SNIA

The Storage Networking Industry Association

Building a
Bright Future

ANNUAL REPORT 2001

The SNIA Vision

The Storage Networking Industry Association (SNIA) is the point of cohesion for developers of storage and networking products in addition to system integrators, application vendors, and service providers as the world computer systems market embarks on the evolutionary journey called storage networking. SNIA is uniquely committed to delivering architectures, education, and services that will propel storage networking solutions in the broader market. Storage networking represents the next step of technological evolution for the networking and storage industries. It is an opportunity to fundamentally improve the effectiveness and efficiency of the storage resources employed by the IT community.

The SNIA Mission

The mission of the Storage Networking Industry Association is to ensure that storage networks become efficient, complete, and trusted solutions across the IT community.

BUILDING A BRIGHT FUTURE

I am honored to have the opportunity to lead the Storage Networking Industry Association (SNIA) into its fifth year. 2001 was a remarkable year in that membership grew by 26%, the SNIA Technology Center was established, new marketing forums were incorporated under the SNIA umbrella, and our membership and conferences expanded overseas to Europe and Japan. In addition, our Technical Council developed the Shared Storage Model, a breakthrough reference model for shared storage architectures, and our Education Committee launched the first vendor-neutral certification program for IT professionals.

The dedication of the SNIA's leaders and members in the past will help to ensure a bright future for storage networking. Looking ahead to maintaining the long-term health of the organization, the SNIA Board of Directors has identified goals for 2002 that fall into three broad categories: Technical Programs, Customer Education, and Market Development. Initiatives in each category will include:

TECHNICAL PROGRAMS

- Create synergy across Technical Work Groups to accelerate development of heterogeneous storage network management solutions
- Facilitate interoperability through developers' conferences and events such as the CIFS Conference & Plugfest and the IP SANFest
- Drive standards adoption through implementation of the Interoperability Conformance Testing Program (ICTP)
- Revise and extend the SNIA Shared Storage Model

CUSTOMER EDUCATION

- Rollout remaining levels of the SNIA FC-SAN Certification program
- Develop training company accreditation program
- Provide tutorial content for workshops at the SNIA Technology Center and at other venues

MARKET DEVELOPMENT

- Establish new membership classes, such as for integrators, consultants and VARs
- Grow and expand Storage Networking World® conferences in the U.S., Europe and Japan
- Support marketing forum activities (IP Storage Forum, Supported Solutions Forum, and DAFS Implementers Forum)
- Establish Consumer Executive Council to capture and communicate end user requirements

The SNIA has developed into a mature organization, but we need to increase our role in providing storage networking education and technical leadership to the IT community. By fulfilling our initiatives in 2002, we will ensure that the SNIA shines brightly this year and in the years to come.

Brad Stamas

SNIA Board Chairman

NEW INITIATIVES, PROGRAMS, AND ORGANIZATIONAL STRUCTURE

As I reflect on our accomplishments over the last year, 2001 was indeed the growth year for the association. All of our hard work and planning leading up to 2001 had positioned the SNIA as a strong, vibrant organization. In 2001 we executed our plan, taking the SNIA to new heights. In the past the SNIA focus has been to "set the pace for the industry"... in 2001, the SNIA began to hasten the pace for the industry with new and innovative initiatives, programs, and organizational groups.

Our organization moved quickly and efficiently in FY2001, demonstrating our flexibility and ability to adapt rapidly in a changing environment. We significantly increased our full-time professional staff to help manage our activities, and we actively sought input from non-members such as end users and analysts to help guide the direction of our organization.

The following are examples of how the SNIA once again was able to "set the pace for the industry" in 2001:

• STORAGE NETWORKING WORLD® (SNW)—SNW has become recognized as the leading conference in the storage networking industry. Our strategic partnership with Computerworld enabled us to boost attendance growth; this year we set a new record in attendance by surpassing the 2,000-attendee mark at the Spring SNW conference in Palm Desert, CA. In 2001, SNW also established itself as the premier storage networking event overseas. SNW made its global debut with a January conference in Tokyo, Japan, and then again with Storage Networking World® EuroStorage® in Seville, Spain.

• FORUMS—The SNIA introduced forums into its organizational structure, with two regional and two marketing forums coming into the fold. SNIA Europe was established as a forum in June 2001, while SNIA Japan became a forum in August. Recognizing the need for SNIA members to collaborate to promote new technologies and industry concepts, the SNIA ratified the charters of two marketing forums, the IP Storage Forum and the Supported Solutions Forum, that operate semi-autonomously within the association.

• MEMBERSHIP GROWTH—I am extremely pleased to announce that membership topped the 300 mark for the first time. In each year of our existence, the number of new SNIA members has doubled. Planning was initiated in 2001 to expand the membership base to include channel partners and end users.

• FINANCIAL STABILITY—The SNIA took measured steps in 2001 to insure the long-term future of the organization and prepare for the outlays that will be necessary to fund large initiatives in 2002.

