDM. Thirty percent answered no, and 30 percent admitted they did not know.

Taken together, these figures suggest a worrying lack of insight into business and IT processes among senior IT strategists.

This can create other problems: regulatory, data protection, transparency and governance issues are becoming more complex and onerous year by year as the information economy transforms more and more areas of business and society.

In such an environment, poorly managed data can become a much more serious issue, as it may have legal implications. Forty-six percent of respondents to the Computing survey said they are affected by Data Retention Regulations 2009, 31 percent by FSA rules, 30 percent by Sarbanes-Oxley (SOX) and 17 percent by PCI DSS regulations.
Sharing and collaboration

The internal aspects of MDM are just as important as good relationships with customers, because organisations are – or should be – teams of people who are working towards shared strategic goals. How those people share information is important, therefore.

Just 39 percent of the organisations surveyed said that their staff are able to collaborate and share information easily. Eighteen percent said that their staff would like to collaborate and share information more, but their systems are not set up for it (Fig. 5).

Fig. 5: “Does your organisation foster a culture of collaboration and teamwork via your internal systems?”

- Our staff are able to collaborate and share information easily (39%)
- Our staff can collaborate, but within strict guidelines and procedures (29%)
- Our staff would like to collaborate more but our systems are not set up for it (18%)
- We don’t encourage collaboration: our staff are there to do whatever they are directed to by senior management (4%)
- Don’t know (7%)
- Other (3%)

Fifty-two percent of respondents said that their internal systems are an enabler of close collaboration, while 29 percent said that they represent an obstacle (Fig. 6).

Fig. 6: “On balance, would you say that your internal systems are an obstacle or an enabler to close collaboration?”

- Obstacle (29%)
- Enabler (52%)
- Don’t know (19%)
Incomplete, inconsistent or poorly maintained data represent further obstacles to collaboration. This is a recipe for costly internal problems and time-wasting, which can escalate into disputes between people, departments, or even different members of the extended enterprise.

In a rapidly evolving world of social platforms, people can see a future of greater collaboration and productivity. Increasingly, staff may compare the ease of use of social platforms with the internal systems they might be using, and find the corporate systems wanting.

However, to a large degree, social media platforms are successful precisely because they allow people to organise their data effectively and marshall it in a single location. Often, what people find unsatisfactory about enterprise systems is not the platform, but the poorly managed data within it.

Sometimes such problems can become so entrenched, so embedded in the business, that they seem insoluble and become part of a failing corporate culture.

**A problem shared**

People look to the IT department to fix data problems, but they are often unable to because the root cause is not a technology failure, but the lack of ability – and therefore business will – to identify and solve the problem as a business issue.

Well-managed data is difficult to achieve when that data is spread across a dozen different locations in multiple, inconsistent forms. A much better system is within reach, but this requires IT people to be able to sell the concept internally within the enterprise.

The challenge for the IT department, therefore, is to widen its focus and learn to speak the language of business.

In other words, managing master data effectively should not be presented as an arcane technology challenge, but as a real business benefit that has quantifiable impacts on day-to-day efficiency – and on the enterprise's strategic goals and profitability.

The *Computing* survey suggests that a majority of people (78%) do see MDM as primarily a business, rather than a technology issue. Set against the 90 percent of organisations who say that their core data is so essential that they could not exist without it, it seems extraordinary that nearly 80 percent of UK organisations attach relatively little importance to managing it effectively.

Data also needs to be secure. With high-profile data breaches filling the news headlines week after week, the need for data to be secure, accessible, complete, deduced, consistent and manageable is greater than ever, and yet in many organisations the board does not understand MDM, nor have a clear idea of its many advantages to the enterprise.
Conclusion

Many will look to their CIOs and other senior business/IT strategists for in managing data, but 24 percent of decision makers surveyed answered that they did not know what MDM is, while a total of 32 percent identified it as either a single enterprise technology or a set of related technologies.

However, MDM is a practice, and not just a set of tools. Good data management is the responsibility of everyone in the company. Rarely is it the job of a dedicated team or department. That creates a management challenge, and also means that each member of staff becomes a source of potential error if not properly managed. This is why supporting MDM tools can be so important.

MDM is primarily about good management and proper business procedures: putting regimes in place to ensure that problems of inconsistency, inaccuracy, incompleteness, duplication and poor data management do not occur in the first place.

In terms of the supporting technology tools, enterprise MDM suites are often perceived to be prohibitively expensive – particularly for today’s smaller, leaner, web-enabled organisations that may have a large online market that belies their small staff numbers.

There is no need for this to be the case: open source technologies are available, which means that enterprises can write their own bespoke solutions on top of existing tools, or adapt tools to meet their own needs. Open source technology also dramatically lowers the cost of implementations compared with proprietary enterprise tools.

SMEs face the same data challenges as larger organisations, and the same need to manage their data effectively. Indeed, the challenge may be larger in some respects, as data volumes can be huge, while staff numbers are relatively small. Although duplicate data may be less of an issue in smaller organisations, data is likely to be less standardised and more ‘thrown together’ by staff who lack the time and capacity to manage it more effectively without help.

Such organisations may be unable to grow effectively without finding a way to better manage their master data. Alternatively, the enterprise might grow because they have identified a market opportunity, but be storing up a massive data problem to fix in the future – when it may be too late.

Putting systems in place to manage that master data today means that organisations can grow with confidence, knowing that there is always a single, clean, consistent, correctly tagged view of their core business data. That well managed core of data is then free to grow as the business does.
Open source MDM democatises this business capability by making it accessible and affordable for smaller enterprises – especially given the productivity improvements and cost savings that may result.

This means that the business benefits can be spread throughout the enterprise by extending MDM principles into other areas beyond mere customer data. The mass of core data that the organisation has gathered becomes as asset, a foundation stone of a thriving business, and not a mountain that has become so large that people will not even attempt to tackle it.
About Talend

Talend is one of the largest pure play vendors of open source software, offering a breadth of middleware solutions that address both data management and application integration needs.

In just a few years, Talend has become the recognised market leader in open source data management. The acquisition in 2010 of Sopera, a leader in open source application integration, has reinforced Talend’s market coverage, creating a global leader in open source middleware. Many large organisations around the globe use Talend’s products and services to optimise the costs of data integration, data quality, Master Data Management (MDM) and application integration. With an ever growing number of product downloads and paying customers, Talend offers the most widely used and deployed data management solutions in the world.

Talend offers a completely new vision, reflected in the way it utilises technology, as well as in its business model. The company shatters the traditional proprietary model by supplying open, innovative and powerful software solutions with the flexibility to meet the data management and application integration needs of all types of organisations.

Talend makes enterprise grade data management and application integration solutions available to organisations of all sizes.

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