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COHERITY *INTEGRATING, AGGREGATING, AND STORING XML DATA*

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Abstract

Current aggregation infrastructures are good at integrating different data sources as long as there is a common subset, but the problem is what do you do with the incremental exchanges shared across more than one data source, but not all? Coherity solves this problem through their Adaptive Information Integration Suite consisting of a Native XML Data store, Coherity XML Database (CXD), and a CRM-focused integration application called Coherity Integrated Customer Care (ICC). The system enables transparent data and data model exchange by accommodating data structure variations that inevitably occur when aggregating data from multiple application sources.

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Managing Data Diversity

As the number of data sources in the enterprise continues to increase, the challenges of integrating those data sources expand exponentially. There are a variety of approaches to solving this integration problem, but XML provides the most open and widely implementable means to achieve a single, coherent view of an enterprise's data. Integration can happen at two major tiers: at the application level (such as is popularized by EAI systems) or at the data level (between data sources). At this latter layer, XML-based integration has plenty to offer. Namely, XML can be used as an "equalizing" data structure that helps to unify the different data structures and types between systems and provide a cohesive view of the aggregate data. XML provides a simple and robust way to describe complex datasets that can be extended over time.

In this vein, there are a few methods for achieving XML-based data integration. Many approaches use an XML middleware layer that queries individual data sources and merges the results in real time. These systems can be known as XML "virtual" DBMS systems that expose a database interface to end users, abstracting the actual final location of the data. Another approach is to use a "native" XML data storage (NXD) system to physically aggregate data, metadata about that data, or simply changes to data in the original data stores. This approach allows the system to achieve greater efficiency since the primary challenge with XML virtual DBMS systems is that they are as inefficient as their most inefficient data source.

The approach of storing changes or "diversity" of data in data sources is compelling. It allows data infrastructures to change and adapt to changing data storage requirements while simultaneously consolidating data assets. The concept of data diversity is simply that many different applications and data sources may need to integrate with each other, but may share a large percentage of their data in common. Each enterprise application gathers specialized extensions to the common data set. Current aggregation infrastructures are good at integrating different data sources as long as there is a common subset, but the problem is what do you do with the incremental exchanges shared across more than one data source, but not all? Most systems simply discard the data. This "baseline" data set may be as much as 70% of the total information. The challenge is sharing this information while allowing the remaining 30% that is not shared in common to be stored and aggregated. It would be a waste of resources to store all the common information, and it would likewise be destructive to ignore the exceptional information. However, XML provides a good way to manage these incremental extensions without sacrificing the capabilities of a common baseline.

One company that is using this approach and an NXD as the centerpiece of their integration application is Coherity. Their Adaptive Information Integration Suite consists of a data store, Coherity XML Database (CXD), and a CRM-focused integration application called Coherity

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Integrated Customer Care (ICC).

Coherity XML Database (CXD)

Formerly named PyBiz, the Coherity XML Database (CXD) is an NXD that stores and aggregates data information from a variety of sources across the enterprise. Rather than being positioned as a general purpose XML data store, the CXD is focused on data integration-type problems. It enables transparent data and data model exchange by accommodating data structure variations that inevitably occur when aggregating data from multiple application sources. This is accomplished by managing XML data at the element level rather than at the document level.

The CXD functions much as any other NXD system offered by vendors such as Software AG, Excelon, and XML Global. It offers a system that can quickly index, query and retrieve XML-based content. The CXD provides a schema-independent XML data store that can correlate data described by widely variant data structures. The system accomplishes this by using data mining capabilities that combine the best of structured and unstructured queries, while not requiring changes to existing applications or schema. Through events, the system can see changes as they happen in remote system through a push or pull mechanism. CXD also contains advanced security and fine-grained content authorization that supports a many-to-many subscription model, enables granular control of XML content, and can support personalization applications.

Other features of CXD include database rollback support, real-time event notification, multiple language search, an XML/HTTP Interface, and federated query control. The system supports XPath and XSQL queries in addition to normal SQL operations.

Coherity Integrated Customer Care (ICC)

What makes Coherity unique from other NXD vendors is its focus on integration and on end-user applications. In particular, it has produced a system aimed at solving integration challenges for the Customer Relationship Management (CRM) market. Their system, known as Integrated Customer Care (ICC), applies the CXD product to help implement realizable CRM solutions. In typical CRM implementations, enterprises are faced with the choice of either adopting an enterprise-wide monolithic CRM application approach or using an EAI solution to provide point-to-point customer data integration. ICC facilitates the implementation of CRM systems by providing a unified, cohesive view of customer data while maintaining security and single sign-on capabilities.

ICC integrates multiple customer facing applications that may not have been designed to be integrated ahead of time. As a result, many of these applications require users to input redundant information. In addition, each of these systems maintains its own access and security control. A customer that needs to navigate between systems is faced with the challenge of re-entering their credential information. As a result, Coherity has provided the ICC as a means of aggregating CRM information through a cross-application data integration and single sign-on approach.

Features of ICC include extended and centralized customer profile management, fine-grained authorization management, automated customer segmentation, centralized marketing intelligence management, and reporting and data mining capabilities.

Customers & Release History

While relatively new to the market, Coherity has signed Hewlett-Packard (HP) as a major customer and potential partner. In that application scenario, HP had over 20 different customer facing applications distributed across enterprise at departmental level, and needed

to define a master database schema for data interchange. The result was a single, unified customer view that provided a centralized management of common information such as customer surveys and questionnaires.

Competition & Alternatives

There is quite a bit of emphasis and focus on XML-based integration these days. As a result, there are many vendors offering integration solutions from an XML and/or Web Services perspective including IONA, Cape Clear, TIBCO, webMethods, XAware, and many others. What differentiates Coherity is their use of a Native XML Data store, and an emphasis on storing incremental differences in information, rather than just pulling data from data sources using adapters. As a result, this allows the remote systems to manage some chunks of their data, while the system maintains the baseline configuration. This implementation is quite different from the traditional EAI or newer XML-centric integration products.

Key Conclusions & Recommendations

- The shift from XML storage to application-centric usage of XML is an increasing trend among XML and Web Services vendors. Coherity is following this trend by repositioning their XML storage system as an integration-centric solution that leverages their data store as a central “change management” system.
- Coherity's positioning is a compelling differentiator from other NXDs and XML integration tools. In many ways, it merges these two worlds and provides a credible solution for large-scale data integration.
- Coherity should seek to increase its support for Web Services and other XML query standards such as XQuery and XUpdate.

Profile: Coherity	(March 2002)
Date Founded: 2000	
Funding: Privately-held, Venture-backed: Mobius, Accenture Tech Ventures, Evercore Ventures	
CEO / President: Joe Ellsworth	
Employees: N/A	
Products:	
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Related Research

- *XML Data Storage Technologies and Trends* Report (ZTR-ST101)
- *XML Data Storage Multi-Client Study* (ZTR-ST102)
- *Web Services Technologies and Trends* Report (ZT-WEBSRV)

- *B-Bop* ZapNote (ZTZN-0204)
- *Excelon* ZapNote (ZTZN-0205)
- *Ipedo* ZapNote (ZTZN-0151)
- *NeoCore* ZapNote (ZTZN-0146)
- *Software AG Tamino* ZapNote (ZTZN-0116)
- *X-Hive* ZapNote (ZTZN-0200)
- *XAware* ZapNote (ZTZN-0154)
- *Xyleme* ZapNote (ZTZN-0326)
- *XYZFind* ZapNote (ZTZN-0117)

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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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