I would like to take this opportunity to thank the member companies and the individuals who have enabled the SNIA to excel over the past year. I attribute the tremendous progress our organization has made in such a short time to our members' dedication, insight, skill, and hard work. It is this vision, talent and dedication that will allow the SNIA to continue as a cohesive force that is driving the industry forward.
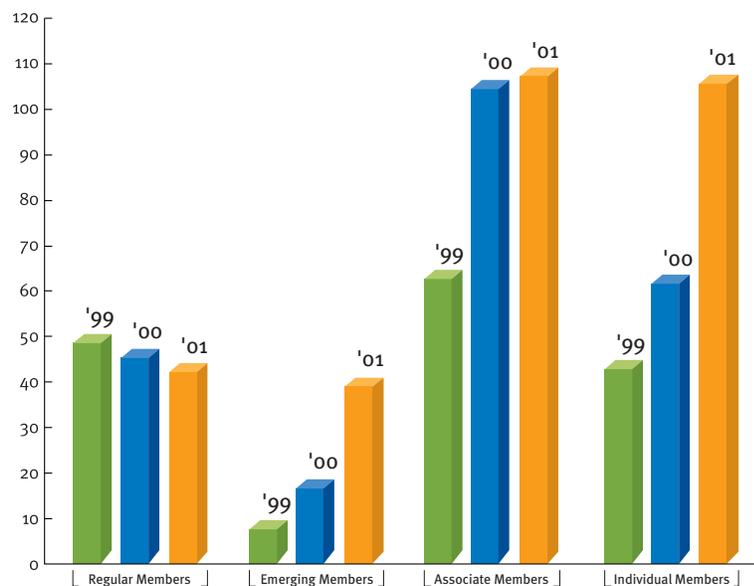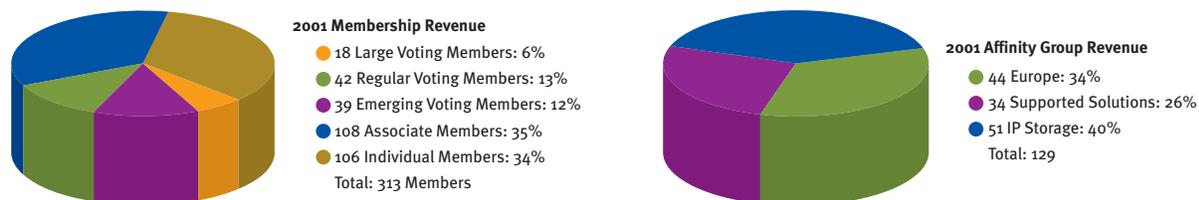
Larry Krantz

SNIA Chairman Emeritus

2001 Sees 26% Growth

Membership in the SNIA during FY2001 continued the strong growth experienced in the two previous years, with overall membership increasing sharply as a result of new SNIA initiatives and forums. Membership comprises more than 300 members, with a growth of 26% in FY2001. (A complete membership list is included in the appendices section.)

As shown in the chart below, there was particularly strong growth in the "Emerging Members" category due to a special program to encourage new members to join as full voting members rather than non-voting associate members. As a result, while Associate membership declined, it was more than offset by an increase in the voting categories of Emerging and Regular. Membership in the Individual category also nearly doubled.

There was also growth attributed to the SNIA's launching four new affinity groups: the IP Storage Forum, the Supported Solutions Forum, SNIA Europe, and SNIA Japan. These and other forums are expected to be an attractive reason for companies and individuals to join the SNIA in 2002.

2001 Membership Revenue
- 18 Large Voting Members: 6%
- 42 Regular Voting Members: 13%
- 39 Emerging Voting Members: 12%
- 108 Associate Members: 35%
- 106 Individual Members: 34%
  Total: 313 Members

2001 Affinity Group Revenue
- 44 Europe: 34%
- 34 Supported Solutions: 26%
- 51 IP Storage: 40%
  Total: 129

Despite the downturn in the economy heightened by the September 11 tragedy in New York, the outlook is for continued membership growth in 2002, with a goal of attracting IT firms which are major consumers of storage, storage resellers, and the community of storage press and analysts. The inclusion of these communities is expected to increase membership revenues and bring new perspectives to the table as the SNIA continues to develop its outbound marketing activities and current and new programs.

Membership Growth 1999–2001

A Framework for Shared Storage Architectures

The SNIA's greatest technical achievement last year was the publication of the "SNIA Shared Storage Model," which presents a simple graphical model for shared storage architectures and provides a common architecture vocabulary. The model is a framework that captures the functional layers and properties of a storage system. The model makes it possible to compare architectures and to describe them using a common vocabulary. The SNIA Shared Storage Model is a breakthrough in that it will help align the industry by providing a reference tool that customers can use to structure their choices and that vendors can use to explain where their products and services fit within the model.

"The US Army plans to replace optical disk storage technology with network storage for its Personnel Electronic Record Management System (PERMS). We are in the process of assessing multiple hardware and software products for the next step in managing the personnel records for the US Army National Guard at all 54 states and territories. The cooperative effort involved in developing the SNIA Shared Storage Model represents what the PERMS program needs." said James Riggs, Program Manager of the US Army PERMS.

In addition to expanding the SNIA Shared Storage Model in 2002, the Technical Council will develop a common industry-wide language to be used when describing products, technologies, methods, products and features in storage virtualization.

Technical Work Group Activities

During 2001 the SNIA Technical Work Groups were extremely active. A large part of the work accomplished in the SNIA Technical Work Groups is provided as input to standards bodies and organizations, where additional development may take place. Last year the SNIA provided technical input to the DMTF, T10, T11 and IETF organizations.

2001 Technical Highlights

• IP Storage Technical Work Group was formed as the primary technical focal point of the SNIA on IP Storage topics, coordinating with the SNIA IP Storage Forum's marketing and educational efforts. They are also the primary interface between the SNIA and other standards organizations working on IP Storage technology.

