



Center for  
Applied  
Research

## ***Mini-case Study:*** **Sun Microsystem's Campaign for Java**

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### **Background**

For decades software developers have faced a common frustration: every software program they write must be written for each and every platform on which it will run. Want to develop a spreadsheet program? You will have to choose between writing for Microsoft Windows only (a more efficient option, but one that eliminates some segments of the potential market for the product), or writing it for Microsoft's Windows, Apple's MacOS, one or more varieties of Unix, and any other platform that you hope to target. Choose the former, and you are reinforcing Microsoft's dominance, and your own vulnerability to Microsoft. If you choose the latter, software development will be even more time consuming and complicated than usual. Since operating systems are typically updated once every two or three years, the extra expense of targeting multiple operating systems is perpetuated.

In the summer of 1995 Sun Microsystems released a new development language called Java (named for the coffee that kept its developers awake at night while designing the language). Java was heralded as revolutionary to the computer world—software developers would finally be able to write a program in one language, Java, and have it run on any operating platform. Sun's mantra for Java, which would eventually become the product's slogan, was "Write Once, Run Anywhere." Java would, in effect, make operating system standards unimportant by establishing a new standard at the language level. Finally, computer programs and the languages that run them would be standardized—controlled by Sun and its allies, not by Microsoft.

Sun initially advertised Java at computer trade shows and in specialty computing magazines, targeting software developers. The developers responded enthusiastically, writing nearly 100 new software programs in Java within two years of its release. IBM alone has nearly 2,500 programmers working on Java code, more than Sun itself. It is estimated that the number of people who use products containing Java will soar from 7 million today to over 700 million by the year 2002. The market for Java-related tools is expected to be \$180 million by 2000.

Now that the language has caught on with the first audience, the software developers, Sun launched in the spring of 1998 a second and broader campaign aimed at the executives who make decisions about which computers and programs to buy—the 1998 corporate campaign.

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## **Elements of the 1998 Campaign**

The campaign sticks to the theme of “Write Once, Run Anywhere” but brings the importance of that message home to businesses rather than just to software developers. Java was the first computing language to have its own TV commercial, and Sun continues to focus on that medium.

Abandoning the usual hi-tech visuals in today’s computing advertisements, Sun has pulled in the crude film stock of old movies to evoke the timeless frustrations of buying and maintaining advanced computer networks. The effect is a combination of humor plus a familiar quality that the audience can easily warm up to. In one of the spots, called “Bank Robbery,” a man dressed in 1930’s attire jumps on a desk, waves a gun and announces that he is robbing the bank because he needs money to upgrade his computer system. In “Scientist,” a wild-haired scientist surrounded by bubbling beakers and mixers addresses the problem of linking computer systems within a company. Other ads in the series focus on the problem of computer networking and competing language systems.

The ads are not intended for the casual home user, nor is the product itself. The issues and problems they address are those encountered by the corporate world. Slogans such as “Keep Technology from Dividing Us All,” may be lost on people not familiar with information technology. Savvy users, however, know that Sun has promoted Java as an all-purpose alternative to the constraints associated with platforms. Some have accused Sun of attacking Microsoft in the ads, although its archrival is never mentioned by name. Other slogans include “Technology Should Not Require a Learner’s Permit,” “Gizmos of the World Unite” and “The Network is the Computer.” The slogan “Clean Up Techno-pollution” will run as an ad on the side of garbage trucks.

According to Bob Jeffrey, managing director of Sun’s advertising agency Lowe and Partners/SMS, the theme of the campaign and the placement of the ads are intended “to break through the clutter” and grab attention for a company that is not a household name like Microsoft. He titles the new advertising theme “Stop the Technology Madness,” although the “Write Once, Run Anywhere” tag is still featured. The budget for the campaign is estimated to be between \$60 and \$90 million.

