

.NET Enables Marketing Campaign Development, Deployment and Analysis

Gone are the days when a marketer could get by with a single, broad-based message broadcast on network television and through general interest magazines. Today's consumers have far too many choices – in products and media – to listen to messages that don't speak specifically to them. And marketers are focused on ROI. They want provable results they can track to reach loyal customers with messages that matter to them.

Enter "Lifecycle Marketing" a methodology that allows marketers to target their audience(s), hone their message(s), guide customers through a selling cycle, and gather data throughout so they can do it even better the next time. All made possible by .NET 2.0 and Web Services.

Business need drives technological innovation

Solutia was called in to help set up such a project for a cutting-edge marketing communications agency and its high-tech, high-touch client. The client wanted to support its direct marketing campaigns with a web-based application that would:

- Allow users to manage and change creative content for both print and electronic media.
- Allow users to manage and segment recipient lists, right down to individuals.
- Guide recipients to specifically targeted landing pages on a web site with further information.
- Gather statistics about recipients as they navigate through the web site.
- Allow for distributed deployment and flexible vendor integration as deployment goes global.

Solutia's layered solution

Solutia's development team built an application using a Services Oriented Architecture (SOA) on the .NET 2.0 platform. Users interface with the database via a Web Services façade layer, which ensures secure, consistent data access. Using the provider

pattern, the Web Services layer hosts business logic in components, making it easy to include/swap new vendors and other functionality in future versions. The Web Services façades were broken into three areas for development and deployment purposes:

- Marketing campaign management and administration
- Recipient list management
- Reporting

Creating each of these as its own Web Services application allowed for deployment to separate machines and physical locations, which was a high priority for the end client.

The front-end web administration application was built on ASP.NET 2.0, taking advantage of master pages and .NET themes to enforce a consistent look and feel. The overall layout of the application relied on tabs and web part custom controls to provide a portal feel with access to information only a few clicks away from any given point.

Technologies used in this application

- Services Oriented Architecture (SOA)
- .NET framework 2.0
- ASP .NET for master pages, dashboard/portal
- SQL Server 2005 database
 - CLR stored procedures, including XML serialization of business objects inside the CLR sprocs
 - Reporting services
- Provider design pattern (allows for plug-and-play of components)
- WSE 2.0, DIME (vendor integration using Web Services)

Designing the database processing logic

Pieces of the application (list segmentation, for instance) required complex database processing logic. Rather than writing T-SQL sprocs, the SQL Server 2005 CLR hosting environment was leveraged to handle this processing. Business objects were assembled in the CLR sprocs, serialized to XML, and returned to a data access layer where they were de-serialized back into business objects for use by the application.

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The same process was used in reverse to persist complex objects. In other words, the business objects were passed through the provider pattern components to the data access layer, serialized to XML and passed to a CLR spoc as a SQLXML data type, then de-serialized into business objects within the CLR spoc and persisted to the database.

Using XML serialization also allows for consistent use of simple types in the Web Services façade method calls. Since complex objects are passed as a string type, any user on any technology can integrate with the façade using the XML definition of those objects. In the case of vendor integration which required an exchange of files, WSE 2.0 and DIME attachments were leveraged on top of the Web Services layer. This made the file exchange process, from XML files to custom files, simple and efficient. SQL Server 2005 Reporting Services displays statistical information to the user. A portion of the dashboard accesses the reporting services façade and pulls together a snapshot of information specific to each user at the time he/she logs in.

Initial feedback from users on this system is very positive. Creatives upload content to the system where campaign managers use that content to build out campaigns, utilizing workflow, approval, list management and scheduling processes. External vendors are queried using Web Services to obtain proofs and approvals of the materials, before sending the finalized content to the targeted list recipients. It all comes full circle when recipients view the informational web site and the end client gathers information from their visits for use in the next campaign. Lifecycle Marketing. It goes round and round.

Solutia Plunges Into .NET for Its Own Systems

There's nothing quite like jumping into the water to tell you how cold it is. As Solutia has switched some of its systems over to .NET, consultants have learned first-hand about .NET's capabilities and strengths – not to mention the intricacies of developing systems based on this platform. These internal projects have helped Solutia to learn about the vast capabilities of .NET and, more importantly, they have provided the company with a lab in which to train .NET developers.

One of Solutia's first .NET projects was a time entry system in ASP.NET that runs on .NET 2.0 and persists data in a SQL Server 2005 database. Solutia consultants can access the system from any connected computer and pull up a web page that allows entry of the same information as the old Excel spreadsheet. Except now the data goes directly into an integrated SQL Server database where it can be accessed by Solutia's accounting department to go directly into an invoicing program. The old system required reentry of the time into a Quick Books program to create invoices.

Next on Solutia's .NET docket is an intranet which will help the company's widely dispersed consultants stay connected with the home office and each other. .NET practice leader Jim Toth and his crew are working on the requirements now.

"We see limitless ways to leverage .NET for ourselves," said Toth. "The more we do with it, the more excited we are to help our clients use it to streamline processes and introduce efficiencies into their own systems."



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