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9.8: Web Services

In this section, I would like to say a few words about Web Services. It is an extensive topic that can fill volumes of books. However, it is important to be aware of it, especially since you have now gained knowledge of XML processing.

Web Services, as defined by W3C consortium, are "a software system designed to support interoperable machine-to-machine interaction over a network." That is a broad definition, but you can think of Web Services as a set of APIs that is accessible through Internet. This concept goes back before the Internet, but it is now more standardized in that they use XML and the Internet.

Almost all major companies from Amazon and Google to USPS and Yahoo offer web services. Amazon's web services feature payments and fulfillment, while Google's Data API lets you access their finance apps, YouTube Data and more. The USPS Web Services allows you to retrieve the rate for shipping a 2 lb. Priority mail shipping from Berkeley to Washington D.C.

Web services communications consist of exchanging XML request and response documents. Some web services can create this for you automatically, but several require you to construct it. These documents usually contain a command string and a status code. All of these are defined in the specific web service API.

In addition, there are various standard application layers such as REST (Representation State Transfer) and SOAP (Simple Object Access Protocol). These XML based protocols define messaging standards add more structure.

Web services are exciting, overwhelming and intimidating, but they are fundamentally just XML documents exchanged over the Internet. The key to success in using web services is to follow the documentation closely, have valid, well formed XML documents.