The Role of cnXML in Enterprise Application

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Summary

Internet has proved to be a scalable and effective communication media. e-Commerce has paved the road for online companies to directly process each other’s business transaction. The success of E-commerce at Cisco, Intel and GE has demonstrated the power of Internet to scale up the traditional purchase power. It is predicted that majority of B2B transactions will be done online in 10 years. The booming of B2B E-commerce has quickened the technological revolution and resulted in numerous advances in the development of application software. On the other hand, inside the enterprise, the traditional enterprise applications such as ERP that was designed and developed over 15 or 20 years ago cannot enjoy the benefit of the technological advances. Hence, in the developed countries like US, one of major barriers for the implementation of complete E-business solution is the existence of the obsolete ERP applications. The integration cost is skyrocketed.

China, like most of developing countries is facing the E-business world without experiencing the massive deployment of enterprise applications. Therefore, we have the opportunities to apply the latest technologies to the enterprise applications and to develop the E-commerce application with the best business model. Given the status of the current technologies, we should be able to design and develop a much more effective ERP products with a much better connectivity to the E-commerce applications.

To speed up the implementation and adoption of E-business, we proposed a new generation of XML language that not only describes the data communication in the E-commerce process, but also in the Enterprise applications. CnXML language is implemented by XML and can be used to model the complete process of a product cycle from design to consumption. It is an innovation in the application of XML technology. We have received the strong endorsement from the key IT technology and commerce players around the world. With the cnXML technology, every enterprise application no matter for ERP purposes or E-commerce can communicate with each other over corporate Intranet or Internet. Therefore, the E-business product can be distributed among the vendors with best domain knowledge to implement the vertical application and the technology vendors to provide the most efficient cnXML data platform.
To best illustrate the benefit of cnXML, we propose to adopt some of fundamental technologies used in the E-commerce to the enterprise applications like ERP products. We like to focus our research on the use of Messaging Service for Application-to-Application Integration in the ERP products. Instead of using direct RPC communication among processes, we use cnXML based message transmission to enable the Application-to-Application communication. A request from a given process will be packaged as a cnXML message. The Messaging Service will then deliver the message to the destiny application and also process the confirmation and handle all the possible errors. The Soap implementation of a messaging service based A2A integration can be best illustrated as the following diagram.

On the other hand, UDDI has been a very useful technology for online application to be registered and managed. Hence, a complete data transmission platform for enterprise application integration should be constructed with the following components.

<table>
<thead>
<tr>
<th>Interop Stack</th>
<th>Universal Service Interop Protocols (these layers are not defined yet)</th>
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<tbody>
<tr>
<td></td>
<td>Universal Description, Discovery Integration (UDDI)</td>
</tr>
<tr>
<td></td>
<td>Simple Object Access Protocol (SOAP)</td>
</tr>
<tr>
<td></td>
<td>Extensible Markup Language (XML)</td>
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<tr>
<td></td>
<td>Common Internet Protocols (HTTP, TCP/IP)</td>
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Therefore, our key focus should be on how to apply the UDDI/SOAP messaging service with service registry function to the ERP A2A. The advantage of this
technology is:

1) Substantially simplify the E-commerce and ERP integration;
2) Substantially simplify the integration of ERP application;
3) Easier to implement the Access Control at the modular level;
4) Enable the standard assemble for the ERP components, hence shall significantly reduce the cost of the ERP software.

Once the Messaging Service is standardized in the ERP product development, each ERP application can focus on the development of its own know-how at the module level. Because of the interoperability, they can sell their modules at much larger quantities that can reduce the cost greatly. Our estimate a complete ERP product for a complex company based on the Messaging Service should be no more that $100,000 RMB comparing with the current price tag of $1,000,000. The saving on the ERP implementation and ERP-EC integration could be another $2,000,000 to $10,000,000 RMB per typical medium companies. This could mean a saving of trillion of RMB for the process of China Enterprise Informatization.