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USENIX & SAGE

The Advanced Computing Systems Association &
The System Administrators Guild

USENIX news

Words mean what we choose them to mean, but who is “we”?

by Daniel Geer

President, USENIX
Board of Directors



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It will come as no news to anyone reading this that the Board of Directors chose to make the USENIX Association a plaintiff in *Felten, et al., v. Record Industry Association of America, et al.* By the time this article is in print, the outcome of that case is likely to be no news either. Newsiness is irrelevant; as has been said, the four verities of governance are that

1. Most important ideas are uninteresting.
2. Most interesting ideas are unimportant.
3. Not every problem has a good solution.
4. Every solution has side effects.

This applies here – joining the *Felten* case is more important than interesting, it is not a perfect solution to anything, and it is not without side effects. Real life is messy.

There is a difference between knowledge and information, between observable fact and works of creation. Even if you agree *prima facie*, we are left, as we always are, with what is the definition of each of those terms. Indeed, if experience is any guide, in every issue at law the game is over after the definitions

page – the rest is just mechanics. That seems true in *Felten v. RIAA* as much as anywhere, and while it is up to counsel and the courts to argue the definitions of what is proprietary, what is privileged, what is opinion, what is fact, what is science, what words mean and to whom.

The same will be true in any issue of technology and law that we are likely to see, whether USENIX is plaintiff in another court case, whether as officers we speak on any issue, whether as members you have a chance to put your mark on matters of public or private policy. You see this collision of words and meaning in many fields – technology is not unique in that regard – but I suggest that the rate at which ideas from the technology sphere mutate from interesting to important tends to exaggerate the production of side effects and less than perfect solutions. As the second derivative of technologic innovation remains solidly positive, the pressure technology brings on public process grows more profound.

Most of us in technical fields use the word “politics” as a collective noun for the nonsensical, unavoidable interference of the uninformed and the word “marketing” as a force that can’t tell important from interesting. Even if these definitions are true, so what? All of us have probably argued “privacy” with someone in the last year and, if so, have found that the meaning of that word better be well and jointly defined if the argument is to have any lasting value. This is just illustration, and a precursor.

As what technology gives becomes ever more central to modern life, regulation of it becomes ever more the focus of politics and marketing. This drives me nuts, but so what? In some ways, the *Felten* case is about a notably speedy conversion of a particular technology from merely novel to important enough to fight over in arenas having nothing to do with problem statements, design rigor, imple-

USENIX MEMBER BENEFITS

As a member of the USENIX Association, you receive the following benefits:

FREE SUBSCRIPTION TO *login*: the Association’s magazine, published eight times a year, featuring technical articles, system administration articles, tips and techniques, practical columns on security, Tcl, Perl, Java, and operating systems, book and software reviews, summaries of sessions at USENIX conferences, and reports on various standards activities.

ACCESS TO *login*: online from October 1997 to last month <http://www.usenix.org/publications/login/login.html>.

ACCESS TO PAPERS from the USENIX Conferences online starting with 1993 <http://www.usenix.org/publications/library/index.html>.

THE RIGHT TO VOTE on matters affecting the Association, its bylaws, and election of its directors and officers.

OPTIONAL MEMBERSHIP in SAGE, the System Administrators Guild.

DISCOUNTS on registration fees for all USENIX conferences.

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mentation methodologies, or version control. If the technology weren't compelling in some way, it wouldn't be worth fighting over.

What I know as Putt's Law is that "Technology is dominated by two kinds of people, those who understand what they do not manage and those who manage what they do not understand." As long as the rate of change is accelerating, the above can only remain true. So, and this is the point, USENIX as an association will have to wade into fights from time to time absolutely as a side effect of how important technology has become. This is a distraction to what we like to do and to what we do well, but we ignore such moments at our collective peril. You, as individual members, face the same issues every day and all of us here will have to become much more expert in policy and law than we'd ever want to be in proportion to our success in, by our technology, putting a dent in the universe.

