Behind the News

Analysis of Industry Events

SCO Pushes Unix on Intel

At a press conference in April, the Santa Cruz Operation announced an incremental step in forwarding the movement begun last October to develop new generations of the Unix operating system. In April SCO shared the stage not with its allies Hewlett-Packard and Novell, but with a group of OEM systems vendors: Data General, ICL, NCR and Unisys, and with Intel, which will supply the processors on which the systems will run. Also supporting the announcement via videotaped statements were OEM partners Compaq, Olivetti and Siemens Nixdorf, and an array of independent software vendors (ISVs), most prominently Oracle.

The purpose of the gathering appeared to be to reassure the world that the development process is going according to plan. All the OEMs present were already known to be involved. SCO UnixWare version 2.1—the first release under SCO's aegis—had been released in February. The merged version of SCO's own Open Server and UnixWare (code-named Gemini) is still scheduled for next year and the 64-bit system, being developed with HP, for 1998.

There were no surprises at the event, but at this stage in a long-term process no one wants surprises. Rather, whatever significance there was lay in demonstrating that the partners are avoiding the wrangling and contradictions that marred past Unix vendor collaborations.

The announcement focused on Unix systems running on Intel chips and the goal of establishing a volume market for them. As such, there was no reason for HP, Sun Microsystems or other major vendors of RISC-based systems to appear.

The OEM Position

In these days of atrophied hardware margins, second-level systems vendors such as these OEMs are unwilling to bear the full weight of development costs that don't demonstrably add value to their products. "Their orientation is not in technology leadership," says Alok Mohan, SCO president and CEO. "The cost of developing Unix has been constantly escalating. Economically it becomes untenable." SCO, its staff enhanced by the experienced Unix developers inherited from Novell, has taken on that role.

The spin that SCO and others brought to the announcement was that SCO UnixWare will compete in the "midrange enterprise market." For larger "enterprises," this phrase describes primarily the middle tier of three-tier architectures. Although the participants would not say so, their effort at this point seems to have as a main thrust the attempt to slow the incursion of Microsoft Windows NT onto such second-tier (or departmental) servers.

The Internet Carries the Open Systems Banner

In these days of online rhapsody, the origins of the Internet in the matrix of open systems often are taken for granted, if not ignored completely. Perhaps, then, it is worth asking whether the Internet boom has been good for open systems.

A chorus of analysts, observers and Unix industry veterans agrees that not only has the Internet enhanced the momentum of open systems adoption, it has *become* the new generation of open systems. To a large extent, they say, the Internet has carried the open systems baton to a level of success that few thought possible two years ago.

"It's a massive demonstration of what the power of open systems can do," says David Bernstein, an independent computing consultant in the San Francisco Bay Area and a former Unix developer with the Santa Cruz Operation. "As kind of a giant, distributed, open operating system, it's the ultimate accomplishment of open systems."

David Smith, research director of the Gartner Group in Nashua, NH, says, "The Internet is the next bastion of open systems. Some people may have thought open systems was a niche or a bunch of hype—which it was—but now people can see some of the benefits without that hype."

It is a fact that Unix and related open systems technologies made the Internet happen. "The Internet came out of TCP/IP and the interoperability that was produced by the Unix community," says Doug Michels, executive vice president and chief technical officer of SCO. "It embodies the spirit of open systems that we've always tried to achieve. One of the tenets of open systems has been to define interfaces where portability and interoperability were guaranteed, and the Internet has made some of those interfaces more obvious and more important."

The New Generation

The Internet started with universal messaging—a concept so simple and so much in demand that today electronic mail is taken for granted. Then easy access to widely dispersed information became realizable through the interface of the World Wide Web. Now applications themselves have begun to circulate over the Web under the auspices of the Java programming language. The result has been what some call a new universal computing client: the Web browser.

"The browser in effect becomes an environment to which information can be written at the first revision level, and in time applications can also be written, so it won't matter whether that browser is running on top of a Macintosh, a PC or a Unix system," says Philip Johnson, director of advanced operating environments for International Data Corp. in Mountain View, CA.

The concept is carried even further by Rikki Kirzner, a director of Blanc & Otus public relations in San Francisco and formerly an open systems analyst with Dataquest. "The Internet made open systems irrelevant, because it's a great leveler," Kirzner says. "It took the operating system to the next level. In the same way that standardizing on operating systems made hardware the black box, the Internet has made operating systems an 'I don't care' situation. Now we don't have to worry about how to talk to the operating system."

Johnson believes that the introduction of Java was a big step

This impression was strengthened by the speakers' vow to attract large numbers of ISVs to the unified platform. Portions of the Unix industry have long envied Microsoft's domination of ISV loyalties. Once again, this initiative will try to attract ISVs to develop popular applications on—or at least port them to—Unix by promising a single development target that offers binary compatibility on multiple platforms. As in the past, the viability of high-volume sales of Unix depends upon application availability.

Although SCO is driving the process, its OEM partners are not merely passive recipients of the technology. All have substantial investments in their own Unix variant, even if they don't want to continue to go it alone. (Each also resells Open Server as an option.) Harmonizing the old with the new will be a delicate matter. No one will want to give up features they see as differentiating them in the market.

