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—*Eugene Eric Kim*

## Jini

Jini (pronounced "djee-nee," like the Arabic word for magician) is a communication protocol proposed by **Sun Microsystems** in the late 1990s to solve some of the problems created when an increasing number of devices in a network must communicate with one another. Whereas in the telephone system all devices use the same communication strategy (the dial tone), in a computer network there is much more heterogeneity. Jini would provide a "network dial tone," allowing, for example, any **personal digital assistant** or **laptop** to be plugged in and immediately able to use **printers** and other resources.

The problem with networked devices is that the computers connected to it need to have a description of each device. For example, if a new laser printer is added to a network, a *device driver* must be installed in every computer. This tells each machine the capacity of the laser printer, if it prints in color or not, and so on. The printer cannot be used until device drivers have been installed. Jini information appliances would solve this problem: the new printer, once connected to the network, will "introduce itself" to the other devices and send them its description, which effectively constitutes a device driver. Sun calls this *spontaneous networking:* New devices are simply plugged into the network without device drivers.

This strategy assumes that each "smart" information appliance has an embedded processor that implements the Jini protocols. Embedded processors will be ubiquitous in the future and they will connect in spontaneous networks. Some kind of standardization will be needed so that the embedded processors are able to talk with each other. Sun hopes that the programming language **Java**, widely used today on the **Internet**, can be used to achieve this objective.

The success of Jini depends largely on wide deployment. To solve this "chicken and egg" problem, Sun started the Sun Community Source License. Under this agreement the Jini source code is open; it can be used, extended, and improved by community members. This strategy is aimed at increasing the range of devices making use of Jini technology—from computers to cameras, from printers to garage door openers, and from DVD players to cell phones.

FURTHER READING

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—*Raúl Rojas*

## Jobs, Steve

1955–

U.S. Computer Pioneer and Businessman

Steve Jobs was one of the founders of **Apple Computer** in the 1970s. After notable successes with the **Apple II** and **Macintosh** computers, he left Apple in 1985 to form the influential **NeXT** computer company and has also played a major role in the success of the Pixar computer animation studio. Jobs returned to Apple in 1997 as its chief executive officer (CEO) and rapidly restored the company to profit after years of decline.

Jobs's career in the **Silicon Valley** computer industry began in 1974 when he took up a job working for **Nolan Bushnell**'s (1943– ) company Atari, for whom he designed videogames. But it was a short-lived career: Within a year, he had given up work to travel to India. Returning to the United States in fall 1974, he worked for a time on a farm, but maintained his interest in consumer electronics and was soon attending meetings of the **Homebrew Computer Club** in Menlo Park, California.

Club members had been taking a keen interest in the new **microcomputers** or "micros" (unsophisticated early **personal computers** [PCs] whose operating