A decade of PGP

by Peter H. Salus

USENIX Historian

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Well, I goofed.

I missed an important anniversary. June 5 was the 10th anniversary of the release of PGP 1.0.

So here I am, a few weeks late. My apologies. I'll let Phil Zimmerman tell the tale himself.

"It was on this day in 1991 that I sent the first release of PGP to a couple of my friends for uploading to the Internet. First, I sent it to Allan Hoeltje, who posted it to Peacenet, an ISP that specialized in grassroots political organizations, mainly in the peace movement. Peacenet was accessible to political activists all over the world. Then, I uploaded it to Kelly Goen, who proceeded to upload it to a Usenet newsgroup that specialized in distributing source code. At my request, he marked the Usenet posting as "US only." Kelly also uploaded it to many BBS systems around the country. I don't recall if the postings to the Internet began on June 5th or 6th.

"It may be surprising to some that back in 1991, I did not yet know enough about Usenet newsgroups to realize that a "US only" tag was merely an advisory tag that had little real effect on how Usenet propagated newsgroup postings. I thought it actually controlled how Usenet routed the posting. But back then, I had no clue how to post anything on a newsgroup, and didn't even have a clear idea what a newsgroup was.

"It was a hard road to get to the release of PGP. I missed five mortgage payments developing the software in the first half of 1991. To add to the stress, a week before PGP's first release, I discovered the existence of another email encryption standard called Privacy Enhanced Mail (PEM), which was backed by several big companies, as well as RSA Data Security. I didn't like PEM's design, for several reasons. PEM used 56-bit DES to encrypt messages, which I did not regard as strong cryptography. Also, PEM absolutely required every message to be signed, and revealed the signature outside the encryption envelope, so that the message did not have to be decrypted to reveal who signed it. Nonetheless, I was distressed to learn of the existence of PEM only one week before PGP's release. How could I be so out of touch to fail to notice something as important as PEM? I guess I just had my head down too long,

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Communicate directly with the USENIX Board of Directors by writing to <board@usenix.org>.

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writing code. I fully expected PEM to crush PGP, and even briefly considered not releasing PGP, since it might be futile in the face of PEM and its powerful backers. But I decided to press ahead, since I had come this far already, and besides, I knew that my design was better aligned with protecting the privacy of users.

“After releasing PGP, I immediately diverted my attention back to consulting work, to try to get caught up on my mortgage payments. I thought I could just release PGP 1.0 for MSDOS, and leave it alone for awhile, and let people play with it. I thought I could get back to it later, at my leisure. Little did I realize what a feeding frenzy PGP would set off. Apparently, there was a lot of pent-up demand for a tool like this. Volunteers from around the world were clamoring to help me port it to other platforms, add enhancements, and generally promote it. I did have to go back to work on paying gigs, but PGP continued to demand my time, pulled along by public enthusiasm.

“I assembled a team of volunteer engineers from around the world. They ported PGP to almost every platform (except for the Mac, which turned out to be harder). They translated PGP into foreign languages. And I started designing the PGP trust model, which I did not

have time to finish in the first release. Fifteen months later, in September 1992, we released PGP 2.0, for MSDOS, several flavors of UNIX, Commodore Amiga, Atari, and maybe a few other platforms, and in about 10 foreign languages. PGP 2.0 had the now-famous PGP trust model, essentially in its present form.

“It was shortly after PGP 2.0’s release that US Customs took an interest in the case. Little did they realize that they would help propel PGP’s popularity, helping to ignite a controversy that would eventually lead to the demise of the US export restrictions on strong cryptography.

“Today, PGP remains just about the only way anyone encrypts their email. And now there are a dozen companies developing products that use the OpenPGP standard, all members of the OpenPGP Alliance, at <http://www.openpgp.org>.

“What a decade it has been.”

Indeed, Phil. We’re now at PGP 7.0.3; and we’re all indebted to Phil and to the many volunteers.