• NFS/RDMA Technical Work Group was formed to design a new open standard software transport layer to allow NFS to take advantage of new Remote Direct Memory Access (RDMA) transports.

• The CIFS 2001 Conference & Plugfest held in August attracted a large audience of CIFS developers. The event will help ensure product compatibility and interoperability for both current and future CIFS implementations and also assist in decreased time-to-market for new products and improved interoperability in the market place.

• The "Common Internet File System (CIFS) Technical Reference" which provides comprehensive documentation of the network protocol used by existing CIFS implementations was completed and will be published in early 2002.

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James Riggs
Program Manager
U.S. Army PERMS

THE "PERFECT PLACE" TO LEARN AND COLLABORATE

To fulfill the SNIA's vision and mission to deliver complete and trusted storage networking solutions to the IT community, the SNIA opened a 14,000-square-foot Technology Center in February 2001. The SNIA Technology Center, which was donated by SNIA member Compaq Computer Corporation, supports the development and deployment of new storage networking standards, technologies, and educational programs.

Located in Colorado Springs, Colorado, the Technology Center has proven in its first year of existence to be an invaluable resource to the SNIA. The state-of-the-art educational, lab, and meeting facilities provide a venue for industry members to collaborate and to accelerate the development of storage networking technologies.
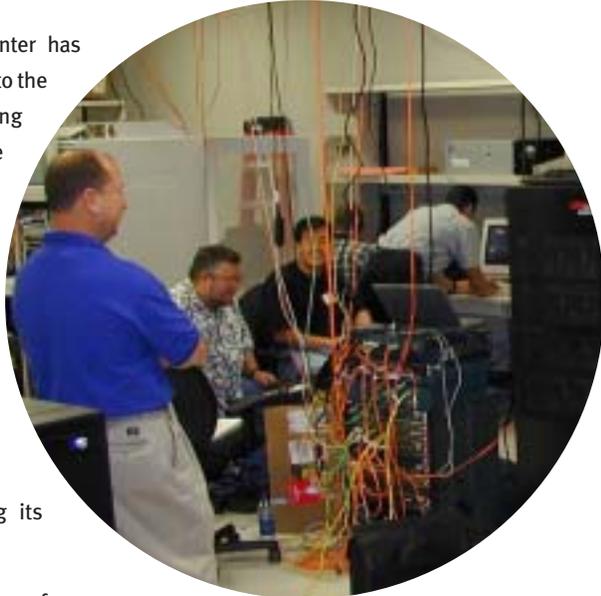
Michael Thorson, President of the Minnesota Open SAN Group, visited the Technology Center in the summer. "The SNIA Technology Center's fully equipped training areas are a perfect place for people to learn about storage networks and for peers to share their storage networking experiences," he said.

A sampling of Technology Center activities hosted during its inaugural year included:

SNIA members pre-stage a demo in the Tech Center's test labs.

• Technical Symposiums, in which more than 200 engineers from member companies convened quarterly to drive forward the SNIA's technical initiatives. The Technology Center supports the work of the SNIA's Technical Work Groups, and provides facilities and services that support management, interoperability, and standards development advances.

• Fibre Channel and iSCSI plugfest activities, where engineers of member companies gathered to test products and ensure adherence to standards and intended functionality.

• Proof-of-concept activities, where testing of complex storage networking configurations was conducted prior to deploying enterprise solutions at customer sites.

• Educational classes for member companies, which promoted the broadening of storage networking skills.

In 2002, the Technology Center will continue to support existing programs and implement new ones, including events targeting member companies and end users. The Technology Center is launching a series of workshops in 2002 that will provide rich, vendor-neutral educational content combined with advanced storage networking demonstrations.

Customers have lauded the Technology Center and its services. Daniel Klute, Senior Information Engineer of IT services firm Science Applications International Corporation (SAIC), remarked: "We have chosen to conduct testing at the SNIA Technology Center to work with the SNIA as an industry partner in understanding interconnectivity of devices, such as NAS, optical storage, disk arrays and CD-ROM devices. The Tech Center is also an environment in which we can feel comfortable conducting testing because the staff can audit what we're doing without being vendor-biased."

CONFERENCES AND SEMINARS: SHINING EXAMPLES OF EVENT SUCCESSES

The SNIA's CIFS Conference & Plug Fest 2001 was held in Bellevue, WA in August 2001. The event drew product strategists, architects, managers, and engineers involved with defining the latest design directions and implementations of the CIFS (Common Internet File System) protocol. In its third year, the two-day CIFS 2001 Conference featured technical presentations, with speakers sharing their technical experiences and expertise with the conference attendees. The 5-day CIFS client/server Plug Fest consisted of engineers working on various CIFS client and server implementations in a contained development and test environment to identify and fix implementation issues. Participants used the Plug Fest as an opportunity to share test suites and work out compatibility issues with their peers.

"The focus of the Conference and Plug Fest is on ensuring product compatibility and interoperability for both current and future CIFS implementations in the marketplace," said Chris Knowlton, SNIA CIFS Conference and Plug Fest Co-chair. "For the participants, it also translates into decreasing time-to-market for new products."

2001 was a busy year for the Storage Networking World® conference, co-produced by the SNIA and Computerworld. In addition to the spring and fall conferences in the U.S., SNW conferences took place abroad for the first time in Europe and in Japan.

