SOFTWARE ADVANCEMENTS FOR 2010 CONSTRUCTION

By John Bodrozic

With the dawning of a new decade, contractors are thinking back on how technology has impacted their organizations involved in construction and capital project management. For the past 15 years, Meridian customers have used technology to become more efficient, and more recently have taken technology solutions to the next level in order to prepare for economic recovery and differentiate themselves in a more competitive project environment. Looking ahead to 2010, the following technology trends such as BIM, Web Services, SaaS, and OBAs will be impacting customers' business the most.

BIM

Building Information Modeling (BIM) is garnering a lot of attention in the construction and capital building industries. This is due to the discipline of construction project management evolving beyond helping organizations manage only the "build" phase of projects, to broader use managing complete project life cycles, or Infrastructure Lifecycle Management (ILM). ILM software is designed for those companies that manage the plan, build, and operate life cycles for both new and existing buildings and facilities. ILM processes start with the planning and design phase of potential projects, progress through procurement and construction, and continue ultimately into the management of assets and maintenance for facilities.

There are many synergistic opportunities for ILM technology and BIM models to come together. For example, during the plan phase, the building owner determines the financial feasibility of a project and hires architects and engineers to design the project. During the build phase, a general contractor is selected to construct the facility, while the owner and design teams provide oversight. And finally, during the operate phase, the owner takes over the newly completed facility and manages this new asset through preventive, predictive, and corrective maintenance.

As the market continues to adopt both BIM and ILM methodologies, the value propositions will begin to shake out as more companies experiment with each touch point opportunity.

SAAS OR CLOUD SOFTWARE DEPLOYMENTS

Although it has gone through several naming iterations over the years (ASP, SaaS, and now Cloud Computing), the concept of a vendor hosting software in an "On Demand" or Software-as-a-Service (SaaS) environment has been around for quite some time.

Some quick definitions for reference:

- Deploying software "on premise" or in a self-hosted environment is where the customer buys software licenses to install in their own IT environment, using their own hardware and IT staff, and managing their own data backups, disaster recovery practices, etc.
- An alternative to purchasing, deploying, and managing software applications internally, SaaS or hosted software applications offer many advantages. The customer pays subscription fees to access an application, all associated software and hardware infrastructure, and IT resources that deliver high degrees of availability and secure access. SaaS applications often require less time and money to deploy, and are easier to support, especially when companies prefer to keep their employees focused on delivering projects, instead of IT maintenance.

Customers evaluate several criteria when it comes to deployment options, including how they prefer to financially classify their software purchase (as a capital asset or a monthly expense), whether or not they have available IT staff and hardware resources, and what their specific implementation timeframe will allow. For example, some customers may be working with federal funds and tight timelines, so a SaaS model, where they do not need to set up a long-term IT infrastructure, may be best. Other companies may have long-term capital construction roadmaps and can benefit from setting up their own IT infrastructure that can serve them for years.

WEB-BASED VS. WEB SERVICES

Web services is a modern software architecture strategy that is helping Web applications evolve for the better. Software applications built on a Web services platform are enabling new levels of collaboration between project teams and better interoperability between computing applications and devices.

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Don't confuse deployment options (such as SaaS or Web hosting) with software architecture strategy (such as Web services or client/server). When it comes to selecting software applications, the software architecture choice and deployment choice are not linked—in other words, a choice in one category does not necessarily mean a corresponding choice in the other category.

It's also important to understand the difference between traditional Web-based software applications versus applications that run on top of a Web services platform. Web-based applications typically have a single common browser user interface that does not support multiple user interface choices and typically does not expose the entire applications business logic. These traditional Web apps have also been limited when it comes to advanced interoperability and integrations to other systems.

In contrast, a Web services platform is a fully exposed set of business logic [Web services] and data structures [XML] that securely supports:

1. A common browser user interface
2. Alternate user interfaces with other applications such as Excel, Outlook, SharePoint, Google or Bing Maps, Rich Windows apps, or other user interface mash-ups
3. Support for real-time transaction level integrations with third party applications like BIM and Financials
4. Support for mobile computing initiatives with various hardware device support
5. Support for multiple methods of collaboration, either via a browser, an Office Business Application, or even a system to system integration

OFFICE BUSINESS APPLICATIONS

Today's construction project teams still face many collaboration challenges including how to bring project team members together across geographical locations, in online and offline environments, and across different technology systems and devices. Customers have specifically been looking for better ways to implement project management technology that supports various user roles and various locations.

Office Business Applications (OBAs) are a new breed of applications that combines the power of an enterprise project management solution, with the familiar, ubiquitous look of the Microsoft Office Productivity suite. Utilizing Web services, OBAs are built on the Microsoft Office Business Application Platform, and allow organizations to capture the critical project information that lives in users' spreadsheets and other Microsoft Office applications.

OBAs can extend business applications, such as Prolog and Proliance, to end users' familiar desktop productivity applications, allowing them to work the way they want, while allowing organizations to centrally store and manage project data in one system of record. OBAs can be tailored to various project team roles or to automate specific work tasks. Additionally, OBAs offer offline capabilities, so project team members can collaborate even in a disconnected environment.

As the industry embarks on a new decade riddled with uncertainly and often cumbersome new concepts such as stimulus funds, transparency and collaboration requirements, and higher levels of reporting, it is imperative that companies combine industry best practices with best-of-breed solutions to stay afloat in these trying times. ■