

Enterprise Mashups and *intelligent Contact*™ – a complete Enterprise 2.0 solution

In most businesses, the IT department valiantly deploy and support IT systems designed to provide high quality information that enables staff to deliver their objectives. A typical organisation produces a huge array of information, presented via multiple internal software applications, emails, spreadsheets and interactive web pages. Wherever you look, you will find people whose job function it is to simply process and manipulate data.

However, freeing these people from their repetitive tasks to better serve their customers, improve products or develop the business into new growth markets has traditionally required the development of yet another old fashioned software application which the IT department will rarely fund, resource or approve. It's quite normal for an IT department to be sitting on a long list of projects that don't see the light of day and research shows that most organisations have a growing backlog.

Using the web as a collaborative platform, Enterprise mashups now hold the key to solving this problem. A combination of new technologies, ever-present web access and open standards has created an opportunity to empower business end users to address their information needs in a secure and governed manner. In the enterprise, the IT walls are falling!

Enterprise mashups – the value to your business

Many of us can think of small ways in which our business could run more efficiently, improve customer service or offer new opportunities. Many staff, be they in the front line serving customers or ensuring the quality of fulfilment, have to work with multiple computer systems and search complex web sites or email archives for key information.

The IT department has to focus on those highly complex applications, such as ERP, CRM, email and telephony; when they do find time to help individual departments they usually resort to SharePoint, VBA (Visual Basic for Applications) in Excel or Access to solve an immediate business problem by extending packaged applications or enterprise-wide core applications. This can create tensions in the enterprise between the end user programmers and IT as there is an overhead for managing these applications that may sit on a user's desktop. End users are also not content to wait for IT departments and system development teams to modify existing solutions as a solution to their immediate business problem.

So, the reality is that, whilst these low complexity applications may not be cost effective for your IT department to create, they collectively represent the potential for substantial cost savings and improved customer service. Imagine if all these people could be freed up from their repetitive tasks to serve your customers better, improve products or develop your business into new growth markets.

A 'mashup' is a method of creating applications that combine data from a number of different sources yet appear to the user as one seamless desktop experience. The term derives from hip hop where music was often created from an amalgam of other sources, blending tracks from different artists into one sound. Mashups as software first gained popularity as consumer-focused applications developed in response to the excitement generated by Web 2.0. However, organisations are now realising that they also have extraordinary value as solutions that meet a need for which IT resources cannot be justified or are low down on the IT implementation list. An Enterprise mashup is a method of permitting subject-matter experts in the business to implement their own applications, using predefined functionality from existing applications in a process-centric manner to meet their unique business needs. In addition, a mashup can combine those well defined services that carry out discrete business logic with other existing services, which may be internal or external to the organisation, to provide new and interesting views on data.

Until mashups came along, application development had been a specialised and very technical job. Now, new technologies, based on the Web 2.0 evolution, provide the necessary infrastructure meaning that new process-centric applications can be "mashed up" using predefined drag and drop tools. Most importantly, you don't need IT to build them; they can be modified at will and, if necessary, sit completely outside your IT infrastructure! An Enterprise mashup allows business users to build new applications *by themselves*, combining company information that can be shared with colleagues via the Intranet in a secure environment. There are no large spreadsheets that have to be emailed from person to person; information is processed automatically and this allows high cost savings to be realised. It also provides a much improved platform for innovation because the business can actually experiment with ideas and show IT exactly what is required.



Mashups & the IT department

Most business problems have similar root causes; they involve a process that usually does not work well. It probably crosses organisational boundaries, involves multiple stakeholders and needs to interface with multiple back end systems. An Enterprise mashup can offer a unified consistent experience but, in so doing, it needs more capability than that of consumer mashups. It needs a powerful process platform that can cross those boundaries and unite the stakeholders so that the job is done consistently and on time. An Enterprise mashup must be able to access the back office business systems such as ERP, finance or CRM on which the organisation depends.

In creating an Enterprise mashup, the platform interfaces with these systems to build smaller applications that meet specific needs. IT provides the interfaces - the SOA infrastructure that allows access through a secure controlled environment - but business experts design the processes and create new agile applications that can be developed and adapted rapidly in response to changing needs. No serious IT skills are necessary to be effective in this new and exciting world and your IT development backlog can be eliminated!

The value to your IT department

Many analysts are predicting a global economic slow down and this often leads to cuts in internal spending. These cuts impact directly on IT departments who need to find lower cost ways of implementing business solutions. Coupled with ever-growing IT infrastructure and complexity, many organisations are looking for ways to deliver more information systems whilst reducing costs.

Many companies have looked externally and offshore for ways of augmenting their IT resources. Although third parties are very good at developing software that meets exact specification documents, they are less successful at solving the business issues as they are remote from the "coal face". Also, in the light of probable cost cutting, all these contracts will have to be re-examined in terms of real business benefit.