Industry attendees, including end users, analysts, and members of the press, flocked to the conferences, with the spring show exceeding 2,000 attendees—record-breaking attendance for SNW.

Post-September 11th, the SNW fall conference still managed to draw nearly 1,500 attendees. "The large number of users, vendors, industry visionaries, press, and analysts at Storage Networking World® Fall 2001 is testament to the increasing role of storage network management, interoperability and recovery for organizations worldwide," said Ron Milton, vice president and general manager, strategic programs, Computerworld. "In the United States and around the globe, the Storage Networking World® events repeatedly draw impressive representation from the IT and storage communities in terms of the quality and the number of attendees."

The SNW conference features keynote speakers representing the brightest minds in the industry, end user case studies, town hall-style panels, a large expo area, and the SNW Interoperability Lab, where more than 50 SNIA member companies join each conference to demonstrate storage networking solutions.

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Ron Milton
Vice President and General Manager, Strategic Programs
Computerworld

EDUCATION: LAUNCHING A VENDOR-INDEPENDENT CERTIFICATION PROGRAM

The Education Committee launched the SNIA Storage Networking Certification Program in October 2001 to provide exams that validate the expertise and knowledge of storage networking professionals. The association partnered with SNIA member Infinity I/O to develop the first multi-level exam module, SNIA Fibre Channel-SAN Certification. This certification module consists of four levels: Professional, Practitioner, Specialist and Expert, with the latter three being for professionals who have technical job functions. More than 400 people participated in the beta exams for the Fibre Channel-SAN Certification, and storage networking professionals worldwide have taken or registered to take the Level 1 and 2 exams since their launch.

Quoted in InfoStor magazine, SNIA Education Chair Paul Massiglia discussed the dearth of trained technical staff, citing this problem as "one of the biggest barriers to adopting storage networks." "The market needs trained professionals, and the FC-SAN certification program will provide objective credentials that IT managers can use to evaluate potential hires," said Massiglia.

The SNIA Storage Networking Certification Program is the first vendor-independent certification in the industry and was developed to complement vendor-specific certification programs. Future modules of the SNIA SNCP are expected to include storage networking topics such as Network Attached Storage (NAS), IP Storage, as well as applications such as backup and restore and capacity planning.

Other Education Committee activities in 2001 included developing and presenting technical tutorials at the SNW conferences in the U.S. and in Europe, maintaining the online SNIA Dictionary of Storage and Storage Networking Terminology, capturing end user success stories, and maintaining an online "Courseware Directory Program" where SNIA member companies who offer training can list their courseware on the SNIA website.

Gene Chesser of Compaq and Deborah Littlefield of Spectra Logic are awarded certificates for their top scores on the FC-SAN Certification exams.

INTEROPERABILITY: PREPARING STORAGE NETWORKS FOR PRIME TIME

Throughout 2001, the SNIA Interoperability Committee expanded its work to promote standards-compliant interoperability of storage networking products. The activity is driven by customer demand for shared storage solutions that are more easily deployed and supported and which conform to open systems standards. By assuming the task of validating product interoperability, the SNIA Interoperability Committee is providing demonstrable proof that storage networking is ready for prime time enterprise storage applications today.

Three major interoperability events during 2001 were staged at the SNIA Technology Center: the Grand Opening of the facility in February, the spring Storage Networking World® Conference in Palm Desert, CA in April, and the fall Storage Networking World® Conference in Orlando, FL in October. These three events highlighted complex interoperability demonstrations involving over 60 SNIA member companies. A wide range of business storage applications were shown, including high availability, local and remote tape backup, storage consolidation, storage over WANs, and storage management. In addition, emerging technologies such as storage virtualization, IP storage and Infiniband were showcased.

At the fall Storage Networking World® Conference, the Interoperability Lab theme featured the "LotsaData Corporation" to simulate business processes typical of enterprise networks that support manufacturing, branch office, data center and other locations. To be more closely aligned to real life storage applications, the Interoperability Lab hosted examples of database and online transaction processing over high-performance Fibre Channel and Gigabit Ethernet infrastructures. New shared storage solutions based on TCP/IP were presented by the IP Storage Forum, with over 25 member companies in the IP area alone.

These highly visible interoperability demonstrations have been extremely valuable for both customers and SNIA members. For customers, the interoperability demos provide an opportunity to see functional multi-vendor solutions that can be replicated at a customer site to solve storage problems. For SNIA members, the interoperability demonstrations provide an opportunity to work more closely with their peers and validate the functionality of their products in complex shared storage environments. As a consequence, the adoption of storage networking technology is accelerated as vendors and customers alike affirm the viability of these solutions for today's business needs.

In addition to interoperability demonstrations, the SNIA Interoperability Committee is working with the SNIA Technical Council and SNIA Technical Work Groups to create a program of standards compliance test suites. As the Technical Work Groups develop standards requirements for initiatives such as Extended Copy and storage management, the SNIA Interoperability Committee will provide automated test suites that can validate compliance of products to these new standards.

The Spring 2001 SNW Interoperability Lab in Palm Desert, CA.

MARKETING: SPREADING THE WORD ABOUT STORAGE NETWORKING

The SNIA Marketing Committee gained momentum by increasing its membership participation to support existing SNIA activities and execute new marketing initiatives. The committee focused on "spreading the gospel" of storage networking and promoting the technology's benefits to new and existing audiences.

