Jobs: Unix must grow or die

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"I believe very strongly that Unix has got to become a mainstream operating system by 1990 or it's going to start to die," Apple Computer founder Steve Jobs told an audience of more than 1500 Unix programmers, developers, and users at the Summer Usenix Conference in Phoenix, Ariz., on June 10.

Jobs is now president and chairman of Next, Inc., which is developing a Unix-based workstation. He warned his listeners that, despite the size of its technical user community, Unix is not in the mainstream and although "some people believe we can go on sitting on the sidelines of what is considered to be the mainstream . . . the world is changing and that's not going to be possible."

"I'm actually on your side now, since our whole new company is based on Unix," Jobs said, and he outlined what he thinks needs to be done in the next few years.

The Apple II operating system has an installed base of more than three million, MS-DOS more than six million, Macintosh more than one million, and OS/2 has a potential base of at least one million, Jobs noted. Unix, he said, has less than 250,000 systems installed.

Jobs said Unix developers should consider the players in the market before deciding how to make Unix a mainstream operating system. Neither IBM, Digital Equipment Corp., Apple, nor Microsoft are served by a successful Unix, he said.

Speaking of IBM, Jobs noted that, "when you're selling MIPS and gigabytes for as much as they are, it's not in your interest to have a lot of software out there that can run on machines from a lot of companies that are willing to sell MIPS and gigabytes at a lot less." DEC must protect a large investment in its proprietary operating system. Apple, with "the best user interface out there," is not "particularly interested in seeing a community of 1600 very bright people trying to copy that on top of Unix, especially if there are going to be multitasking units all over." Microsoft has received large royalties from MS-DOS and looks forward to large OS/2 royalties.

Microsoft's Xenix implementation of Unix is more of a "rearguard than a frontal attack," Jobs maintained.

The players on the other side—AT&T, Sun, Apollo, and universities—have less power in the marketplace, he said.

Comparing the two lists "should make most Unix enthusiasts a little nervous. . . . There's a whole lot of money and a whole lot of energy riding on the side of not having Unix be successful." But Unix can be successful, Jobs said, citing its advantages:

- Its development environment is "much more mature than many of its competitors."
- It is somewhat vendor-independent.
- It is probable that more programmers will have to be trained to use it than any other operating system.

However, the "bad news" about Unix, he said, are its shortcomings:

- There is more than one version, which "seems to cause everybody quite a bit of confusion."
- It is incomplete, lacking especially graphics and windowing.
- Its user interface "is impossible for mere mortals to use."
- It offers few end-user applications compared to PC operating systems.
- AT&T's $50-per-unit royalty makes Unix too expensive for low-end systems.

To solve these problems, Jobs said, the Unix architecture will have to evolve to include graphics and windowing and an applications toolkit.

Jobs said he believes the graphics will be Postscript-based. "Just as Postscript has become the standard in the printing industry, with IBM and DEC and Wang

Correction

The report "Star Wars' Research Feeling Boycott?" (Soft News, March, pp. 94-95) said the Union of Concerned Scientists has about 100,000 member scientists and engineers. The actual number is about 20,000, a spokesman said. The group has about 80,000 financial supporters and nonscientist affiliates.

In this view of the Unix, OS/2, and Macintosh operating system environments, unimplemented levels are shaded. In his Usenix speech, Steve Jobs cited three points Unix enthusiasts should remember — that all the items in the Macintosh column are available today, that several billion dollars have been committed to unshading the OS/2 column, and that in the Unix column "we have two boxes to go."

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