Experienced IT staff know that it is not the size of the application or the amount of functionality that leads to successful business outcomes; it is more about business understanding and user adoption. Every small misunderstanding between the end user and the programmer often has high business impact and leads to costly re-working.

Imagine if your IT department had an information infrastructure where the business could develop its own internet based applications. This would enable tremendous flexibility and innovation whilst reducing the potential for misunderstanding. Delivering an Enterprise mashup platform moves the traditional lines of responsibility and enables the business to be intimately involved in those software applications that govern its destiny. At the same time, costs can be reduced and the IT department is returned to what it does best - developing and maintaining your infrastructure.

Industry analysts Gartner believe that mashups "open up the possibilities for a new class of more short-term or disposable applications that before mashups would never have received development investment" and that they "...seem to be the answer for enterprises looking to roll out content aggregation software to meet the various demands of business users who want the personal flexibility to do different (perhaps new and interesting) things by combining available data from within and outside the enterprise." (Gartner Research April 2007).

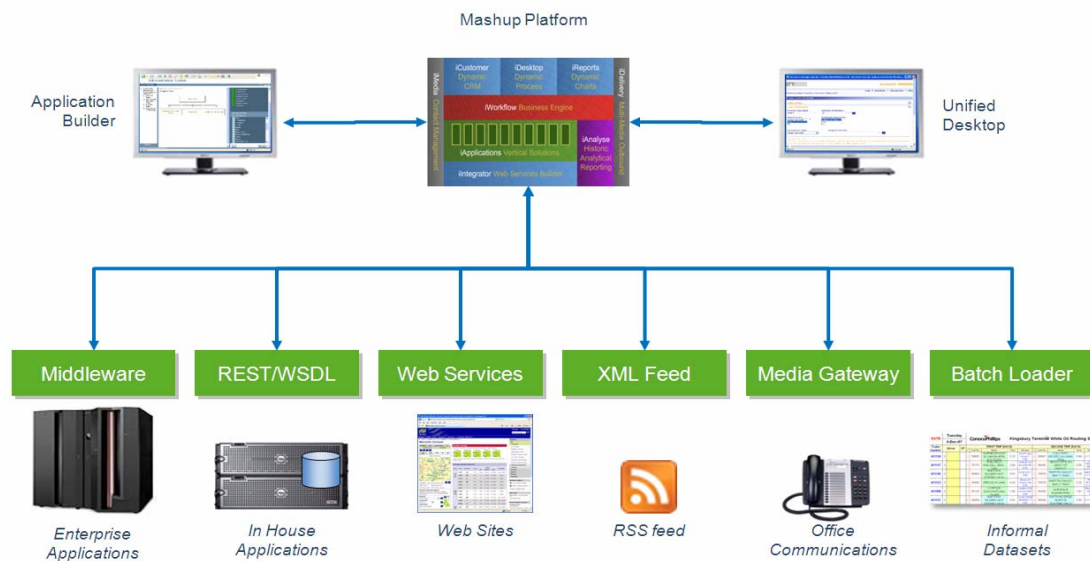
Mashup architecture

Although there is great variation in the user interface and the sources of data for mashups, there is an architectural pattern that is common amongst all. The core element of any mashup is the data being aggregated and presented to the user. Although mashup platforms often contain databases to store temporary information, there is a greater emphasis on live data from external sources. The data can come from a variety of systems within the enterprise or from external feeds. The mashup platform at the centre is responsible for providing easy to use tools to create applications and an engine to aggregate and process live information to drive user screens. A good mashup platform should have the ability to:

- » Subscribe to data services and RSS feeds
- » Query external data sources for live information
- » Consume and provide WSDL and REST based services
- » Store and retrieve local information
- » Batch load, de-duplicate and clean ad-hoc data sets
- » Provide 'drag and drop' application configuration tools with full version control
- » Deliver live dashboard and historic reports easily from aggregated data sources
- » Define workflow rules
- » Utilise preconfigured application templates and widgets for standard functions
- » Show potential for integration into communication systems.



Mashup development & tools



RSS feeds

A common source for mashups applications is RSS (Really Simple Syndication) feeds. RSS feeds are easy to consume as they are simple XML documents and can be manipulated easily. The format and specification of RSS is well documented and understood making it a common platform for sharing data over the internet that is in use today.

External data sources

Microsoft's ODBC (Open Database Connectivity) is still a viable tool in the creation of mashups; based on the Call Level Interface specification of the SQL Access Group, ODBC provides an open, vendor-neutral way of accessing data stored in a variety of proprietary personal computer, minicomputers and mainframe databases. However, care has to be taken as it provides access to the raw data that underpins software applications. It is more suited to read-only interfaces and can be successfully used to extract key pieces of data from existing database applications. Write functions are often dangerous as they have the potential to corrupt data integrity, particularly if the external system has been upgraded or modified.

