

`pkprof` implements a profile buffer for each user process. This allows the profiler to know which user process to attribute kernel time to. Interrupts present a problem since it is not immediately apparent which process an interrupt relates to. `pkprof` solves this by using the `buf` or `mbuf` structure as an identifier for such an asynchronous event and storing this in a temporary profile buffer. When control returns to the top half of a driver the receiver process can be identified and the profile modified accordingly.

The processing of asynchronous events involves a high overhead. The overhead of `pkprof` is 36% of kernel time compared with `kprof` which takes 30% of kernel time.

For additional comments on the San Diego Technical Conference, see Rik Farrow's "Musings" on page 43.

1996 Lifetime Achievement & STUG Awards

At the 1996 USENIX Annual Technical Conference in San Diego, California, Steve Johnson, President of the USENIX Association, presented the following awards:

The USENIX *Lifetime Achievement Award* recognizes and celebrates singular contributions to the UNIX community in both intellectual achievement and unparalleled service. The 1996 Award was presented to the Software Tools Users Group. The principal recipients and "keepers of the flame" are Dennis Hall, Deborah Scherrer, and Joseph Sventek. The originators and key inspiration are Brian Kernighan and P. J. Plauger.

Major contributors, named in the award, are Allen Akin, Brian Anderson, Gene Autrey-Hunley, Wil Baden, Theresa Breckon Bixby, Michael Bourke, Walter E. Brown, Tonia Cantrell, Shirley Cassinelli, Tom Chappell, Barbara Chase, Tom Clarkson, Douglas Comer, Phil Davidson, Bruce Dawson, Charlie Dolan, Ben Domenico, Walt Donovan, Larry Dwyer, H. W. Egdorf, Philip Enslow, Desmond FitzGerald, Perry B. Flinn, Dan Forsyth, Chris Fraser, Major Vinton Goff, Mars Gralia, Neil Groundwater, Teus Hagen, Todd Hammond, David Hanson, Paul Howson, Margaret Hug, Van Jacobson, Steven Jones, George Kapus, Rick Kiessig, Todd Kushner, Craig Leres, Clyde Lightfoot, Dave Martin, William Meine, Robert Munn, Greg O'Brien, Michael D. O'Dell, George Pajari, Vern Paxson, Christian M. Petersen,

David Phillips, Jim Poole, Jeffrey A. Poskanzer, Ken Poulton, Philip H. Scherrer, Toshiaki Saisho, Jerome Silbert, C. R. Snow, David Stoffel, Nancy Deerinck Travis, Gary Trujillo, Dave Turner, Bob Upshaw, James Ward and colleagues at Apollo Computers, Jack Waugh, Wally Wedel, Dale Wolfe, Joseph Yao, and the many, many others who wrote software, engineered ports, and otherwise contributed to and participated in the Software Tools movement.

Before the general availability of UNIX, the Software Tools project popularized a new vision of operating system software, offering a bridge to portability and power for those limited by proprietary operating systems.

With its extraordinary focus on building clean, portable, reusable code shared amongst multiple applications and runnable on virtually any system, the Software Tools movement established the tradition of empowering users to define, develop, control, and freely distribute their computing environment. The contributions of STUG in retrospect can be seen to have been vital.

Past recipients of the USENIX Lifetime Achievement Award are the Computer Science Research Group at the University of California, Berkeley, for producing the UNIX BSD releases; Van Jacobson and Mike Lesk for their contributions to networking technology; and Tom Truscott, Steve Bellovin, and Jim Ellis for their work in creating USENET.

Simultaneously, the USENIX Association, acting on behalf of the Software Tools Users Group (STUG), presented the *Software Tools Users Group Award* to Michael Tiemann.

Michael Tiemann's work in C++ led to fundamental contributions to the GCC, the GNU C Compiler, which has had an unparalleled influence upon the availability of efficient and standard code on a vast number of hardware platforms. GCC has provided a development base for thousands of projects.

The *Software Tools User Group Award* recognizes significant contributions to the general community which reflect the spirit and character demonstrated by those who came together in the Software Tools User Group. Therefore, recipients of the Software Tools Award exhibit one or both of these traits in a conspicuous manner: a contribution to the reusable code-base available to all, or the provision directly to users in a widely-available form of a significant, enabling technology.



At the USENIX conference in 1996, Steve Johnson (r), then President of USENIX, presents the "Lifetime Achievement Award (The Flame)" to Joe Sventek (l), Deborah Scherrer (2nd from left), and Dennis Hall (2nd from right) "to honor profound intellectual achievement and unparalleled service to the community" because of their Software Tools Project.