"There will a challenge about where people do standards and where they do value-add. It'll be a tough balance for all vendors," says Philip Johnson, director of advanced operating environments for International Data Corp. (IDC) in Mountain View, CA. SCO finds itself on the middle of this seesaw. "A lot will be determined by how well SCO delivers on commitments they've made," Johnson says.

Can They All Get Along?

A key question is what the OEMs will contribute to SCO UnixWare from the higher capabilities of their own established Unix variants. For example, DG, ICL and NCR all indicated that they want to assist in adding features for clustering and fail-over, including non-uniform memory access (NUMA). How will the partners decide which implementations to adopt or combine? How will the win-

> **Many customers have stopped listening to promises of vendor "coopetition."**

ners sell the losers on the outcome?

Add to this dilemma the necessity each vendor feels to reassure its own installed base of customers that it will not desert their investments. They may have to perform what Johnson calls "a juggling act between this idea of the future and their current product lines." There exists a danger of sending mixed messages or of having them misunderstood. Ironically, the only one of the participants that does not also have a serious NT commitment is SCO itself.

If some of this talk sounds familiar, that's because it is. Many customers have stopped listening to promises of vendor "coopetition." The various consortia, with their slow-moving, consensus-based processes, have failed to stem the tide away from open systems. However, this case may be different. It is not just "another arm of the standards movement, which can't deliver products," said Ninian Eadie, ICL group director for technology, based in London, at the announcement. He insisted that this initiative will result in a product that is a de facto standard, responsive to market demand.

Mohan of SCO also emphasizes that this is not a consortium activity. "This cannot be a democratic process," he says. "There has to be a decision-maker. We'll consult with the OEM partners, but in the end we will do what is right for the business case. Everybody has to bend some, and they know that.

"When people are marching in step, it is harder for just one to take a tangential path," Mohan continues. 'The cost of taking a separate path is higher now."

SCO on the Line

When Novell gave up last fall its role in directing the future of Unix, SCO gained a centrality it never had before. Many eyes, both friendly and hostile, will be judging its performance. "This is a bet-your-company situation for SCO," says Johnson of IDC. "They're getting competition from NT, and soon they'll be under some pressure from Linux [at the low end]. SCO has got to move toward the enterprise, and this is the way to do it."

Mohan takes a more sanguine view of his company's prospects. "We have bought ourselves a range of possibilities," he says. "Even the not-so-nice scenarios are better than where we were in the past."

So far, despite evident pressure, the Unix-on-Intel convergence has been able to set its own pace. But the day of reckoning probably is less than two years off, and it is in the hands of Intel, not SCO. "A key gate exists at the shipment of Merced [Intel's next generation of chip]," Johnson says. "It will ship even if SCO hasn't finished its work."

"We have to be there," Mohan acknowledges. "This is a highly leveraged R&D model. A lot of the code we're talking about is already available. We'll make big strides in the next 18 months."

—Jeffrey Bartlett

toward the universal client. "While there's always been an interconnectivity created by the Internet, what's changed is the Web browser hosting programming languages and tools that go beyond the browser," he says. "Now you're not just sharing data but having immediate online access to data. That's a full generational shift. All of that is transparent and is done in a totally open fashion, because all clients can get to it with equal accessibility."

Accepting What's Open

These changes also have ramifications for the dynamics of the IT industry. "I see emerging a universality that we dreamed about," says Michael Goulde, executive editor of the Patricia Seybold Group in Boston. "The original goal of Unix was that any user anywhere could get to any data on any system. Now, in just the couple of years that the Web has been around, we've already overcome some seemingly insurmountable barriers, because proprietary interests were not behind what was happening. Instead of being vendor-driven and driven by proprietary strategic motivation, it was driven by what people wanted to accomplish, which was supposed to be what open systems was all about anyway."

A measure of the Internet's power to promote openness is that both Microsoft and IBM's Lotus division, makers of proprietary PC applications, have been forced to accommodate Internet standards. Microsoft has adopted TCP/IP as the core networking protocol for Windows, supports the common Web protocols and has announced that it will incorporate Java into its Web products. Lotus Notes documents have been assigned to an open systems Web format, Hypertext Markup Language. "The Internet is an incredible phenomenon that even these larger software companies have given in to," Bernstein says.

That's a dramatic turnaround. A short time ago, Microsoft and the binary compatibility of its software with the PC threatened to overwhelm Unix, especially after the introduction of the Unix-like Windows NT operating system. The Unix world, with its emphasis on programming interfaces, still had multiple platforms that required tedious porting of applications. "Microsoft was able to dominate with a proprietary system because of people's desire to have a binary standard," Bernstein says. "But now that the network has become the important platform, away from the individual computer, it's more important to be connected in order to run something. The center of compatibility has moved away from the machine. That has provided a new lease on life for Unix systems, because their ability to adapt to the network is better than any other operating system's."

The result is that the Internet has carried not only the open systems banner but Unix along with it. "The single-machine binary standard, which nearly rolled over Unix like a truck, has now gotten rolled over itself by the synergistic connectivity standard," Bernstein says. If that's true, the Internet may not have received enough hype, and open systems may indeed have won the war. **IT**

—Don Dugdale