

## ZAPTHINK ZAPNOTE™

### HYFINITY *ENABLING RICH, COMPOSITE WEB APPLICATIONS*

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#### Abstract

Web application development is becoming increasingly complex, time consuming, and brittle. For many organizations, the addition of Rich Internet Application (RIA) technologies like Ajax look promising, but actually introduce further complexity into an already burdened application development process. In fact, traditional code-centric approaches to building applications aren't up to the task of keeping up with the new generation of rich, collaborative applications known broadly as Web 2.0.

What organizations seek is a declarative, document-centric approach to Internet application creation that leverages Services in the context of Service-Oriented Architecture (SOA). Only by combining the agility that SOA provides with the rich user interfaces of RIAs can companies evolve their Web applications in a flexible, cost-effective manner.

Rising to the challenge of providing adequate tooling for this new class of application is Hyfinity, which offers a combination platform and studio environment for building RIAs that consume and compose Web Services in the context of SOA. Hyfinity combines the best of both worlds – rich user interfaces and loosely coupled, agile Services in a straightforward, declarative environment that increases time to value and productivity for enterprise application creators.

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## The Rise of Enterprise Web 2.0

Two fundamental movements are taking place today in the world of computing. On the consumer-focused Web, the rise of collaborative applications sporting rich user interfaces herald the emergence of collaborative, rich, and social networking applications grouped under the Web 2.0 label. Simultaneously, enterprises are rearchitecting their corporate IT ecosystems to better serve the needs of the business in a more flexible manner under the banner of Service-Oriented Architecture (SOA). These heretofore largely independent worlds of SOA and Web 2.0 are now beginning to converge. With SOA entering a mature phase of evolution, organizations are increasingly focusing on how to empower users by giving them greater control over the flexible composite applications that SOA enables and that Web 2.0 promises.

Naturally, the IT organization prefers to invest in building only the applications that the company cares most about, allocating their precious dollars and resources squeezed into the so-called discretionary part of the IT budget catering to the largest number of end users. However, this reality leaves the hard fact that many business departments simply can't get their IT needs met, because the IT organization is too busy building the 20% of applications that consume 80% of their time and budgets to deal with the niche interests of just a few users in the business. Yet today, the combination of SOA and Web 2.0—the combination that some people are calling *Enterprise Web 2.0*, promises to fundamentally change these economic realities of IT.

In fact, it is the combination of Rich Internet Application (RIA) technologies with the loosely coupled Services that SOA enables that deepens the value proposition of these technologies in the enterprise context. To address the core business drivers of agility and user empowerment, organizations must bring together rich interface capabilities and business Services to build, evolve, and share Service-Oriented Business Applications in collaborative environments—in the context of Enterprise Web 2.0.

## The Challenge of Web Application Creation

Just as the rise of Web applications in the mid-1990's largely superseded the inflexible, expensive client/server applications that came before, many organizations are again reaching the limits of capability, complexity, and productivity with their current generation of these Web applications. Developing and managing such applications is often too complex and time consuming, requiring too many skills and leveraging an increasing set of software elements and standards, ranging from scripting languages such as JavaScript and DHTML to emerging standards for machine-to-machine interaction such as XML and Web Services. As a result, building Web applications in what has now become the traditional way is becoming increasingly risky and costly.

One key to solving this rise of complexity is to revisit the Web application architecture in terms of SOA. Within this mindset, it becomes more appropriate to think of Web applications as

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Services consuming Services in composite, business-oriented applications. This approach allows organizations to leverage loose coupling at the Service interface by moving from code-centric, low level APIs to managed, governed Services. Instead of creating applications at the code level, users can build them declaratively using document-style modes of interaction. This declarative approach to building Web applications based on composition instead of coding reduces the complexity and brittleness of traditional Web application construction.

