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## **Web Services: The Pragmatic Revolution**

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Web services is a new model of developing and deploying software that enables organizations to leverage existing business logic and data; add new components of software that enables change in near real-time. A Web service has the impact of insulating the organization from the small pieces of software that are required to complete an important business process. A Web service is a self-contained unit that can be used to implement a function without the organization needing to deal with the underlying details of the technology. For example, a Web service might be used for credit card authorization. To accomplish an authorization requires a complex series of steps and processes. Inside the Web service are all of the components to achieve that which might include some legacy code that have been leveraged from an old application. The developers of the new application do not have to worry about what is inside the service. It has been pre-tested so that the developer can simply use the service in a variety of ways to accomplish the business goal. Web services also enable key software elements such as security, billing capabilities, and access capabilities – to name a few. Once these services are either created from existing pieces of software or from new generation tools, they are linked through industry standard interfaces.

What does this mean to a pragmatic business manager? Why should you care? Here is an example of how this web services architecture is revolutionizing the way we create applications that have a direct correlation to running a more effective and efficient business. Imagine a business that offers mortgage and other financial services such as credit cards. In this business over the past 25 years, key business practices have been written into the fabric of software applications. For example, someone wrote a very sophisticated technique for calculating a 30-year mortgage. Another developer figured out how to predict when a credit card customer is at risk for not being able to pay their bills. The problem has become that these excellent pieces of code were trapped in old applications that were no longer flexible and could not be changed easily.

This business had two options: they could totally rewrite this key business logic and risk losing some of the nuances that were critical to business. The other option was to take these pieces of code out of the existing applications and make them into standalone software components that could be easily mixed and matched with other emerging software modules. This would protect the intellectual property of the corporation and make it easier for other developers to use this same module or service in future applications. This has two benefits: it preserves the integrity of the business practice that management has approved and it enables new applications to be written without having to spend as much time testing each piece of software.

Another benefit of Web services is time to market for new applications. Today's applications are increasingly used outside of the four walls of an organization. It is quite common now in this emerging e-business world to link applications across partners, suppliers, and customers. It is not unusual for two or more organizations to need to link parts of applications together in order to offer a new combined offering to customers. If these parts of applications are created as a series of self-contained services they can be bound together with emerging standards such as XML, UDDI, SOAP, and other traditional internet protocols (see legend of terms). When you start applying this concept to infrastructure elements such as security, the results can be astounding. For example, take the need to have security built into every part of complex business-to-business applications. In a traditional applications model, developers would have to write sophisticated security code directly into each application. With a Web services model, security is designed as just another service. Through the standard protocols mentioned earlier, the security service is

linked to the various application services. Through this process, new capabilities can be integrated into the fabric of the new application without intensive programming. Because each service has been pre-tested, the time to test applications is greatly diminished. These technical factors all mean that management can ask IT management to partner closely to bring new applications and new products and services to market quickly and react to competitive threads and changing business conditions in near-real time.

One of the greatest complains that business leaders have had about software and applications development is that it always lagged behind the needs of the organization to react quickly to changes in business conditions and new business practices. Often IT organizations have been seen as inhibitors to change. In reality, IT has been hampered by severe technical constraints in managing changing business conditions. IT management has been hampered by aging applications that were difficult to modify. IT management had to rely on traditional methods of developing emerging applications. While they visualized a world where new applications could be developed quickly that would enable companies to mix applications, data, business policies, and logic seamlessly. The reality could not keep up with the dream. Web services are the beginning of a new era – what Hurwitz Group calls a pragmatic revolution. Web services are a culmination of the best of the scalability and investment made in sophisticated business applications development over the past 25 years; it includes the innovation made in the evolution from client/server to Internet computing. It begins to unleash the dream of true distributed computing that has been worked on by the best computing minds over the past 15 years. The ability to leverage sophisticated computing technology to transform the way business is able to react to changing needs without starting from scratch.

The Web services model is backed by the key software infrastructure providers including IBM, Microsoft, Hewlett Packard, Sun Microsystems, and Oracle. A myriad of software providers in all areas of commercial software are leveraging this model in preparation for this new generation of software. Hurwitz Group anticipates that more and more companies will find this model the most pragmatic and business appropriate way to insure business success in a complex and sometimes uncertain business landscape.

*Judith Hurwitz is Chairman and Founder of Hurwitz Group, Inc. With over 20 years experience in the software and services industry, Hurwitz has been a driving force in the movement toward distributed computing. Her expertise is widely recognized, and she is frequently quoted in major publications, including The Wall Street Journal, The New York Times, Business Week, Information Week, and Computerworld. She is a columnist for Information Week and a frequent keynote speaker at major industry events including Comdex, Component Directions, and eBusiness World. She is currently chairing DCI's Executive Summit on Web Services.*

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