A Beacon Publication from Outsell's Gilbane Group

Guidance on Content Strategies, Practices, and Technologies

Taking Online Engagement to the Cloud

Delivering Web Experience Management using a Cloud Computing Infrastructure

By Mary Laplante, Lead Analyst

January 2011

Sponsored by

FatWire® SOFTWARE

GILBANE GROUP
A DIVISION OF OUTSELL, INC.

A visitor to a website is an opportunity – an opportunity for an organization to achieve its engagement objectives of informing, marketing, communicating, selling, convincing, converting or connecting to its audience and to see a return on its web investment. For a few brief moments, this visitor has given his or her full consent for the organization to do that and is engaged.

> ***"WEM is a new business imperative, driven by demand for engagement that will only grow, not diminish. Companies that step up to the challenge of building WEM practices will be rewarded with business relationships of lasting value, quantifiable as revenue growth, customer satisfaction, loyalty, and positive brand perception."***
>
> *Engage Me! Web Experience Management as the New Business Imperative,* Gilbane Group

As we observed in our research and discovered in our client experience, online engagement has become a business imperative for virtually every organization. The key to engagement is to understand the visitor, to execute on that insight, and deliver relevant content and services. Yet organizations are finding that gaining that understanding and delivering this compelling, relevant web experience creates process and data challenges across their operations.

In our paper entitled *Engage Me! Web Experience Management as the New Business Imperative*, we define Web Experience Management (WEM) as a business practice that formalizes an organization's approach to relating to its audiences through web-based channels. WEM is based on the premise that engagement that delivers high value to all participants does not happen by accident, but by design. An experience is capable of being improved and optimized only when it is repeatable, predictable, and measurable. This is the essence of the practice of WEM. As a business practice, WEM is enabled by a range of technologies, including web content management, personalization, dynamic content delivery, analytics and optimization, social computing, and mobile channel enablement. As such, WEM calls for integrated business, marketing and IT processes.

In addition to managing a complex set of technology challenges required for delivering an engaging web experience, companies also face a number of business challenges, including:

- The corporate need for flexibility and business agility to react quickly to market changes and the fast-paced demands of multi-channel customer engagement. New ways to engage, new platforms, new social media destinations, and changes in the way people want to be engaged mean that organizations need to be agile and reactive to these new rules to remain contemporary.
- Unpredictable infrastructure demands as content consumption patterns shift from traditional web pages to more multi-channel content (RSS, mobile, tablet devices, internet TV, etc.) and a highly personalized, relevant and dynamic web experience.
- Scrutiny of fixed capital expenditures for web projects. Digital marketing leaders are subject to mandates to control expenses and clearly tie any web investment to tangible business objectives, ROI metrics, and benefits.

Digital marketers therefore need to quickly assemble solutions that operate within the organizational cost model, offer low barriers for entry and exit, match the peaks and troughs of the business demand, and are free of "big IT" procurement and cost restraints.

© 2011 Outsell, Inc.

This paper explores how cloud computing can be an option when these challenges are rooted in the system infrastructure. We answer the following questions:

- ***What do we mean by the cloud?*** There is a great deal of hype, sales, and marketing messaging around "the cloud." We explore what it really is and the opportunities it represents for digital marketers.
- ***What are the deployment options when working with a cloud platform partner?*** The decision around deploying to the cloud is not always a binary choice to host in the server room or not. We look at possible solution architecture options and the benefits of each.
- ***What do organizations need to look for in a WEM solution in the cloud***? If deploying into the cloud is an attractive option for an organization, we consider the key attributes that organizations should build into their selection criteria when choosing a solution.

Defining the Cloud

In our experience, we have found that the term "the cloud" is often applied to anything that resides outside the server room. In the context of this paper, we are referring to services that have the following attributes:

- A shared *platform* provided as a service rather than *Software* as a Service (SaaS). The cloud provider hosts software applications deployed by its subscribers onto a shared infrastructure, rather than offering a shared, hosted software application.
- A computing platform service where the business subscribing to the service only pays for resources that its organization consumes.
- A billing structure that is built around a subscription or billed in small consumption units as a utility (the analogy often used is that it is similar to the way consumers pay for electricity).

There are also variations that can extend these core attributes. *Private clouds* allow secure access to a set of isolated cloud resources, essentially adding the cloud instance to the enterprise via a Virtual Private Network. *Community clouds* are similar to private clouds in that they are isolated resources, but those resources are shared within a group of organizations that have similar needs or a shared data security policy, such as a Government cloud.