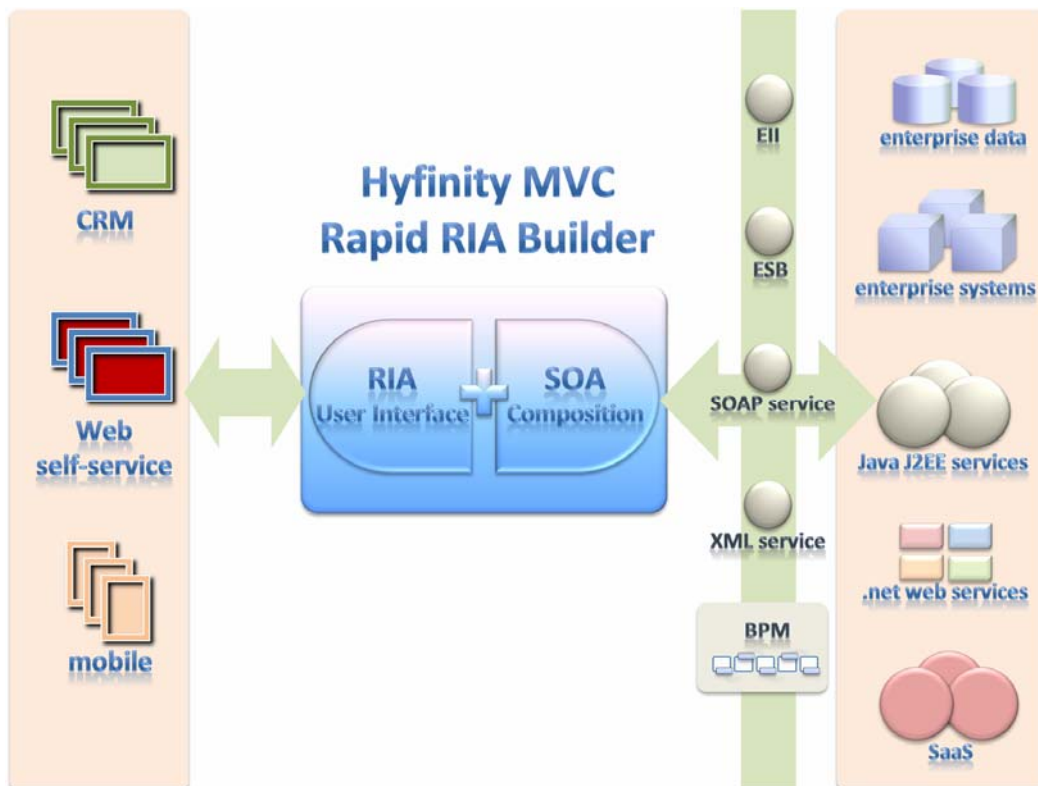
One of the primary challenges with this declarative approach is the fact that there are few tools on the market today that combine the ability to create flexible RIAs as well as consume and compose Services. While a number of RIA vendors are adding such capabilities to their tools, few of this new crop of vendor provides for the ability to craft declarative, Web applications composed of Services in a rich environment.

## Hyfinity: Combining RIA and Declarative Service Composition

UK-based Hyfinity has focused on this aspect of Web application development by providing an RIA tool that supports flexible, declarative Service composition. Hyfinity's MVC technology delivers XML-centric Web applications that present, capture, process and report information from Web Services. Application creators can use MVC to create composite Web applications that consume Web Services and also leverage the capabilities of BPEL tools and Enterprise Service Buses (ESBs).

The MVC product leverages several Web technologies and emerging Web Service standards in order to fulfill its hybrid RIA/Service composition role, including XHTML, CSS, XSLT, Ajax, XPath, XML, SOAP, and WSDL. Hyfinity also provides a visual, drag and drop studio tool, the MVC – Rapid RIA Builder, which offers accessibility compliance, a high level of usability, and user interface orchestration of Service interactions.

Hyfinity's RIA and SOA Landscape



Source: Hyfinity

As illustrated above, the Hyfinity MVC – Rapid RIA Builder offers rapid automation through a model-driven development approach. The model-driven approach to rich, composite, Service-oriented application development helps to automate many of the mundane development tasks associated with traditional development tools and frameworks. In particular, the product automatically generates Web pages and rich user interface controls, supports accessibility requirements enabling the creation of rich Web applications that are in compliance with relevant accessibility legislation, provides automatic data binding between pages and Services, and automatically generates validation logic and Web Service proxies.

Furthermore, MVC – Rapid RIA Builder's underlying platform handles the capturing, processing and presenting of XML data without requiring any code to implement fully functional Web applications. By leveraging schema-driven development techniques, MVC automatically generates Web reports or forms, validation logic, value conversions and dynamic data manipulation logic.