The committee conducted its marketing activities by participating in various events and contributing articles and interviews to industry publications throughout the year. The SNIA was an exhibitor at Networld+Interop, CA World, COMDEX, SNW, and the Enterprise Storage Strategies Conference. SNIA representatives were the keynote speakers at various conferences and events, including international venues such as the five-city SAN/NAS Summit and the Storage Management Strategies conference in Canada, SAN World Asia 2001 in Singapore, a Fibre Channel Conference in Maastricht, Holland, and the 3rd Data Storage Expo and Conference in Tokyo, Japan. The SNIA also provided speakers for industry events in the U.S. such as SAN Tech Exchange in San Jose, CA and the Enterprise Storage Strategies conference in Boston, MA as well as for user group events.

In support of all SNIA activities, the SNIA marketing team issued at least one press release per month and also facilitated interviews of SNIA's subject matter experts and board members for articles in trade, technology and international publications such as Computerworld/SNWOnline, InfoStor, SearchStorage.com, Storage UPDATE, Asia Pacific Development, China Connect, CIO Magazine, Communications and Networking, Integrated IT Solutions, and Retail Banking Technology.

New initiatives included the distribution of CDs containing SNIA white papers and the Dictionary of Storage Networking Terminology at storage events and via direct mail, and the creation of a directory of member companies by product category. In addition, developing strategic alliances is a major committee goal for 2001 and 2002. The team has already made great strides in establishing key relationships and alliances with other associations, publications, research analyst and investment firms, and end user and other IT groups.

The platinum sponsors exhibition area at the Fall SNW in Orlando, FL.

SNIA EUROPE: INFORMING AND EDUCATING THE EUROPEAN COMMUNITY

The charter for SNIA Europe was ratified in June 2001, but its success stems from the contributions of its members. Dedicated to the mission of delivering information and vendor-neutral education about storage networking to the European community, SNIA Europe developed the following organizational mechanisms and programs to help achieve its goals in 2001:

SNIA EUROPE WEBSITE (WWW.SNIA-EUROPE.ORG)

Despite only having been launched for six months, SNIA Europe's website boasts 60,000 visitors per month, an impressive number for a trade association site in its early days. This can be explained by the valuable content provided by SNIA Europe members.

SNS MAGAZINE

The first European magazine dedicated to storage, SNS was launched with the help of SNIA Europe, which formed an Editorial Board to review the magazine content and ensure that it remains vendor and technology agnostic. The magazine has a wide distribution in Europe, with its main subscriber audience being end users.

STORAGE NETWORKING WORLD®–EUROSTORAGE®

SNW made its debut in Europe at the Storage Networking World®–EuroStorage® conference in Seville, Spain in September. The conference was the first pan-European storage event of its kind, representing a great contribution to the European IT community. The next SNW–EuroStorage® conference will take place in June 2002 in Cannes, France.

COMMITTEES

SNIA Europe has formed pan-European regional Committees as well as functional committees. Regional or "country" committees have been established in the UK, France, and Germany to meet the diverse needs of individual European markets. Additional regional committees will be formed in 2002. "Functional" committees such as the Education Committee have begun defining guidelines, coordinating activities with the regional committees and participating in various SNIA Europe marketing activities. The Education Committee has been particularly active and is developing and delivering storage networking tutorials in different regions and in local languages and also launched the SNIA Storage Networking Certification Program in conjunction with the U.S. launch.

END USER ADVISORY BOARD

One of SNIA Europe's biggest challenges is to attract end user participation in its activities. The forum took the initiative of creating the End User Advisory Board, whose mission is to provide recommendations to help SNIA Europe develop its SNW conference agenda, tutorials, and educational programs.

MEMBERSHIP

SNIA Europe's membership has grown rapidly, with 42 companies joining as members in 2001. The forum will focus on initiatives to attract more members in 2002 and the SNIA Europe leadership expects that membership will increase significantly.

SNIA Japan: Japan's Storage Portal

The SNIA Japan charter was ratified in August 2001 and the forum held its first general meeting August 27 in Tokyo. The mission of SNIA Japan is to promote the use of storage networking solutions across the IT community in Japan. SNIA Japan undertook the following activities in 2001 to accomplish its mission:

SNIA Japan Website
The website (http://www.snia-j.org) launched in September. The goal of the SNIA Japan website is to become the portal for storage networking vendors and IT companies in Japan by providing vendor-neutral information on storage networking, such as SNIA's technical achievements and educational materials translated into Japanese. Japanese translations of the SNIA dictionary and white papers will be made available on the website in the first half of 2002. SNIA Japan organized a Technical Working Group to supervise the translations.

Storage Networking World® (http://www.idg.co.jp/expo/snw)
Storage Networking World® was held in Tokyo November 26-27. SNIA Japan conducted three technical seminars:

> 1) Storage management for large scale SAN environments

> 2) iSCSI overview

> 3) Introduction to the SNIA Shared Storage Model

SNIA Chairman Hiroshi Yoshida also led a workshop to promote SNIA Japan and its activities. In addition, SNIA Japan November 27-29, 2002.

Publishing
SNIA Japan has been developing an educational book on storage networking technologies and solutions that will be published in the spring of 2002. Several SNIA Japan directors participated in writing technical articles and member companies contributed articles about available products that meet the storage demands that Japanese companies are facing today.