What's the Business Benefit?

One of the characteristics of online engagement initiatives is that the load on the infrastructure is often unpredictable. Digital marketers are often unsure of the response of online marketing initiatives. The traditional requirement to architect and invest in infrastructure *ahead of the need* is a constraint most keenly felt as digital marketers launch new initiatives, programs and services where it is unclear what the audience reaction will be. The infrastructure is often over-provisioned in the face of uncertainty and goes unused during off-peak times, adding greater inefficiency, redundancy, and cost.

© 2011 Outsell, Inc.

Besides these unpredictable infrastructure needs, there is often wide disparity between the occasional demand peaks and the generally lower utilization of the web infrastructure. The same army of servers that idle away at 4am on a Sunday morning needs to be ready to meet the demands of the holiday shopping season, a news event or a marketing campaign going viral, or that "Oprah Winfrey moment" when a product, service, or article gets mentioned on prime time television.

Some components of web experience management, by their nature, have a wide band of upper and lower levels of utilization. The intense requirement for development servers during certain points of a web application deployment, or the needs of QA and testing when simulating the effect of heavy loads on a web application, are two examples of infrastructure that is used intensely for short periods and sits idle for much of the time.

One of the primary business benefits that organizations see when deploying a web application to a cloud computing platform is that they eliminate the need to understand, architect and invest in a large, complex infrastructure that is only fully utilized when the application is at peak load. When organizations deploy into the cloud, they not only reduce capital investment by paying for only the computing resources they use, when they use them, but also reduce the overhead of maintaining the expertise to look after these complex infrastructures. This is a skill that is not core to many organizations.

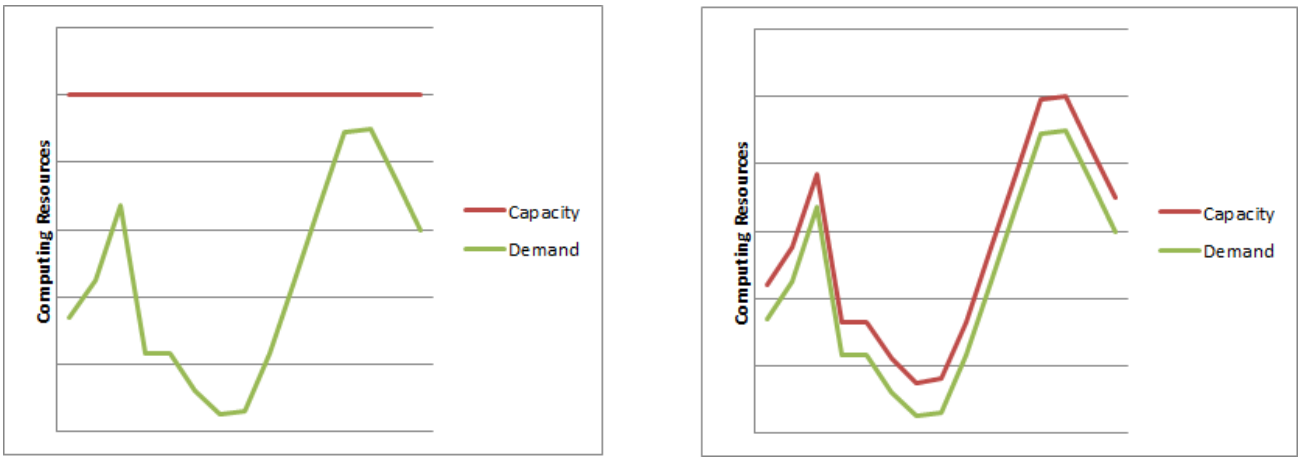

Figure 1. These graphs simulate the points made in the section above, contrasting how a server room deployment (on the left) has a fixed capacity with much of it redundant, while in a cloud deployment there are granular changes in resource capacity that increase and decrease as needed (right). These simplified images are used for illustrative purposes and are not based on real server data.

Considerations Beyond the Cloud Mandate

The compelling business benefits outlined above combined with the current hype around cloud computing often tempt organizations to have "must be in the cloud" as a mandatory requirement when selecting enterprise software, or to have it handed down as a procurement constraint by a sponsoring executive. It is easy to be seduced or distracted by a solution whose only unique selling proposition is being hosted, available as SaaS, or deployable onto a cloud computing platform.

