



soft|care

# Why Web Services for Integration

Prepared by Mike Cobban  
Director of Business Analysis  
SoftCare EC Inc.  
September 2004

---



Business customers today have more choices than ever. Using new technologies such as the Internet, they can research, negotiate, and switch suppliers from anywhere in the world in an instant. As a result, businesses must continuously anticipate customer needs and provide solutions to quickly seize new opportunities. Companies need a comprehensive understanding of the market needs as well as their business processes drive sales, product delivery, and ultimately customer service.

Many companies have taken the approach to purchase and implement ERP systems that are designed to implement best practices within their company. The problem is that the speed of change in business results in today's "best practices" which are much different than the "best practices" when many of these ERP systems were written and designed. Companies find themselves unable to respond quickly to new opportunities with their existing systems. ERP systems meant to drive businesses are often inaccessible, inflexible, or unable to address today's new business needs. Business information and business processes are fragmented across application silos without a single consistent view of the flow of information. Lack of consistency requires that corporate users to switch between systems or using phone, fax and email to access information on the day to day operations of the business.

Systems professionals within an organization constantly struggle to support business demands. They must determine how to leverage existing applications to meet the needs of business today. They need a new approach that enables the re-use of existing applications to meet the constantly changing needs of business.

To simplify the integration of application silos, organizations today are widely adopting Web services technology. The initial Web services implementation focus has been to integrate back-end business processes. More importantly , Web services has the ability to make it faster and easier for a company to create end user applications that utilize existing functionality, allowing companies to quickly deliver business functionality to solve business problems on demand as new situations arise. Once implemented, Web services allow a company to pull the information together in a single comprehensive approach to meld business applications and business process.

---



softcare

## **Business Users can't get the information that they require to do their jobs**

Most companies have a myriad of business applications to automate many of their business functions. These packaged, custom, and legacy applications are designed specifically to automate a specific business function. While the application may represent a company's best practices, frequently business users are unable to efficiently interact with the systems they need to perform their day-to-day tasks

For example, a field sales representative preparing to meet with a key retailer who he wants to sell more product to. The sales representative needs insight into all of his company's interactions with that retailer, previous sales, the status of existing and past orders, Invoicing discrepancies, current billing status etc. The sales representative also needs the ability in the field to update Sales Order, Invoicing, Service and Account information. The problem is that these business functions are controlled in different applications which do not "talk" to one another. The sales representative must try to sign on to multiple applications or contact the appropriate people in the business to get a "global" view of the account relationship with this retailer.

For a company to meet the needs that they require to support this business function, they must wade through a myriad of applications within their IT infrastructure for the appropriate bits of information and business functionality it needs. For example, a company's CRM application might manage sales opportunities, the Sales Order application manages orders, the Invoicing application manages Invoices and the logistics application manages the movement of orders to a customer. As more companies consolidate, the problem of redundant application silos is more and more possible.

Moreover, companies who have downsized no longer have the luxury of developing entire solutions from scratch. Today's tight budgets and the fact that most organizations acquired significant application functionality over the last few years means that they must leverage what solutions that they already have and re-assemble them to meet the present business needs

---



## **Web Services Simplifies Business Integration**

New Web services technologies give organizations the flexibility to integrate applications. Web services are loosely coupled software components that interact with one another dynamically via standard Internet technologies. Developers can quickly and easily Web service enable application functionality by developing a small amount of code without changing the underlying application. Web services can interact over both within a business (using corporate networks) or between businesses (via the Internet), making it easy for organizations to integrate business services within their own organization or with those of customers, suppliers, and partners outside the organization.

Ease of integration is the reason that Web services have emerged as one of the hottest trends in information technology. The Gartner Group predicts that by 2004 Web services will dominate deployment of new application solutions for Fortune 2000 companies, and companies that fail to adopt this technology will find themselves at a competitive disadvantage.

In 2003 Gartner Group reported, 90% of current Web services implementations simply integrate back-end systems. The real potential for Web services is to enable developers to rapidly develop new business solutions, giving business users complete access to information they need.

While Web services provide a standard messaging format that encapsulates information for exchange, the information being exchanged usually remains in a format unique to the underlying application. Because different people develop Web services using different contexts and different levels of abstraction, disparate Web services are usually unable to understand each other's data. Just as English and French speakers can use the same alphabet without speaking the same language, a customer relationship management system using XML will not necessarily understand the XML dialect used in an order management system. Semantic interoperability enables two Web services to interact with each other despite these differences.

There are three ways to manage the flow of information; through standard vocabularies, translation code or tools to manage the differences in semantics between applications. Initial attempts a "standard vocabularies (ebXML and RosettaNet) either didn't get off the ground (in the case of ebXML) or were limited to a specific industry (RosettaNet is for the electronic industry only) as defining standard vocabularies is difficult and time consuming. Standards are not

---



softcare

---

always adaptable to new business requirements or broad usage, and widespread adoption of standards is extremely difficult to achieve.

Some old style EAI solutions typically rely on coded, point-to-point translations. Such hard coded translations defeat the purpose of using Web services; they are no longer loosely-coupled, are rarely reusable, and require lengthy development. A newer approach is to use technology to control the differences in semantics between applications. The use of XSLT Style Sheets and XML Mappers has bridged this gap in technology.

Disparate Web service operations (for example, a Siebel Customer and an SAP Order) typically operate on data that is not directly compatible. In this case, the tool must enable mapping between the services. Such mapping mechanisms may include transformations, such as data type translations, concatenation or substring functions that operate on discrete elements within the data. Or they may map two services to a common structure, such as a unified definition of "customer." Once defined, these transformations become part of the reusable definition of the Web service within the repository and allow developers to combine services into a larger application or business process without the need to write "glue code" or recreate the relationships each time

---



## Conclusions

The key to creating flexible, just-in-time solutions to meet the needs of business requirements is a Web services infrastructure and the ability to re-use Web services and the relationships between them. The implementation of Web Services allows a company to:

- Eliminate the backlog of requests for new business solutions. Because IT staffs rapidly assemble new solutions from software services, IT can more quickly deliver the solutions the business needs.
- Rapidly respond to new business requirements. Even when new requirements continuously emerge in response to changing business conditions, IT can deliver the solutions their users need.
- Reduce the complexity of enterprise environments. Organizing information business semantics and simplified abstractions of the company's Web services in a shared repository mitigates the complexities of understanding and utilizing proven resources in new ways. The result is that developers do not need detailed knowledge of the low-level and underlying applications to use these business functions. This simplified environment reduces the cost to delivery new business solutions and reduces the dependency on expensive, specialized system "gurus".
- Get more from existing software assets. Continual reuse and repurposing of existing software assets increases the return on investment and longevity of those systems.
- Business users now have complete access to the data and processes they need through a single application—without the need to understand multiple enterprise systems or call colleagues in different departments. As a result, employees become more productive, responsive to customers, and able to meet changing business conditions.

### **About SoftCare**

Founded in 1989 SoftCare EC Inc. develops e-business software. Our OpenEC® product suite allows companies to conduct business-to-business e-commerce. Our e-business software is open and scalable allowing for integration with existing and future technologies, lowering operating costs and streamlining the business process while delivering benefits to all electronic trading relationships.

To learn more about EDI, Scan Based Trading, B2B Commerce and eCatalogs for Retailers, Suppliers & Manufacturers, see the numerous company case studies at [www.softcare.com/whitepapers](http://www.softcare.com/whitepapers).

---