Membership
SNIA Japan has 18 regular members and 14 associate members. In 2002, SNIA Japan will poll its members to determine its activities for the year. Preliminary plans include increasing work on interoperability and delivering interoperability information via the web; planning a user-vendor symposium or a technical seminar; conducting Japanese customer requirement surveys; and developing the SNIA Japan website.

IP STORAGE FORUM: PROMOTING A FAST-DEVELOPING TECHNOLOGY

The SNIA IP Storage Forum began its first full year of operations in 2001. It elected officers and organized three subgroups based on three IP storage protocols (iSCSI, FCIP, iFCP).

MISSION

The forum's mission is to market and promote standards-based block storage networking solutions using IP networks by generating marketing collateral to explain principles, features and benefits, white papers to cover the technical aspects, educational presentations, and to participate in panels at conferences and trade shows. Its charter includes:

• Developing demonstrations and participating in SNIA events;

• Acting as an advocate for customer needs by conducting standards activities; and

• Fostering camaraderie among the forum's members.

ACHIEVEMENTS

The forum's activities and achievements in 2001 include:

• Press releases about the forum's inception and its activities

• Development of web pages for the forum and its subgroups

• Delivery of numerous informational white papers

• Panel discussion on IP Storage at Fall SNW

• Delivery of 3-hour education session on IP Storage at Fall SNW

• Co-sponsorship of first iSCSI and FCIP plugfest at the University of New Hampshire

• Coordination of the IP Storage demo at SNW, which included hosting a pre-staging event at the SNIA Technology Center

• Feedback into the iSCSI IETF group based on the plugfest

FUTURE PROJECTS

2002 promises to be a significant year for the IP Storage Forum based on expected progress on standards, the introduction of more IP Storage products leading to market enabling and growth opportunities, and the ideas and enthusiasm of our membership.

IMPORTANT PROJECTS FOR 2002 INCLUDE:

• Maturing processes for soliciting projects and investing in them

• Maturing processes for reviewing and delivering written materials (such as white papers)

• Moving to application and solution demonstrations and leveraging the Tech Center

• Further interacting with industry influencers

The initial year of the forum has been an extraordinary one as the more than 55 companies who joined as members are becoming increasingly active in forum activities. We look forward to further growth in membership and forum activity.

SUPPORTED SOLUTIONS FORUM: WORKING TO ENSURE CUSTOMER CHOICE OF SUPPORTED SOLUTIONS

The SNIA broke new ground in June 2001, setting the stage for true co-operability, when it announced the creation of the Supported Solutions Forum (SSF). For the first time in the highly competitive storage networking industry, competing vendors came together in an open, industry initiative to deliver jointly qualified, pre-tested, interoperable configurations that are cooperatively supported. Formation of the SSF was a direct response to strong customer demand for open, heterogeneous and supported storage networking solutions. The SSF membership roster now stands at 35 companies, with a broad level of industry participation. The member companies are extremely active in Forum activities—from attendance at meetings to dedicated participation in detailed subgroup tasks, we are very encouraged by the enthusiasm of our members. These otherwise fiercely competitive players helped get the SSF organized, establish definitions and guidelines, set processes in motion, and continue to work together demonstrating their commitment to the SSF's mission.

SHARP FOCUS
The SSF is uniquely positioned to accelerate customer implementation of storage networking solutions by tackling two of the most pressing customer requirements– technical interoperability and cooperative support. Earlier this year, the SSF organized into two independent subgroups to drive activities that parallel these requirements–the Interoperable Configurations Subgroup (ICS) and the Cooperative Support Subgroup (CSS).

ADVANCING INTEROPERABILITY
One of the initial tasks completed by the ICS was documenting the process and guidelines for submission and registration of supported solutions. The document and a helpful check-list are available on the SSF web site. The subgroup defined specific criteria that a solution must meet in order to be qualified as a supported solution. These solution definitions are intended to promote development of solutions that offer the customer more choice and flexibility than otherwise might be expected within today's market offerings.

PROMOTING SSF–REGISTERED SOLUTIONS
The ICS established and now maintains a Registry of supported solutions on the SSF's web site. With the process documentation complete, Registry online, and just a week after the election of SSF review board members, the review board was diligently evaluating the first solution submitted by a consortium of vendors under the new guidelines. Within a week, the solution was approved, announced and added to the SSF Registry of supported solutions. The ICS plans to be busy reviewing members' supported solutions submissions through 2002. The SSF will continue to accelerate industry marketing and promotional activities as the solutions are added to the Registry.

EMBRACING COOPERATIVE SUPPORT
The CSS prepared a cooperative support agreement (CSA) template to assist vendors in establishing cooperative relations with one another. In December, the SSF membership and the SNIA executive committee voted to support a TSANet administered service community as an option for delivery of cooperative support for solutions registered with the SSF. The CSS is now working on implementation of this open group relationship. Whether the vendors choose to use bi-lateral CSAs or participate in the open group relationship, the end result is the same–competing vendors can and will work together to support the solutions they have developed.

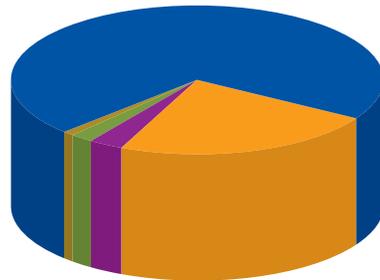### GAINING VALUABLE CUSTOMER INSIGHTS
The SSF will be creating a Customer Advisory Council to gain perspectives from industry leaders on current and future interoperability and support requirements for supported solutions. The Customer Advisory Council is a critical component of the Forum's overall strategy and will be instrumental in helping SSF member companies identify synergies and jointly develop innovative storage networking solutions that meet the key drivers of storage networking customers.

