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JAVA - It's More Than Coffee!

It Could Change the Way You Think About and Use Computers

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Where is the future of personal computing possibly heading? You have heard the slogans "the network is the computer" (from Sun Microsystems) to "being network-centric" (IBM's big push). What are they trying to communicate? The answer lies in the promise of products like Java.

With the release of Java from Sun Microsystems in May 1995, the computer and business press have been busy describing the potential for yet another new computing environment. Although some say Java is nothing more than a fancy hyper-text markup language (HTML) tool, most of the press agree that Java's impact will be felt by anyone using the Internet.

Java is an internet-aware object-oriented (much like C++) programming language that is independent of the PC's operating system. Using Java, a developer can create reusable modules that plug into virtually any application on any platform. As a result, a developer can quickly create an application, or perhaps, a mini-application (applet) that all PCs can use. These applets can be delivered on demand to the PC user through the Internet to be used in real-time. When the user completes his or her task (such as a word processing document) the application or applet is erased from the PC's memory.

To understand how an applet works, examine a word processing application. Today, this application requires at least 10 megabytes of hard disk space. But what portion of the application is used on a daily basis? The average user does not employ a significant amount of the application. With the applet model, a word processor application would now consist of several smaller programs (applets), such as the basic package, special formatting options, spell checker, thesaurus, translation programs, and so on. The user would request only the applets he or she needs to complete a task. Once a task is complete, the word processor is automatically deleted from the computer but the word processor document remains.

The impact of this architecture can be pervasive and may be the first serious threat to Microsoft's hold on the PC operating system marketplace. The creation and use of applets could significantly displace the current market for word processing, spreadsheet, and presentation tools. Users could share applet-driven applications without the need to license or load large programs. The desktop operating system becomes irrelevant with the actual application running on the World Wide Web. Under this architecture, the network becomes the computer.

In an unusual consensus, major software developers are quickly getting aboard the Java bandwagon. Lotus and Intuit have announced they will be using Java. Borland plans to have its Delphi object-oriented development tool integrate with Java, and by early next year, Spyglass plans to incorporate Java into its Mosaic Web Browser. In addition, Netscape is jointly developing JavaScript language with Sun and has already integrated Java into the beta version of its world leading web browser, Netscape Navigator Version 2.0. And of course, Sun has its own browser called Hot Java.

The most recent surprise is Microsoft chairman Bill Gate's announcement that Microsoft intends to license Java and the JavaScript technology as part of their Internet strategy. While Microsoft is hardly abandoning their own Internet platforms, this endorsement adds considerably to the momentum of Java acceptance. With Netscape and Microsoft on the bandwagon, Java has a great chance for success.

If Java succeeds, which we believe it will, a large market will develop for PCs that are much simpler in design and lower in cost. These PCs, or Internet appliances, will not require large hard drives for storing large complicated programs that are only used occasionally. Furthermore, with the software host-based, upgrading and updating software will be a thing of the past.

PC manufacturers hope to sell these Internet appliances for about $500. Oracle and Philips Electronics have already announced such a computer to ship in 1996. IBM, Sun, and Apple also have announced a similar appliance. The most significant issue standing in the way of complete acceptance of the Internet appliance is the current lack of speed communicating through the Internet. As anyone who has visited the Internet knows, it can be painfully slow. The communication bandwidth must significantly improve.

What does Java mean to the accounting profession?

- If this vision is fulfilled, inexpensive Internet appliances would replace many small personal and business computers resulting in significant cost savings.
- Software could be rented - not purchased - and there would be no need to upgrade application software; hardware upgrades would be less frequent and less expensive.
- Data and programs could be accessed anywhere no matter the physical location of the user.
- Audit teams could create mobile functional networks in the field without the licensing of expensive software components or the worries of an extensive setup.
- The CPA may find a niche market in validating the accuracy of applications/applets used - particularly if the applet is financially oriented.
- Security of the output (dissemination/retention/destruction) might also be an issue.

Once issues such as communication bandwidth are resolved, Java, the World Wide Web, and the Internet, might just eliminate the remaining physical barriers to ubiquitous computing and redefine how we think about and use computers.