## **Addressing Sun’s Corporate Goals**

Scott McNealy, Sun’s CEO, has made it clear that Sun’s long-run success depends on breaking Microsoft’s dominance in the computing industry. Java represents a key element in Sun’s strategy to avoid coming under Microsoft’s sway as the boundaries erode between Sun’s traditional markets (servers used in corporate and institutional environments) and Microsoft’s traditional markets (PCs used by consumers and individuals in corporate and institutional settings). In this context, Sun’s goal for the campaign is to convince businesses that Java is not only the wave of the future, but can solve their frustrating computing problems now. The

message is that Java can transform computing by making it easier, cheaper and more standardized. The key phrase for these professionals is the latest in IT buzz: “cross-platform capability.”

The 1998 corporate campaign has served an educational purpose as well, teaching endusers about the possibilities and restrictions of computer networking and software development, and how Java addresses both.

Sun’s position as underdog to Microsoft has also endeared it to technogeeks around the world. Sun does not deny that its TV ads portray Microsoft in a negative light, nor the implicit message that Java is a means to overthrow the control that Microsoft exerts in the marketplace.

### **Tapping into Consumer Needs**

The most obvious consumer need tapped by this campaign is the desire for simplicity and reliability in computing. Everyone who has worked with computers has had to deal with problems of incompatibility between applications and operating systems, and between programs and platforms. For the home user, the problem is often nothing more than a nuisance, but for the organizational user, such problems quickly become a drain on resources and a drag on productivity.

The idea of a “Write Once, Run Anywhere” environment is appealing to most businesses. Standardization of computer languages is seen as progress that will help with productivity and ultimately the bottom line. Reliance on Microsoft would also be reduced, although perhaps at the expense of increased reliance on Sun and its allies. (A point that Sun does not emphasize!) Sun has tapped into these sentiments by assuring consumers that such goals are in fact possible. They just need to use Java.

## ***Appendix*** **Shaping the Campaign to Create a Standard**

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As W. Brian Arthur points out in his article on standardization, “Positive Feedbacks in the Economy,” products such as computers, software and telecommunications equipment, what he calls “knowledge-based” products, are subject to different rules of design and competition than are “resource-based” products. Knowledge-based products require large initial investments in research, development and tooling but are subject to increasing returns once sales begin. Incremental production costs are relatively cheap; as more units are built, costs continue to fall while profits increase. Not only do these costs continue to fall, but the benefits of using these knowledge-based products increase as well. When these products gain a significant market share (as is the case with Java), people have a strong incentive to buy more of the same product. It is in their best interest to be able to exchange information with the large number of people already using the product.

While Arthur recognizes that the ability to gain the initial edge in market share may be attributable to nothing more than luck, Sun Microsystems had specific strategies in place to give Java an edge. Sun first targeted the software-development audience: without the firm and enthusiastic support of the developers, Java would have made a quick trip to the dustbins of computer history. Once the developers had bought into the concept and trusted the product, Sun targeted corporate decision makers. In order to get Java into these businesses, Sun agreed to send its own developers to several of its largest “system integration partners” (primarily clients who had purchased servers from Sun) and designed software programs onsite to meet specific client needs. Sun also offered Java classes free to the IT specialists in these firms.

Sun expects that this tactic—the direct, real-time interaction of Java developers with business executives—will clinch Java’s position as the *de facto* computing standard. The executives are shown firsthand that all of their business units could access information using Java; translating from one software program to another would not be necessary.

The recent recognition by the International Organization for Standardization (ISO) of Java as a Publicly Available Specification Submitter (PAS) is an important step toward Sun’s aim of establishing Java as not only a *de facto* worldwide standard, but also the official recognized worldwide standard. Much as the VHS version of the VCR was able to overtake the Beta version, Java’s small gains in position in the developers’ toolbox may eventually turn into complete domination of the field. The more developers use Java, the faster it is likely to gain market share.

Unsurprisingly, Microsoft has not taken this attack on its preeminence as a *de facto* standard lying down. Under a license agreement with Sun (Sun would say despite the license), Microsoft shipped versions of Java that are incompatible with Sun standards and that work only on Windows platforms. If Microsoft is able to

convince software developers to use its version of Java, then it will retain effective control of the standard.

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