The year 1991 was important: PGP, the Web, Linux. They’re all 10 years old!

(BTW, my VAX 750 version of the 7th edition “User’s Manual” is dated June 1981 – 20 years!)

2001 USENIX Awards

Every year USENIX acknowledges the contribution of exemplary members of the computing systems community through its Lifetime Achievement Award and Software Tools User Group Award. The USENIX Lifetime Achievement Award recognizes and celebrates singular contributions to the UNIX community in both intellectual achievement and service that are not recognized in any other forum. The STUG award recognizes significant contributions to the general community, which reflect the spirit and character of those who came together to form the Software Tools User Group (STUG).

This year we are pleased to announce the following recipients of these two awards:

USENIX Lifetime Achievement Award

The 2001 USENIX Lifetime Achievement Award recipient is the GNU Project and all its contributors, for the ubiquity, breadth and quality of its freely available redistributable and modifiable software, which has enabled a generation of research and commercial development.

GNU Project software tools have changed the way the computer world

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Motorola Australia Software Centre
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Sams Publishing
The SANS Institute
Sendmail, Inc.
Smart Storage, Inc.
Sun Microsystems, Inc.
Sybase, Inc.
Syntax, Inc.
Taos: The Sys Admin Company
TechTarget.com
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operates. Today it is difficult to imagine how most of us could do systems work without tools that originated with or derived from GNU code. Much wide-ranging research is based on GNU tools. And in the computing world at large, millions of us have benefited and continue to benefit from the hard work and insight of the GNU Project.

Four aspects of the GNU Project merit special attention:

1. Its scope: GNU took on the whole enchilada, from the kernel to games, from the compiler to the libraries, from windowing systems to security authentication systems.



Some of the people who contributed to the GNU Project

2. Its quality: Bucking the current trend, where it is routine for software to fail, GNU software works.
3. The GNU community: From the start, the GNU Project has been a collaborative effort. Hundreds, and eventually thousands, of contributors, work together in the best hacker tradition.
4. Its provision for access to source: Although somewhat controversial, the GNU Public License and its variants solve a critical problem: how does a programmer ensure that everyone can access and modify his or her code?

The cumulative effect of the GNU Project has been revolutionary, permeating our technical lives at an ever-increasing pace since the project began in 1984. The

USENIX Association's Lifetime Achievement Award for 2001 goes to the GNU Project in recognition of its achievements.

For more information about the awards, please visit:

<http://www.usenix.org/directory/awards.html>

The Software Tools User Group Award

The 2001 Software Tools Award (STUG) recipients are those who contributed to the development of Kerberos, a security system that set the standard for authentication and key management in distributed systems.

Kerberos is based on the revolutionary Needham and Schroeder protocol of 1978. It is a prime example of how to turn a theoretical result into a useful system. The need for authenticating users and services in a distributed environment is critical, and Kerberos provides a solution that is secure, relatively simple to administer, and scalable. Because of this, Kerberos has been implemented as part of the Distributed Computer Environment (DCE), the Andrew File Systems (AFS), and is also part of Windows 2000. No single security system has had as much impact on the way security is managed in distributed networks as Kerberos.



awards, please visit

<http://www.usenix.org/directory/stug.html>

Ted T'so accepting the STUG Award on behalf of the Kerberos developers

US Team Selected For International Computing Olympiad

by Don Piele

USACO Director

piele@cs.uwp.edu

Four of the top young computer programmers in the United States have earned places on the USA Computing Olympiad (USACO) IOI team. The four – Reid Barton of Arlington, Mass.; Tom Widland of Albuquerque, NM; Vladimir Novakovski of Springfield, MA; and Steve Sivek, of Burke, VA – were selected from a field of fifteen candidates during a recently completed training camp at the University of Wisconsin-Parkside.

The team will now represent the US in the International Olympiad in Informatics. The competition will be held in Tampere, Finland, July 14 to 21, 2001.

