

Critical Mission

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FEATURED ARTICLE

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Microsoft's Online Services *and* Silverlight 4 *The future of cloud computing is here*

It's no secret that Microsoft is investing heavily in cloud computing technologies with SQL Azure and AppFabric for developers and Business Productivity Online Suite (BPOS) -- combining Exchange Online, SharePoint Online and other products -- for the rest of us. What isn't clear is how desktops, laptops, net books and smart phones fit into this strategy.

*It wasn't clear until now, that is. Let's take a look at Silverlight version 4 for insight into the future of cloud computing. Microsoft is sending the signals, are you receiving them? More importantly, **what are you going to do** about it?*

Cloud Computing Made Real

Anyone who has been following the industry buzz about cloud computing has heard all about the benefits and economies of scale that come from purchasing access to technology and services instead of making large capital investments in hardware, software, infrastructure and administrative staff.

What isn't so obvious is how a typical business user makes use of the concept. If data and services are "in the cloud", where are the users?

The traditional answer is a browser running Web 2.0-based software like JavaScript and AJAX. Not terribly appealing, is it? I mean, yes, Web 2.0 is better, faster, easier than previous browser-based applications but it's still a *web browser* after all. Not exactly what you envision for your business critical line of business applications.

Business Productivity Online Services

Late last year in 2009 Microsoft released the first in what we're certain will be a long line of online versions of applications that historically have run on local on-premise servers: Exchange Online, SharePoint Online, Live Meeting and Communicator. These products leverage Microsoft's cloud computing capacity to the hilt and make it simple to get up and running. Literally a few clicks of the mouse and you've got an Exchange Server ready to handle 10, 100 or 10,000+ mailboxes for a low monthly fee per user. Same goes for a SharePoint Portal Server instance that can handle one site or 1,000+ for a small department or an entire multi-national, with the same low monthly fee per user and a couple of mouse clicks to get started.

This is all available right now and Alto has numerous customers up and running on BPOS-based solutions. That certainly lends credibility for getting real data and real business services from The Cloud. However, these are commodity business services that make users more efficient and productive but don't actually conduct core, line-of-business operations.

Silverlight version 4 is the Missing Link

If you get data and services from the cloud, where do you get your client application software? Until recently you needed a multiple-tier web application that made

heavy use of advanced user interface features to create efficient applications that appeal to users. Such applications are difficult to architect, implement and maintain correctly because, let's face it: HTML and HTTP POST/GET were never meant to do what modern frameworks are making them do. Honestly, you know **it's one big kludge** that so complex it's amazing it works at all. The shift to online services adds a web service layer on top of all this. Developers already struggling to create and maintain a large web application stack will find that yet another abstraction layer will just make things worse.

Silverlight is the missing link in your cloud computing strategy. Silverlight applications are downloaded from a web server and the exact same code runs on multiple operating systems from all current versions of Windows to Mac OS X and Linux as well as smart phones based on Windows Mobile 7 or Symbian.

User Interface

Silverlight applications operate under a subset of the .NET Framework using a modern, purpose-built programming model based on Windows Presentation Foundation (WPF) for displaying rich user interfaces and interacting with users through the mouse, keyboard and other devices. Silverlight 4 adds device support like microphones, cameras and printers, making it a true *client* side application platform.

New features that make Silverlight 4 a true business application platform:

- Printers and printing
- Read/write files in My Documents folder
- Right-click context menus
- Integrate with Office applications
- Windows status are "toast" alerts and messages
- Microphone and web-cam

Data Access

Silverlight applications interact with data sources through a web service-based abstraction layer called

Rich Internet Application Services. Instead of being an additional burden on your application architects and software developers, RIA Services is a highly productive bridge between server-side components that perform data access and update operations and automatically generated, matching classes for use at the Silverlight client-side. RIA Services:

- Generates fully functional classes based on database schema, queries and stored procedures
- Supports no-code declarative metadata for data relationships and validation
- Supports coded validations and other behaviors for complex business rules and actions

Under RIA Services developers only write code that adds business value to the application. No time and effort is wasted on mundane, predictable code that has only as single correct implementation.

Summary

If you are interested in cloud computing or online services but can't see how it addresses the full range of application functionality extended from client to server, investigate Silverlight version 4 to see how Microsoft makes it possible to exploit the full spectrum of benefits and makes real the promises of cloud computing.

If you're curious about Business Productivity Online Suite and want to learn more, Alto offers a training class designed to get you up to speed, fast on the concepts and address all your questions and concerns.

Contact Alto if you'd like a demonstration of any of the products or techniques discussed in this article. Our next solution briefing is devoted to these concepts.