Fiscal Year 2001 provided another solid year of growth for the SNIA as revenue once again exceeded expenses. The increase in support and in total unrestricted net assets was aided by stronger than expected membership gains, increased event revenue, the institution of SNIA Forums, and delayed Technology Center expenditures.

Our financial reserve will be challenged in the coming year due to industry contraction, an anticipated slowing in our membership growth rate, and a full year of expenditures for ongoing SNIA projects such as marketing, conference staffing, technology center and global expansion.
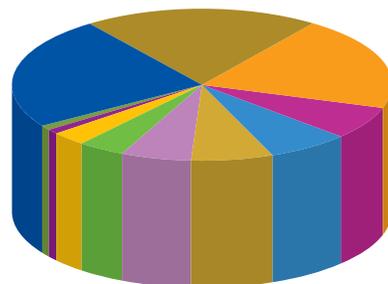
The financial breakdown outlined below will give you a clear picture of where SNIA revenues are coming from and where we have disbursed those funds. The SNIA's accounting firm McCahan, Helfrick, Thiercof, & Butera of San Jose California provides the following figures:

Total Support And Revenue For The Year Ended November 30 2001 . . . .$3,701,151

Total Expenses For The Year Ended November 30, 2001 . . . .$2,208,656

Increase In Unrestricted Net Assets $1,492,495

2001 Revenue Sources

- Member Dues: 71%
- Event Revenue: 23%
- Technology Center Revenue: 3%
- Interest Income: 2%
- Other Revenue: 1%

2001 General and Administrative Expenses

- Staff: 24%
- Technical Center (including staff): 20%
- Operations: 20%
- Work Group and Committee Support: 7%
- Event Expenses: 7%
- General Professional Support: 7%
- Technical Director: 6%
- Forums: 4%
- Program Services: 3%
- Board of Directors: 1%
- Technical Council: 1%

NOTE: A complete financial summary is available from the SNIA office by calling 650.949.6720 or by e-mailing a request to info@snia.org

2001 will be remembered as a challenging year in the technology industry. The impacts of a slower economy were felt across all segments as evidenced by weaker revenue and significantly reduced valuations over the course of the calendar year. Though not immune to these factors, the Storage Networking segment offered a bright spot for technology investors as the leading players in the market managed to post modest revenue growth in 2001. As a result, Storage Networking advanced its status in the technology field as a key source of growth in the years to come.

The economic downturn had far reaching effects in the Storage Networking field, however, as both end users and industry participants approached their R&D budgets with a higher degree of scrutiny as the year progressed. Many in the industry were impacted, though the dozens of startup companies in the segment were perhaps the hardest hit. As an example, the year began with high hopes for TCP/IP Ethernet as a block storage network transport alternative. By year-end, Ethernet-centric storage solutions for block I/O had been delayed to late 2002 due to R&D budget constraints. This was just one of the many outfalls of the economic downturn that made raising capital extremely difficult in the startup realm.

In the public markets, the disk array vendors experienced intense competition as per-megabyte pricing plummeted amidst the weaker economy. End users benefitted tremendously as the price tag for new data capacity dropped by as much as 50% from the year before. Meanwhile, vendors considered new sales strategies that relied more upon channels and system integrators in order to improve revenue efficiency.

By mid-2001, the economic picture for the Storage Networking industry had stabilized, but questions arose as to the degree of stability once the events of September 11 transpired. However, if there was a silver lining amidst the tragedies, it was the increasing emphasis on disaster recovery solutions as a result of these events. Suddenly, many vertical markets that had never seen the need for Storage Networking solutions were exploring their benefits, particularly in the mid-range of the market where data protection strategies were almost non-existent. As a result, the year finished on a stronger note, leaving hopes for a much healthier environment in 2002.

The rebounding economic conditions have helped re-ignite the focus on R&D, as well. Design activity for both InfiniBand and TCP/IP Ethernet solutions had intensified by the end of the year as both system and networking vendors aimed to improve their competitive positioning. This activity has helped bring about a valuation rebound in the public markets as improving revenue visibility attracted investors back to the Storage Networking segment. Should this continue, the likely outcome is further consolidation among the players in the Storage Networking arena. In fact, RBC Capital expects the traditional stalwarts in the computing industry to intensify their efforts in the battle to control the data center in the year ahead.

Steve Denegri
Managing Director, System Area Networking Research
RBC Capital Markets

2001–18 Large Voting Members
- AT&T
- BMC
- Brocade Communications Systems
- Cisco Systems
- Compaq Computer Corporation
- Computer Associates
- Dell Computer
- EMC Corporation
- Hewlett-Packard
- Hitachi Data Systems
- IBM
- Intel Corporation
- Maxtor Corp.
- Nortel Networks
- Quantum, Data Protection Division
- Seagate Technology
- StorageTek
- Sun Microsystems
- VERITAS Software