Barton, a home-schooled high school senior and returning team member, won a gold medal at last year's International Olympiad in Beijing, China. He is joined by Widland, a senior at Albuquerque Academy, and juniors Novakovski and Sivek who attend Thomas Jefferson High School for Science and Technology in Alexandria, VA.

USACO team members were among 15 high school students invited to the training camp. The invitation was made on the strength of their scores on three Internet programming competitions and the US Open. More than 300 students across the country competed for the right to attend the camp.

USENIX sponsors the USACO. Find out more about the IOI team at <http://www.usaco.org>.

USENIX Association Financial Report 2000

The following information is provided as an annual report of the USENIX Association, and represents the Association's statement of revenue and expenses for the year. Accompanying the statements are several charts that illustrate where your membership dues go. The Association's complete financial statements for the fiscal year ended December 31, 2000 are available on request from the USENIX Association.

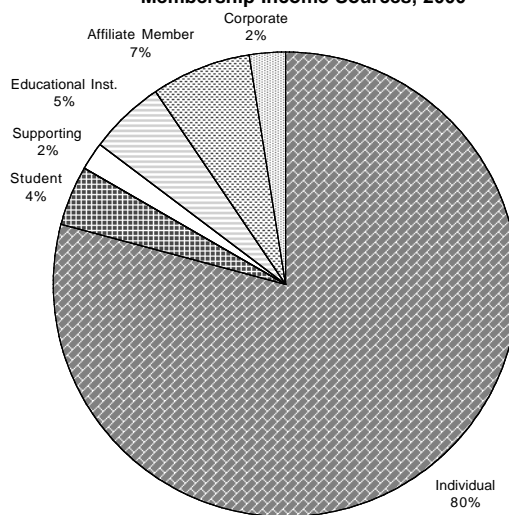
The USENIX Association completed fiscal year 2000 with a net operating surplus of \$205,031.

Membership for both USENIX and SAGE tops 10,000 members. Sixty-five percent of individual members are also members of SAGE.

Member Dues

Chart 1 shows the total membership dues income (almost \$950,000 in 2000) divided by type of membership. Chart 2 presents how those dues were spent. (Note that income from our conferences cover all costs of the conference department and staff, exhibition, and marketing.) Chart 3 shows how the USENIX administrative expenses were allocated. (The "other" category covers such items as taxes, licenses, bank charges and miscellaneous expenses.) Chart 4 indicates where most of the money allocated to Good Works/special projects and standards activities were spent (\$977,000) in 2000. (See the USENIX Web site at <http://www.usenix.org/about/goodworks.html> for a description of our Good Works program. These funds come from the income generated by the USENIX conferences and interest income from the Association's reserve fund.)

CHART 1
Membership Income Sources, 2000



Charts 5 and 6 deal with SAGE income (around \$306,000 in 2000) and direct expenses (almost \$250,000). Allocated expenses (staff and overhead) are not reflected in the direct expenses chart.

Members Services

In 2000, member dues increased to \$95 for an individual membership. Affiliate membership dues increased to \$90. (All other membership dues categories, including SAGE, remained unchanged.) Eight issues of *login:* were published. For

the first time, online issues of *login:* over a year old were made freely available to everyone. In addition, all standards reports, USENIX and SAGE news, conference reports, book reviews, and the "Using Java" columns were made available to everyone. Members were given access to feature articles less than a year old.

Conferences

In 2000, USENIX hosted four major conferences (USENIX Annual Technical, LISA, Security, and the Annual Linux Showcase) and four smaller symposia

(OSDI/WIESS, Windows Systems, LISANT, and Tcl/Tk). Over 6500 people attended these events. Conference fees increased in 2000 to \$435 for a three-day conference and \$410 for a two-day symposium. Tutorial fees increased by \$50 per day. Tutorials continued to be popular, and provide a significant proportion of revenue for the Association (around 43% in 2000). Membership as well as new and/or smaller conferences (e.g., ALS, OSDI, Tcl/Tk, NT) operate at a

loss. Revenues exceeded expenses for three of the conferences including the Annual Technical, LISA, and Security. Conference proceedings of prior years were made freely available to everyone. Members were also given access to papers from conferences less than a year old.

