

## ZAPTHINK ZAPNOTE™

### NIMBLE TECHNOLOGY *QUERYING HETEROGENEOUS DATA SOURCES*

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#### Abstract

Nimble has released the Nimble Integration Suite, which is aimed at solving the problem of using single queries to access multiple data stores and return the result in a single, manageable result using and XML-based mediated view of information. This solution provides an interesting approach that solves Enterprise and data integration challenges.

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## Heterogeneous Data Access

There are almost as many ways to locate, access, and query data as there are solution providers who can help you do the same. However, when your information is spread over an innumerable quantity of relational databases, flat file systems, and native XML data sources, where do you turn? As **Nimble Technology** hopes, you'll turn to their solution for querying and aggregating data from heterogeneous data sources. Nimble has released a product suite aimed at solving the problem of using single queries to access multiple data stores and return the result in a single, manageable result – using XML, of course. Nimble's strength is in solving data integration, and XML's flexibility helps aggregate data in a mix and match format. It's a perfect combination.

Since most companies have a plethora of different information systems and data sources, ranging from traditional relational databases to enterprise software applications, it becomes a difficult, if not impossible task integrate these sources together. This becomes necessary when implementing applications that require aggregated information, for example in portals. These applications need to cut across these data sources and find information independent of their underlying data structure. Information grows organically, especially as different branches of an organization buy and implement software, but management needs are centralized, a problem exists. Historically, the only way to solve this problem has been through custom coding, data warehousing, or use of central repositories.

Nimble is trying to promote a particular methodology and concept: a common mediated view of data that allows for independent view of data structures. This benefits the user of that data in that they don't have to get down to field-level information for independent data sources. Users want more semantically important data, and this in turn requires multiple data sources to be mediated. While the concept of the Semantic Web attempts a similar approach, its scope is across all web systems in the world, rather than the disparate data present in a corporate environment.

## The Nimble Integration Suite

Founded by two professors who have spent much of their research concentrating on solving similar problems, Nimble has produced a software solution that leverages XML and other open standards such as XML Query. The solution actually consists of two products: the **Nimble Integration Suite** and Nimble Lens. The Nimble Integration Suite consists of several related components that create a single view of information for its users.

At the heart of the solution, the Nimble Integration Engine collects and parses queries and

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then caches and aggregates the resulting data, outputting the result as XML. When Nimble is pointed at a data source for the first time, it creates a default data dictionary or schema for the system. Users can then create a series of XML schema that serves as a “mediated schema” from which data can be found and pulled together. The Integration Engine that represents the world to an application as a “virtual database” in XML. The engine doesn’t store any of the actual data, but rather it interacts with underlying data sources to query and retrieve the resulting information. A key part of the Nimble intellectual property is their understanding of where information is located across disparate data sources, efficiently extracting data from those sources, aggregating data together in a coherent fashion whether it be through unions, joins, or other mechanisms, and spitting out one integrated result in an XML format. To them, the entire world is one giant XML data source.

The Nimble Lens System gives users a means to create and share views of aggregated data with other applications and users. Lens queries work with our other tools to provide the information required, regardless of data source, and allows users to manipulate that information in their choice of platform or device.

## Performance

Performance has been a classic problem in data integration and aggregation, and so Nimble has been designed with performance in mind. The system attempts to make queries and data result ordering as specific as possible in queries to different sources. The overhead of Nimble has been reduced as small as possible, providing a caching mechanism to address the slowest data sources. This combination of real-time and caching increases overall system performance but also introduces data latency problems.

## A Platform – not an Application

The product is shipped as a platform and a suite of tools, but not as an application per se. The company supplies a web-based interface to illustrate a quick-start to forming queries. Nimble ships the virtual database, the Integration engine, and customization tools. Their product can do default mappings of data sources, although those views are not terribly useful to specific users. Therefore, the product includes tools for building views, as well as graphical editors for creating complex XML views and textual editing tools. Nimble also ships a subsystem called Concordance that helps to provide common keys for data and helps build matching rules to build an external map that connects information from disparate databases.

Nimble expects that their customers will run multiple servers, and so they are priced on a per-server basis. They provide integration adapters for ODBC database sources as well as connectors for SAP, Exchange, IMS, and other systems. Each of these connectors cost extra, as well as professional services for data modeling.

## Market and Competition

Nimble’s approach can be compared to other approaches, including XML-native data stores and Enterprise Application Integration (EAI) solutions. However, EAI is usually message-oriented middleware and transactional integration that pieces applications together in order to talk to each other. While EAI attempts to provide integrated applications, it doesn’t solve the basic problem of providing common data from heterogeneous data sources to an application. Users can get better optimization by using a query language instead of custom integration code. Their other competitors also provide different approaches, such as data warehousing, custom code, Extraction, Translation, and Loading (ETL), or even SQL-based integration companies such as Cohera, Cerebellum, and IBM’s Datajoiner. WebMethods also competes in some ways with Nimble, but they work by passing methods and transformations between systems, rather than providing a unified data view. There’s no way in WebMethods to perform a cross-system join.

The Nimble product in final stages of beta, and expects a commercial release in September 2001. Current beta pilot customers include Paccar, Reuters, John Bulter, and GE. They are using Nimble in many different manners, ranging from portals and CRM to document integration. Financial services is a key vertical for this sort of technology since they are early adopters of XML, have large quantities of disparate types of data, and need lots of ad-hoc and unique querying in real-time. The manufacturing vertical also is key in that they have physically dispersed data and many different partnerships. Any company with large quantities of different kinds of data in multiple data stores would do well to investigate the Nimble Technologies solution.

## Key Conclusions & Recommendations

- Nimble provides a compelling means for organizations to aggregate retrieve information stored in their legacy locations thus not requiring upgrades or migration of data stores.
- It is not clear how Nimble plans to interact with Web Services offerings that aim to solve the same problem from an application functionality point of view.

<b>Profile: Nimble Technology</b>	(August, 2001)
Date Founded: June 1999	
Funding: Privately-held, Venture-backed: NeoCarta Ventures, ARCH Venture Partners, and Madrona Venture Group	
CEO: Susan K. DelBene	
Products:	
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## Related Research

- *Service-Oriented Integration* Report (ZTR-WS103)
- *Web Services Technologies and Trends* Report (ZT-WEBSERV)
- *Actional* ZapNote (ZTZN-0280)
- *IONA* ZapNote (ZTZN-0140)
- *Infravio* ZapNote (ZTZN-0226)
- *Grand Central Communications* ZapNote (ZTZN-0623)

## About ZapThink, LLC

ZapThink is an IT market intelligence firm that provides trusted advice and critical insight into XML, Web Services, and Service Orientation. We provide our target audience 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's role is to help companies understand these IT products and services in the context of SOAs and the vision of Service Orientation. ZapThink provides market intelligence to IT vendors who offer XML and Web Services-based products to help them understand their competitive landscape and how to communicate their value proposition to their customers within the context of Service Orientation, and lay out their product roadmaps for the coming wave of Service Orientation. ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into how to assemble the available products and services into a coherent roadmap to Service Orientation. Finally, ZapThink provides demand intelligence to IT vendors and service providers who must understand the needs of IT users as they follow the roadmap to Service Orientation.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOAs by vendors, end-users, and the press. 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.

ZapThink was founded in October 2000 and is headquartered in Waltham, Massachusetts. Its customers include Global 1000 firms, public sector organizations around the world, and many emerging businesses. ZapThink Analysts have years of experience in IT as well as research and analysis. Its analysts have previously been with such firms as IDC and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, CPExchange, ebXML, EIDX, and CompTIA.

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

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