

End-user Defined Data Mashup:

The case for giving more power to end-users of business intelligence applications

Summary

InetSoft offers a unique capability in its BI platform for enabling end-users to combine disparate data sources that are not already mapped within a data warehouse schema. While traditional information management philosophy requires IT to be the gatekeeper of a “single truth” of enterprise data definitions, it is misguided to believe that this can ever be fully accomplished. Moreover, by limiting end-user abilities IT creates obstacles to delivering the fullest benefits of BI and burdens itself with unnecessary change requests, work backlogs, and administration overhead.

This white paper explains further what data mashup means in the BI space and makes the business case from both the business-side and the IT-side for enabling this level of self-service:

- What is data mashup?
- The fallacy of the single-truth
- Why end-users need data mashup
- Why IT needs data mashup
- Business case results of enabling data mashup

What is data mashup?

The term mashup was used first in the media space during the past decade as people seized on the opportunities that new media software and hardware technologies provided. It became much easier to combine snippets of songs, video, or graphics from different sources to create new and interesting content. More recently, the concept and the term has broadened out to Web content applications including user-defined portals that can combine RSS feeds, other syndicated content, or even non-syndicated content to create a higher-value, personalized information consumption product.

Among technology providers, companies are now developing applications for the enterprise space to mashup Web-based content in the same way. This is useful, but limited. It does not create much more than a collage of pictures or objects because there is no further processing of that information; it is not treated as data.

By contrast, in the business intelligence space, a limited number of vendors have been creating applications that allow the combination of disparate data sources on the fly without necessarily relying on a middle step of ETL and data warehousing. This is now being referred to as “data mashup.” To the end-user, analyst, or business person who studies dashboards or drills through reports, this behind the scenes mashup is invisible. They simply enjoy the benefit of greater access to data, and enhanced ability to gain insight from it. While combining disparate data sources is a common application for a data mashup, note that even in a single data source environment a mashup can be made by combining data from different tables in a way that wasn’t previously anticipated.

InetSoft’s solution for data mashup is unique in taking this data agility concept to its ultimate level by allowing end-users to create and define data mashups on their own. This flexibility applies to two common use cases. In the first case users can combine data fields from data sources that have been intentionally exposed to the BI platform but not yet mapped together in a data schema. In the second case the end-user can bring in his or her own data and combine it with those made available in the platform.

Many people express hesitation when first hearing of this ultimate level of self-service and the commensurate power it places in the hands of the end-user. Isn’t this power dangerous? This reaction is due to the fallacy of the single truth.

The fallacy of the single-truth

A common problem in business is putting people in possession of a common set of data, a “single truth.” The pain around this problem is, in fact, often the impetus to launch a BI project. The problem for IT is to make available one centralized and sanctioned source of data. Of course, companies *do* need to standardize on data definitions, develop processes for collecting data, and provide tools or platforms for end-users. This is the right mission for seeking and delivering the single-truth.

But this is as far as the single-truth mission can go. End-users can never be stopped from manipulating the sanctioned data, and they can never be stopped from making mistakes with it. They can misuse fields or create incorrect formulas. IT can try to lock down user abilities in a BI platform. But even this is a futile effort. As soon as users port data into a spreadsheet or a slide, IT’s control is circumvented. These office software applications are ubiquitous in business and are often the primary medium of numbers-based communication.

So you can only guarantee the single-truth up to a point, after which you have to trust your end-users to use it properly. In fact, this has always been the case. Businesses have to trust the judgment and skills of their business end-users and analysts or those individuals should not have access to data in the first place. With this realization, IT no longer needs to fear giving end-users the power of self-service that end-user defined data mashup offers.

Why end-users need data mashup

Why do end-users need data mashup capability? Can't IT just set up all of the data relationships that end-users need ahead of time? This is the natural question to ask before embarking on a BI project. But those of you who are already underway realize the impossibility of this task. No one can ever anticipate all the needs that users may have for enterprise data.

End-users have a hard enough time documenting needs that they currently *know* about. When you're in a requirements-gathering stage, you are fortunate if you can get users to write down even 80% of what they really want or need in terms of data and its manipulation. You cannot realistically ask them also to consider all the new sources of data that might be made available to them and the analyses they might do.

Even if you do not plan to add additional data sources, it is still an impossible feat to anticipate every data structure requirement of the future. You can't know the unknown. Business intelligence, by its definition, is supposed to enable the business to answer any question that might arise – including questions that only arise thanks to the power of exploration and discovery the your BI solution introduces. BI is in its essence ad hoc and adaptive.

Remember your BI solution is not just providing a centralized tool for data access. You are trying to empower all types of people to explore data, learn new things from it, ask new questions that may never have been asked before, and come up with business decisions that move the company forward, compete better, move faster, or work more efficiently.

Realizing that there will always be data-use requirements that you can't anticipate, the question is whether IT should be in the middle of supporting those requests? Over and above IT resource issues, it is crucial to keep in mind how important end-user satisfaction is for a successful deployment. Certainly end-user dissatisfaction has been a significant reason for a BI project failure - even after significant licensing fees have been paid and manpower resources have been spent.

Providing end-users with self-service enables them to move much further forward much more quickly. In fact, one of the ingredients to a correct BI implementation is enabling end-user experimentation, giving them a sandbox to explore and analyze in. Providing end-users the ultimate in self-service that data mashup allows will do even more to increase the success of a BI implementation. It will increase end-user satisfaction, which will in turn increase adoption and usage. You are also increasing the throughput of analysis, findings, decisions, and actions, all of which add more value to a successful deployment. If you add to this novel business questions that are raised and answered, you are vastly increasing the return on your investment. This is one half of the business case for the value of end-user defined data mashup.

Why IT needs data mashup

What about IT resource savings that stem from the self-service capability of end-user defined data mashup? It may be obvious at this point, but by implementing this self-service framework you are now reducing problem cases where the end-user can't do what they want with their BI tools. You are reducing change requests and the associated workload and administrative overhead. You're also cutting down on special report requests – reports or analysis that only highly skilled analysts can accomplish. By giving end-users the sandbox capability, you are also making future requirements gathering more efficient, by letting them discover the ones they really need, rather than asking them to speculate in advance about them. All of this process improvement, too, is a savings in workload and administrative overhead.

Workload reductions offer savings in manpower, whether this comes from reduced hiring requirements, the redeployment of resources, or just increased throughput of existing resources. In all cases, you experience hard cost benefits. For example, you may reduce reliance on SQL experts and statistics specialists such as SAS analysts.

The business case for enabling data mashup

Here is the summary of the business case for enabling end-user defined data mashup:

You will achieve a higher ROI on your BI investment due to:

- A higher success rate of deployment due to higher end-user satisfaction, usage rates, and adoption rates
- A greater number of actionable learnings made from enterprise data, generating business returns through greater sales or greater efficiency
- Faster times to decisions; better enterprise competitive responses or moves that stay ahead of the competition; better tactical or strategic moves in reaction to market conditions or customer performance

You also benefit from a lower TCO due to:

- Reduced personnel needed to support your BI solution
- Reduced number of highly-skilled analysts or DBAs needed to satisfy end-user demands

For all of these strong business reasons, you can see why it's time to break the mold of traditional BI solutions and look at InetSoft's unique solution to end-user defined data mashup.

For more information on InetSoft's Style Intelligence software, please visit www.inetsoft.com.