© 2011 Outsell, Inc.

Our advice here is not to compromise on the core web content management or web experience management functionality requirements when evaluating these solutions. The success or failure of a content-based business application is not solely a matter of infrastructure. Technology decisions must be squarely based on business benefits. Investments in systems, skills, and assets must be tied to how they will enable the business objective of engaging the visitor. If organizations determine that moving to a cloud based deployment is the right approach for them, then the vendor they select must offer the right technological capabilities *in addition* to satisfying their mandatory, strategic web engagement requirements.

Deployment Options

When considering the cloud, the decision for organizations is not limited to whether or not to deploy the whole of their web experience operation. If the software solution is modular, they have the flexibility to choose to deploy solution components in mixed environments that combine on-premise and cloud.

Hybrid Models

Many organizations pursue a purely cloud-based model for WEM development, management and delivery environments, while others adopt a hybrid model of partially cloud-based, partially in-house WEM infrastructure. They might use the cloud to add capacity to their existing on-premise deployments, for example, or to move part of their web operations to the cloud as a mix of on-premise servers and cloud computing resources.

Two solution architectures illustrate hybrid deployments of web experience management components, using the WEM suite from FatWire as an example. The suite includes capabilities for authoring and design websites, targeting and optimizing site content for specific audiences, deploying sites in multiple languages, offering social computing features including user-generated content and gadgets, and deploying and optimizing the web presence for mobile devices. Organizations can choose to deploy these capabilities across both on-premise and the cloud.

Figure 2 shows the architecture implemented at a large manufacturer, where development is done in the cloud, and the management and the live content delivery environments are on-premise.

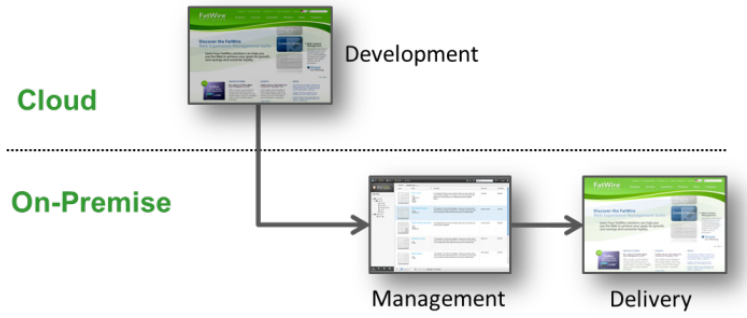

Figure 2: Development in the cloud. Graphic courtesy of FatWire.

© 2011 Outsell, Inc.

This type of set-up can be beneficial for variably used development environments so that the organization only pays for the development capacity when needed.

Figure 3 shows a hybrid implementation at a global financial services company, with content management and web application development hosted on-premise and the live delivery of the website deployed in the cloud.

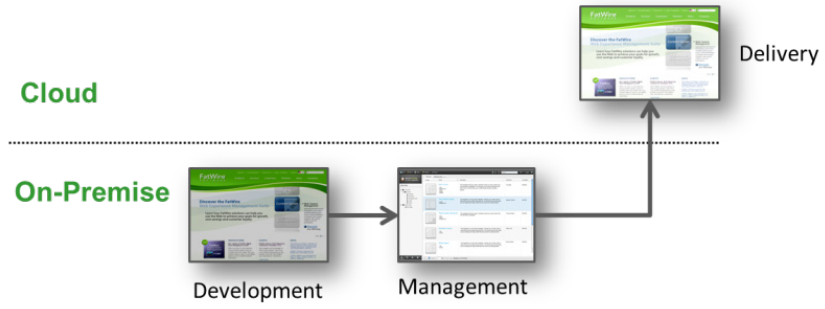

Figure 3: Live delivery in the cloud. Graphic courtesy of FatWire.

This type of an infrastructure can be beneficial when an organization's website is subject to large peaks in traffic due to seasonal-, campaign-, or business-driven demand. The organization does not have to provision for highest traffic and maintain that level of infrastructure during off-peak times.

