ZapThink Briefing Note

UDICO

ENABLING THE CREATION OF WEB SERVICES MIDDLEWARE

(AKA Turning Word and Excel into Web Services Clients)

Briefing Date: October 2001

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Abstract

While real-time message-based architectures are great for distributing on-line transactions, however its capability for handling high volume loads comes into question. One of the vendors solving this problem is the Universal Data Interface Company (UDICo). Their product, TierBroker, can process large volumes of data using a mechanism that creates middleware that connects directly to data sources and exposes them as Web Services to end clients in a small footprint that can be embedded in Excel and Word applications. The product can talk to XML as well as non-XML systems, message-oriented middleware systems including MQSeries and TIBCO, or other systems using SOAP over HTTP.

Enabling the Creation of Middleware

Most large systems, especially those implemented at complex organizations such as financial services institutions, use middleware. Middleware, in essence, is the glue that connects different applications by translating and transforming data. Systems and applications use middleware for facilitating communications between different applications, data sources, or even different parts of the same application. Many of these middleware technologies are implemented using messaging systems such as IBM's MQ Series that help to insure scalability and robustness of communication.

Middleware systems help to convert data between systems such as Siebel, PeopleSoft, and BroadVision, and facilitate transaction processing. While real-time message-based architectures are great for distributing on-line transactions, its capability to handle high volume loads comes into question. As a result, a new approach is needed for enabling distributed applications, such as those becoming popular with Web Services, in a high-volume, real-time, reliable, and scalable manner.

One of the vendors solving this problem is the Universal Data Interface Company (UDICo). Their product, TierBroker, can process large volumes of data using a mechanism that creates middleware that connects directly to data sources and exposes them as Web Services to end clients. The product can talk to XML as well as non-XML systems, message-oriented middleware systems including MQSeries and TIBCO, or other systems using SOAP over HTTP.

TierBroker

UDICo's TierBroker is *not* focused on creation of Web Services from existing objects (or even creation of new Web Services), but rather is more of a Web Services consumer, API, and management play. TierBroker is a high-performance middleware product that converts data and performs large-scale transaction management in real time. All of the execution instructions for the server are represented in XML. The product can generate Web Services from data sources such as databases, file systems, and component technology. The system can also run as a Web Service, accepting SOAP requests from end clients, and applying complex business logic and exchanges data with legacy systems.

TierBroker consists of two major pieces: the TierBroker Integrated Development Environment (IDE) and the TierBroker Server. The IDE is a visual tool for developing and maintaining the server's XML instructions. Complex business logic and workflow can be implemented using wizards and visual helpers in order to specify the details of converting input data into TierBroker objects. The system then determines how and where you want those objects converted for your output queues, such as files or real-time running processes. The small-footprint TierBroker Server then uses the defined metadata to perform the actual conversions and integration.

The system functions using Objects, which are the data structures themselves, Maps that represent transformations between classes of objects, and Workflow, which combines objects and Maps with real world sources and targets. Each of these items has attributes that may be configured within the TierBroker IDE. TierBroker operates in a project model. Individually created projects may inherit other projects, and can support multiple inheritance. Projects use object-oriented (OO) philosophy and version control and dating. The product itself uses an object-relational architecture supporting single inheritance, is-a and has-a relationships, as well as references between objects that are defined by keys that may combine data attributes and constant values.

TierBroker uses XML as its primary data definition language, using XML DTD declarations and the TierBroker Object Definition Language to describe the structure of inputs to the system,

which can include any of the data sources mentioned above. TierBroker Import Maps specify how to transform one object type into another, by indicating the relationship between one class of objects and another. Applications may combine maps in workflows to support one-to-many and many-to-one relationships. TierBroker applications can also combine maps with script-based business logic to support content-based many-to-one transformations.

The two is both a server and a client and operates very well on the desktop. Its small footprint (around two megabytes) allows it to run on Windows 95 systems as well as Unix, giving it great power to add Web Services to applications such as Excel and Word. Thus, it becomes easy to turn things like Excel spreadsheets and Word Documents into Web Services clients, enabling such applications as being able to highlight a word in a Word document and have it be automatically translated. This is not exactly a client-server model since the Excel spreadsheet can also be a publisher, or "server" of Web Services. This functionality allows the product to be used as a bridge between non-web enabled and newer desktops, while simultaneously reducing the load and increasing the transaction capability of clients and servers.

Competition

Traditional middleware is the competition for this product segment, as well as Extract-Tranform-Load (ETL) tools including Informatica (data warehousing), Mercator, and Neon. However, these competitors exist mainly in the server domain, but on the desktop there are fewer competitors for Web Service generation. In essence, the product is a combination of integration tools and core functionality similar to Microsoft .NET.

Customers and Release History

While the product has undergone development since 1993 at PriceWaterhouse Coopers (PWC), the company was spun out in July 2000. In the course of development, TierBroker has been used to implement large and complex data integration projects in the capital markets. This system has been installed in more than 40 PricewaterhouseCoopers clients all over the world, including JPMorganChase, Credit Suisse First Boston, Hartford Insurance Group, and Nomura Securities.

In an ideal application for UDICo, the company did a prototype in 2000 for the automotive industry that helped to leverage existing desktop applications to integrate with back-end product and customer information systems. The end result was a near real-time link between the automobile manufacturer's website and the end dealership for current inventory and status tracking.

Key Conclusions & Recommendations

- UDICo presents an interesting solution for companies looking to integrate with legacy systems using a small-footprint Web Services utility.
- The company's proven track record at financial services institutions makes it a good candidate for large-scale deployments of Web Services functionality to a large number of clients.
- TierBroker represents compelling functionality for the enablement of Web Services within Windows desktop applications.

Profile: UDICo   (October 2001)
Date Founded: July 2000 (Originated in 1993 in PriceWaterhouse
Coopers)
Funding: Privately-held
CEO / President: Adam Greissman
Products:

- TierBroker

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Related Research

- Web Services Technologies and Trends Report
- Service-oriented Integration Technologies and Trends Report
- IONA Briefing Note (ZTBN-0140)
- WebMethods Briefing Note (ZTBN-0248)
- SEAGULL Briefing Note (ZTBN-0160)
- Microsoft .NET Briefing Note (ZTBN-0209)

About ZapThink, LLC

Founded in October 2000, ZapThink is an analyst firm focused on the eXtensible Markup Language (XML) and XML Standards, and its adoption by businesses, scientific and academic institutions, and governments. ZapThink provides leading analytical, reporting, and consulting services that help provide complete understanding about a particular technology space by helping clients achieve a complete view of a technology in context with its surroundings.

ZapThink produces and sells XML-focused research and analysis reports including the Pros and Cons of XML, Web Services Technologies and Trends, the ZapThink XML Standards Report, as well as a number of other technology and industry-specific reports. Founded in 2000, ZapThink, LLC is headquartered in Waltham, Massachusetts. Its customers include Global 1000 firms as well as many emerging businesses. For more information, visit www.zapthink.com

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