CHART 2
Where Did Your 2000 Membership Dues Go?

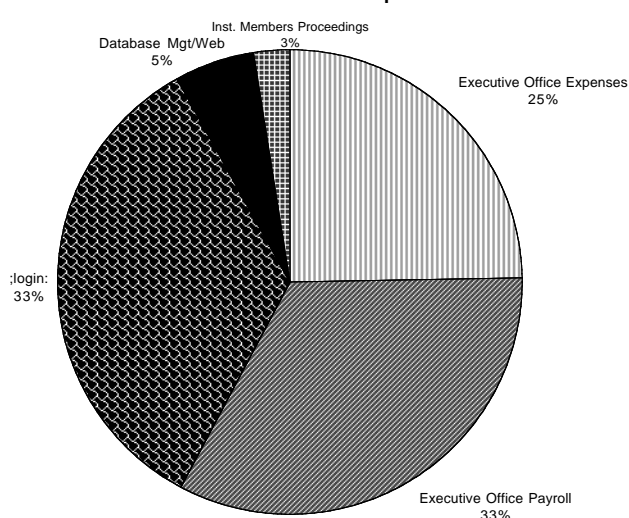


CHART 3
USENIX Administrative Expenses, 2000

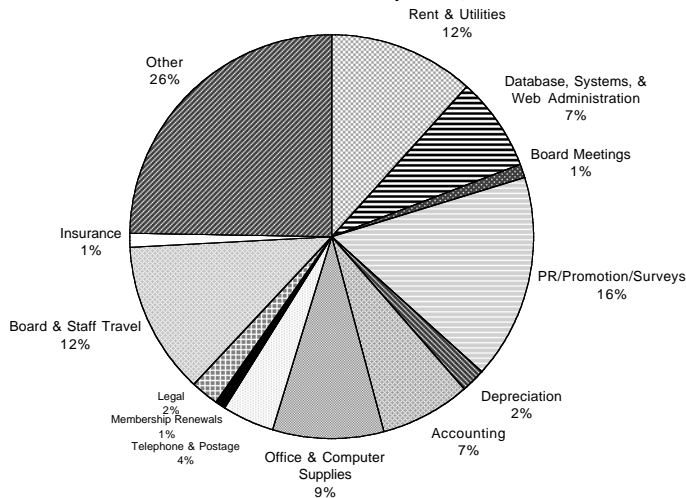


CHART 5
SAGE Income Sources, 2000

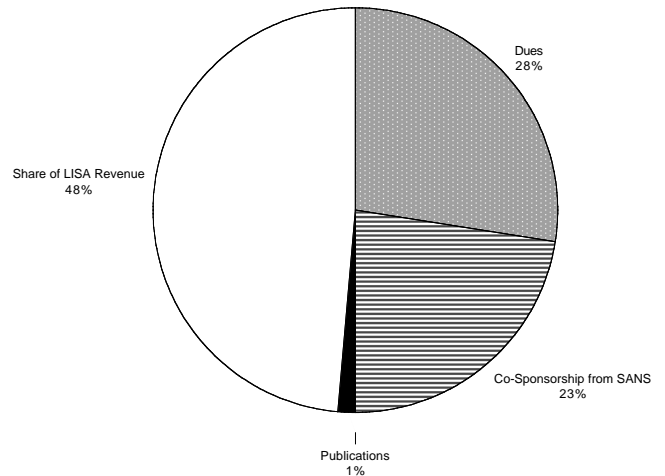


CHART 4
Projects and Good Works, 2000

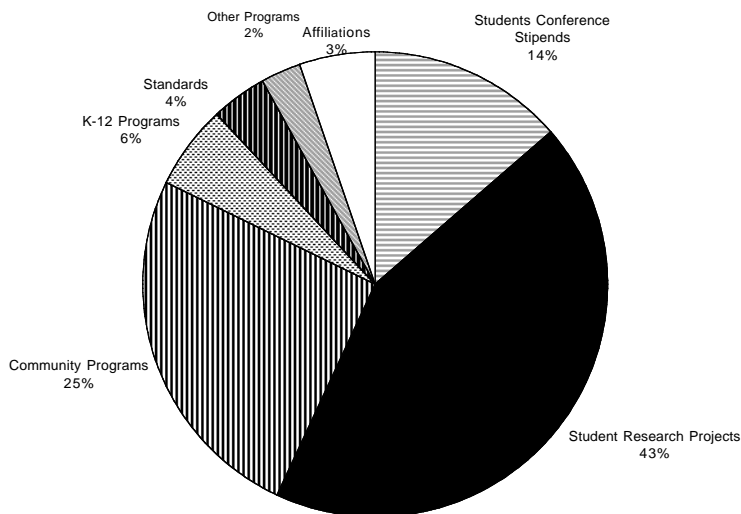
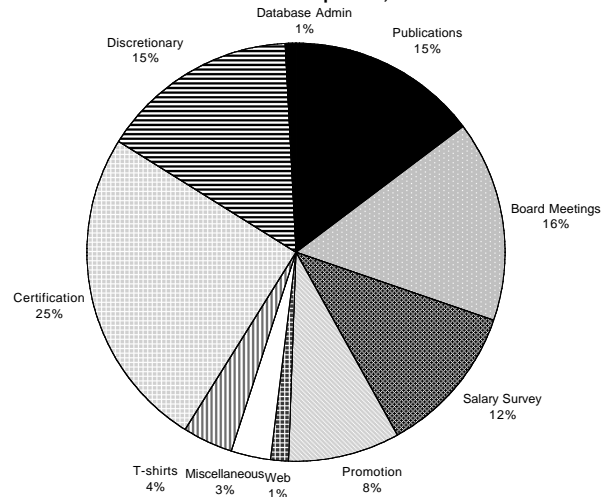


CHART 6
SAGE Direct Expenses, 2000



Projects and Good Works

The Association's healthy year-end budget was supported by strong returns on investments, which netted \$295,474 for the Good Works program. USENIX allocated over \$1,100,000 for its Good Works program, and spent nearly all of it in 2000. These funds are used to provide stipends to students to attend USENIX conferences, scholarships, support of student research, promote outreach to students on campuses, as well as several innovative, computing-related projects. The student stipend program offers trav-

el grants to enable full-time students to attend USENIX conferences and symposia. Over 360 institutions have been represented in the USENIX Student Stipend Program. To date, 113 schools have designated outreach representatives. The Student Program provides funding for scholarships and student research projects. In 2000, USENIX, in conjunction with Stichting NLnet of The Netherlands, initiated an international research exchange program for computer software-related networking technologies, called ReX. For more