## The ZapThink Take

Model-driven, declarative, Service-oriented composite application creation is becoming the gold standard for application tooling for enterprises who are implementing SOA. Correspondingly, RIAs that leverage rich user interface technologies like Ajax have become their own gold standard for user interface development. Hyfinity, therefore, is in a prime position for evolving the current state of Web applications by combining these two highly useful and valuable sets of capabilities into a single approach to the market.

The value proposition of Hyfinity's approach is straightforward: the increased productivity and time to value for Web applications that can consume and compose Services, both within and external to the local network. In addition, the current movement to Software-as-a-Service (SaaS) bodes well for companies that choose the MVC product in that it aims to consume the entire spectrum of Services, regardless of location or owner. As SaaS and SOA continue to converge (a process that's already well underway), Hyfinity is well-positioned as an RIA platform and toolkit that can enable enterprises to take full advantage of the expanding universe of Services available to them.

Profile: Hyfinity	February 2007
<b>Funding:</b>	Privately held, profitable. No venture funding.
<b>Co-founders:</b>	Steve Bailey and Abdul Kayam
<b>Founded:</b>	2001
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## Hyfinity Features

### Hyfinity MVC – Rapid RIA Builder

#### Overview:

Hyfinity MVC – Rapid RIA Builder is a combination RIA platform and studio that combines RIA and Web Service development technology, including rich usability, accessibility and Service composition capabilities to deliver on Software-as-a-Service solutions.

#### Features:

- **Rapid construction of Web applications and Web-based forms** – Declaratively define Web pages and transactional Web applications based on industry standard or custom schemas, including UBL, ACORD, Origo, HL7, Swift, GovTalk, FixML, and others. Document-centric configuration approach handles any XML document with no server restart or downtime needed.
- **Accelerated development of rich, accessible and dynamic Web applications** – Simplifies the composition of Services into automated business processes from enterprise applications, partner systems and commercial off-the-shelf packages, including CRM, CMS, Enterprise Portals, and others.
- **Reduces time, cost and skills needed to build Web applications** – Enables parallel development due to contract first development approach.

#### Value Propositions:

- **Improved time to value** – Enables the rapid and cost-effective implementation of Rich Internet Applications
- **Increased productivity** – Based on model-driven, declarative applications assembly, reduced complexity, and an associated reduction in skills requirements.

## Related Research

- *Rich Internet Applications: Market Trends and Technologies Report (ZTR-WS112)*
- *Rich and Smart Clients for Service-Oriented Architectures Report (ZTR-WS111)*
- *Composing Services into Enterprise Mashups White Paper (WP-0144)*
- *Nexaweb ZapNote (ZTZN-1207)*
- *JackBe ZapNote (ZTZN-1204)*



## About ZapThink, LLC

ZapThink is an IT advisory and analysis firm that provides trusted advice and critical insight into the architectural and organizational changes brought about by the movement to XML, Web Services, and Service Orientation. We provide our three target audiences of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

ZapThink helps its customers in three ways: by helping companies understand IT products and services in the context of Service-Oriented Architecture (SOA) and the vision of Service Orientation, by providing guidance into emerging best practices for Web Services and SOA adoption, and by bringing together all our audiences into a network that provides business value and expertise to each member of the network.

ZapThink provides market intelligence to IT vendors and professional services firms that offer XML and Web Services-based products and services in order to help them understand their competitive landscape, plan their product roadmaps, and communicate their value proposition to their customers within the context of Service Orientation.

ZapThink provides guidance and expertise to professional services firms to help them grow and innovate their services as well as promote their capabilities to end-users and vendors looking to grow their businesses.

ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into the best practices for planning and implementing SOA, including how to assemble the available products and services into a coherent plan.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOA by vendors, end-users, and the press. Respected for their candid, insightful opinions, they are in great demand as speakers, and have presented at conferences and industry events around the world. They are among the most quoted industry analysts in the IT industry, and their recent book, *Service Orient or Be Doomed!*, is the leading book on the business concept of Service Orientation.

ZapThink was founded in October 2000 and is headquartered in Baltimore, Maryland. Its customers include Global 1000 firms and government organizations, as well as many emerging businesses. Its analysts have worked at such firms as IDC, marchFIRST, and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, and ebXML.

Call, email, or visit the ZapThink Web site to learn more about how ZapThink can help you to better understand how SOA will impact your business or organization.

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