WSDL and REST

Mashups can also include calls to Web Services and it is common to see both WSDL based Web Services and REST based Web Services. Web Services can be used to provide additional data or used to transform the data being mashed up and is also the technology used to expose internal platform services in the enterprise. Platform services provide a different capability as they offer the ability to relay communications from the internet across the corporate firewall, thus exposing internal services for consumption by business partners, third parties or internal staff wanting to utilise the services to create their own Enterprise mashups.

Batch loader

A batch loader allows lists of data to be loaded into the mashup application and will be required to obtain ad-hoc data sets or downloads from external systems. It should be possible to load data lists into pre-configured tables within the mashup platform and blend them into the application. The mashup platform should have the ability to de-duplicate the data and create, modify or delete existing records held within the mashup platform.

Local information

A major benefit of mashups is the ability to quickly augment information stored in core systems with temporary or new information fields. This requires the facility to easily define new data items on the screen and the ability to store them for as long as required within the mashup's own database.

Application builder

The application builder should make it easy to build software specific to the business requirement. This is usually done by creating a high level page flow to support the business process and then dragging controls from the standard library. In this way, web mashups can be constructed within days, tested and then deployed to the user community via the internet. All changes should be tracked through a formal change control process.

Security of information is a key requirement of the mashup platform and should be scoped by user access privileges.



intelligentContact™: Mashup Delivery Platform

Until now creating a mashup still required some knowledge of client application development languages such as HTML and JavaScript. There were also problems around version control for mashups, especially in the enterprise where they may be used to deliver front office services.

To solve these problems, **mplSystems** has released **intelligentContact™** as a complete Enterprise mashup platform which enables non-technical end users to quickly build process centric mashups delivered as a **single integrated desktop**. Built initially for the contact centre to create integrated views of data and services for the front office, it has now grown into a complete application delivery platform. Enterprises use **intelligentContact** to rapidly create applications which are then delivered via the browser using standard HTML and JavaScript **but developed by non-technical end users**.

intelligentContact allows users to quickly drag and drop UI elements onto a page and integrate with platform services, external Web Services and back office databases using wizards. All applications have complete version management built into the platform allowing users to deploy applications with a click of a button. This removes any reliance on the IT department for file based deployment onto internal web servers.

Available both as an On-Premise solution in the enterprise or as an On-Demand hosted solution over the internet, **intelligentContact** provides a flexible platform for creating mashups. It comprises a number of modules that allow users to build their own databases, workflow, calendaring and scheduling for use in their mashups along with any internal/external data sources and services.

The administration and mashup development environment is built on multi-tenant architecture that is also delivered via the browser; again, this means there is no need to deploy physical applications/tools on the client PC for the purpose of developing the mashups.

mplSystems has worked closely with a number of organisations on Enterprise mashups to streamline their processes and improve efficiencies.

Organisations such as CWHIC (Cheshire, Warrington & Halton Information Consortium), a public service partnership formed to deliver collaborative customer facing services, GNUF.com, an on-line gaming services provider, Almex (part of the Metric Group) and Norwich Union Life have all taken advantage of the flexible approach that **intelligentContact** brings to their internal and external communication methods.



Applications are created in a drag & drop environment



Multiple data sources are brought together in one desktop



Conclusion

The Web 2.0 areas of rich content and community are being used successfully by organizations today both internally, for knowledge capture and reuse, and externally, to create communities of customers. The adoption of Web 2.0 for the Enterprise, in the form of Enterprise mashups, is now one of the most talked about developments in IT circles. However, a critical success factor for the delivery of Enterprise mashups to end users is leveraging the correct technology for the job. Whilst existing application development environments may seem like a viable option, the unique characteristics of mashups demand technology that specifically addresses Enterprise mashups. Moreover, it does not replace existing enterprise assets, such as SOAs, portals and rich internet application development tools, but instead enhances them. Most importantly, approached correctly, Enterprise mashups have huge ROI potential.

With the release of *intelligentContact™* as an Enterprise mashup platform, the world now has a unique offering that *not only provides the tools to create the mashups but also integrates with a complete multi-media delivery platform*. This enables end users to quickly create extensible solutions to business problems utilising existing services and data sources in the enterprise as well as the traditional external services such as Google Maps, Microsoft's Virtual Earth, Spaces, Live Services and so on.

Overall, the use of Web 2.0 techniques in the enterprise promises to have a profound and far reaching effect on how organizations work both internally and externally, creating completely new and powerful ways of reaching, selling and supporting customers as communities.

About *mpl*Systems

*mpl*Systems is the technology channel for contact centre company The Message Pad Ltd, which was founded in 1994. *mpl*Systems and Message Pad have become the UK's leading providers of contact centre solutions and outsourced services and the release of *intelligentContact™* as an Enterprise mashup platform promises to be an even more exciting development in the company's history.



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