information about Student Programs, see:
<http://www.usenix.org/students/students.html>.

STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2000 and 1999

	2000	1999
CASH FLOWS FROM OPERATING ACTIVITIES		
Increase in net assets	\$ 88,838	\$ 2,257,807
Adjustments to reconcile increase in net assets to net cash provided by/(used for) operating activities:		
Depreciation	67,545	44,498
Realized & unrealized gains on investments	348,608	(2,011,441)
Decr/(Incr) in receivables	(249,427)	(54,841)
Decr/(Incr) in inventory	(1,605)	3,767
Decr/(Incr) in prepaid expense	(36,281)	54,564
Incr/(Decr) in accrued expenses	725,661	(96,864)
Incr/(Decr) in deferred revenue	39,350	-
Total adjustments	<u>893,851</u>	<u>(2,060,317)</u>
Net cash provided by operating activities	<u>982,689</u>	<u>197,490</u>
CASH FLOWS PROVIDED BY/(USED FOR) INVESTING ACTIVITIES:		
Receipt of restricted funds [Note 9]		
Purchase of investments	(6,490,624)	(9,658,833)
Sale of investments	5,812,861	9,563,269
Purchase of property & equipment	<u>(199,911)</u>	<u>(74,236)</u>
Net cash used for investing activities	<u>(877,674)</u>	<u>(169,800)</u>
Net change in cash & equivalents	105,015	27,690
Cash & equivalents, beginning of year	<u>2,107,048</u>	<u>2,079,358</u>
Cash & equivalents, end of year	\$ <u><u>2,212,063</u></u>	\$ <u><u>2,107,048</u></u>