Hybrid models offer the following benefits:

- **Content governance —** Companies in highly regulated industries have to be cognizant of legal and corporate compliance issues around content storage outside of the organization. A hybrid solution addresses these concerns by enabling different parts of the publishing infrastructure or different web applications to be deployed in the cloud or on-premise. For example, an organization could maintain the content authoring within the firewall and only deploy approved public content to the cloud. It could choose to only deploy public-facing web applications in the cloud and maintain more sensitive web properties (such as intranets and extranets) within the server room.
- **Control and flexibility —** A hybrid model allows the organization to maintain a degree of control of key assets. It can, for example, choose and switch cloud platform providers without affecting the integrity of the content repository or the authors. This could be a critical business decision when dealing with an emerging market of vendors in the cloud computing space.
- **A staged approach —** A hybrid model enables organizations to take a carefully managed approach to cloud deployment, running pilot programs with one or two web properties and experimenting with functionality.
- **Live delivery capacity —** In addition to handling peaks and troughs of demand cost effectively, organizations also might also consider moving just the live environment to the

© 2011 Outsell, Inc.

cloud to insulate themselves from extreme demand that might overwhelm their fixed on-premise capacity.

- **Development and test** — Due to its cyclical nature, one of the less obvious areas where organizations require a variable level of computing resources is in web application development and testing, where numerous servers are often idle the majority of the time. A cloud deployment has the added benefit for stress testing a web application, as organizations can call upon short term resources as they need them to simulate high levels of load.

The Innovation Bonus

While a hybrid model can offer considerable benefit, moving the entire web operations infrastructure to the cloud or starting a fresh project in the cloud offers organizations an opportunity to realize the business benefits we have discussed on a more comprehensive scale.

Our examples of business impact have focused primarily on infrastructure. One additional benefit keenly felt when organizations choose to take their web operations completely into the cloud relates to the technical teams and their profile. Once the mundane burden of maintenance of any on-premise infrastructure has been completely removed, technical teams are free to spend their time adding differentiation to strategic web applications and innovating more heavily in response to technical requests from their business colleagues.

Cloud-Ready WEM

We have identified a number of key attributes that mark out a WEM solution as being ready for deployment to the cloud. The following are not specific to WEM, but organizations should add these to their solution requirements when considering a cloud deployment.

- **Modularity** – As we have discussed, one approach to a cloud platform strategy is to deploy a hybrid model with some parts of the infrastructure maintained in the cloud and others in-house. This type of model enables organizations to use cloud-based services only where they drive the most value for their business. It also lets organizations experiment with piloting web applications in the cloud before committing to the platform. This flexibility requires the deployed software to be modular, so that the development, testing, management and delivery environments can be easily separated and hosted wherever is most advantageous, without impacting the operations of the integrated WEM system.
- **Support of standard technology** – When compared with the relative freedom to install *any* pre-requisite platform software within the server room, a cloud platform will generally only support a contemporary, industry-standard platform stack. For example, organizations may find that they can only deploy a certain version of a relational database, programming language, or web server onto the cloud platform. Organizations therefore need to look carefully at the WEM software vendors' support matrix and note any legacy or proprietary technologies that they rely on. Organizations should also confirm that not only will the

© 2011 Outsell, Inc.


software function in this environment, but that it will also be covered by their support and maintenance agreements.

- **A web-based user interface** – Organizations should take a careful look at the technology driving the system user interfaces. Some solutions require a thick desktop client to be installed on the desktop to complete certain tasks. This does not necessarily prevent a cloud deployment, but organizations should pay particular attention to the way these clients communicate with the server and determine if it will hamper user rollout.

While cloud computing is a relatively new technology delivery model, a final and most important point is to look at the cloud vendor's track record and available references. Cloud deployments and subsequent support can be easy to address in the theoretical world of the RFP response. Buyers should place an added emphasis on the technical due diligence phase of any services selection.

Conclusion

Web experience management is an essential business practice that should be a key component of any customer engagement strategy. Our research shows that a WEM strategy places specific demands on organizations to be agile and reactive, even as investment in new initiatives is under increasing scrutiny. Stakeholders who need to balance these factors should take a close look at cloud computing and the deployment options available to them.

We believe that they can do so with confidence in today's market, as established vendors with proven WCM and web engagement technologies embrace the cloud. Solutions from companies like FatWire combine the WEM capabilities that digital marketers need today with contemporary delivery options. For many organizations, cloud computing can be a faster route to business benefits that include increased agility, lower cost of implementing tools to deliver a compelling web experience, and greater flexibility in deploying web applications.

© 2011 Outsell, Inc.