STATEMENTS OF FINANCIAL POSITION
As of December 31, 2000 and 1999

	2000	1999
ASSETS		
Current Assets		
Cash & cash equivalents	\$ 2,212,063	\$ 2,107,048
Receivables	364,982	115,555
Prepaid expenses	94,123	57,841
Inventory	<u>20,149</u>	<u>18,544</u>
Total current assets	2,691,317	2,298,988
Investments at fair market value	8,084,438	7,755,283
Property and Equipment		
Office furniture and equipment	497,378	297,467
Less: accumulated depreciation	<u>(209,984)</u>	<u>(142,439)</u>
Net property and equipment	<u>287,394</u>	<u>155,028</u>
	\$ <u><u>11,063,149</u></u>	\$ <u><u>10,209,299</u></u>
LIABILITIES AND NET ASSETS		
Liabilities		
Accrued expenses	\$ 860,225	\$ 134,564
Deferred Revenue	<u>39,350</u>	<u>-</u>
Total liabilities	<u>899,575</u>	<u>134,564</u>
Net Assets		
Temporarily Restricted Assets	51,000	
Unrestricted Net Assets	<u>10,112,574</u>	<u>10,074,735</u>
Net Assets	<u>10,163,574</u>	<u>10,074,735</u>
	\$ <u><u>11,063,149</u></u>	\$ <u><u>10,209,299</u></u>

STATEMENTS OF ACTIVITIES
For the Years Ended December 31, 2000 and 1999

	2000	1999
REVENUES		
Conference revenue (Exhibits A & C)	\$ 5,238,831	\$ 4,102,871
Workshop revenue (Exhibits B & D)	520,353	928,746
Conference & workshop sponsorship (Exhibits A & B)	246,325	
Membership dues	947,846	746,402
SAGE membership dues & other income	255,294	270,143
SAGE Certification sponsorship	51,000	
Product sales	<u>30,064</u>	<u>47,712</u>
Total revenues	<u>7,289,713</u>	<u>6,095,874</u>
OPERATING EXPENSES		
Conference expenses-direct (Exhibits A & C)	2,745,040	1,954,395
Workshop expenses-direct (Exhibits B & D)	461,664	728,771
Personnel & related benefits	1,302,055	1,136,834
Other general & administrative	899,228	628,736
Membership; login:	337,923	319,472
SAGE direct expenses	248,576	185,607
Product expenses	45,613	66,360
Projects & Good Works	<u>1,044,583</u>	<u>958,338</u>
Total operating expenses	<u>7,084,682</u>	<u>5,978,513</u>
Net operating surplus/(deficit)	205,031	117,361
NON-OPERATING ACTIVITY		
Donations	50,000	-
Interest & dividend income	298,381	215,943
Gains & losses on marketable securities	(348,608)	2,011,441
Investment fees	<u>(115,966)</u>	<u>(86,938)</u>
Net investment income & non-operating expense	<u>(116,193)</u>	<u>2,140,446</u>
Increase in net assets	88,838	2,257,807
Net assets, beginning of year	<u>10,074,735</u>	<u>7,816,928</u>
Net assets, end of year	<u>\$ 10,163,573</u>	<u>\$ 10,074,735</u>