2001–42 Regular Voting Members
- AccessColo
- Adaptec
- ADIC
- ADVA Limited
- Agilent
- American Megatrends
- Brocade Communications Systems
- Cereva Networks, Inc.
- Ciprico, Inc.
- CMD Technology, Inc.
- CommVault Systems
- Computer Network Technology
- Crossroads Systems
- CrossStor Software Inc
- DataCore Software
- DataDirect Networks
- Dot Hill Systems Corp. (formerly Box Hill)
- Emulex Corp.
- Eurologic Systems
- Exabyte Corp.
- Fujitsu Software Technology Corp. (formerly Amdahl Corp.)
- Gadzoox Networks
- INRANGE Technology Corp.
- ITIS Services
- Legato Systems
- LSI Logic
- ManagedStorage International
- McDATA Corp.
- NetConvergence, Inc.
- Network Appliance
- Network Storage Solutions
- Nishan Systems, Inc.
- OTG Online Technologies Group, Inc.
- PANASAS Inc
- Pirus Networks
- Procom Technology, Inc.
- QLogic
- SANavigator, Inc. (formerly Connex)
- sanrise, inc.
- Syncsort Inc.
- Troika Networks
- Vixel Corp.
- Xyratex

2001–39 Emerging Voting Members
- AccessColo
- AES Networks, Inc.
- Alacritech
- Andiamo Systems, Inc.
- Atempo (formerly Quadratec)
- Broadband Storage, Inc.
- Cloverleaf Communications
- CreekPath Systems
- Digital Appliance Corp.
- Ecrix Corp.
- Falconstor, Inc.
- FileFish, Inc.
- Infinity I/O
- Intelligent Information Systems Ltd.
- InterSAN
- iReady Corp.
- KnowledgeTek, Inc.
- KOM Networks
- Maranti Networks, Inc.
- Netreon
- Nexsan Technologies, Inc.
- Nth Generation Computing, Inc.
- Platys Communications
- PolyServe, Inc.
- Prisa Networks
- Raidtec Corp.
- SANcastle Technologies, Inc.
- Sanera Systems
- SAN Valley System
- SANgate Systems
- SanOne
- Solution Technology
- Spinnaker Networks, Inc.
- Stonefly Networks, Inc.
- StoreAge Networking Technology
- Tek-Tools, Inc.
- Times N Systems, Inc.
- Trebia Networks, Inc.
- TrelliSoft, Inc.

2001–47 European Members
- Adaptec
- ADIC
- Aino
- Auspex Systems
- Atempo
- BMC Software
- Compaq EMEA
- Computer Associates
- DataCore Software
- Datasave
- EMC
- Dell Computer
- Eurologic Systems
- FalconStor
- Gadzoox
- Fujitsu Siemens Computers
- Hewlett-Packard EMEA
- Hitachi Data Systems
- IBM France
- ISIT - The Storage Company
- JNI Corporation
- Legato Systems
- Neartek
- NEST
- Network Appliance

2001–European Members (Continued)
- Positiv
- Perot Systems
- Quantum, Data Protection Division
- SM Data
- Solution Technology
- Sony
- StoreAge Networking Technology
- StorageTek
- Sun Microsystems
- Systematics AG
- TBA - Telemática e Burótica
- TIM
- Texas Memory Systems
- Tidalwire
- Times N Systems
- Tokyo Electron America
- Tom Sawyer Software
- Tricord Systems
- TrueSAN Networks
- Unisys
- YottaYotta
- Zyfer

2001–108 Associate Members
- 3COM Corp
- Agile Storage Inc.
- AKARA Corp.
- Appliance Ware Inc
- Aristos Logic Corp.
- Arsenal Digital Solutions
- Atto Technology, Inc.
- Auspex Systems Inc
- Avaya
- Axis Communications
- BakBone Software
- BellSouth
- Benchmark Storage Innovations, Inc.
- BiTMICRO NETWORKS, Inc.
- BlueArc Corp. (formerly Synaxia Networks)
- Bull Storage Solutions
- Cambex Corp
- Chaparral Network Storage, Inc.
- Chevron
- ComputerWorld
- Cranel, Inc.
- Cutting Edge
- Datalink
- DataPeer Inc. (formerly 3W Corp)
- E-Datagroup
- Entrada Networks
- ETRI
- Evaluator Group, Inc.
- Exanet
- Invio (formerly Finestra Software Inc.)
- Finisar Corp.
- Fortel
- Fujitsu Computer Products
- General Atomics
- Genroco Inc
- Great Northern Consulting Services
- I-Tech Corp.
- ICP Vortex ComputerSysteme
- InfiniCon Systems Inc.
- Informix Software
- INLINE Corp.
- InTechnology plc

2001–108 ASSOCIATE MEMBERS (CONTINUED)
- INTEGRIX, INC.
- INTERPHASE CORP.
- JMR ELECTRONICS
- KEY LINUX
- KOREA ELECTRONICS TECHNOLOGY INSTITUTE
- KUOKOA NETWORKS, INC.
- LUCENT TECHNOLOGIES
- MICROSOFT CORP.
- MOLEX CONNECTOR CORP.
- MTI TECHNOLOGY CORP.
- MYRICOM INC
- NEC CORP.
- NETWORK ENGINES
- NEXL NETWORK SYSTEMS
- NOVELL, INC.
- NSI SOFTWARE
- nSTOR
- NTT NIPPON TELEGRAPH & TELEPHONE CORP.
- ONI SYSTEMS
- OPEN SOURCE ASIA, INC.
- PIHANA PACIFIC, INC.
- PLASMON
- QUALSTAR CORP.
- RADIANT SOFTWARE
- RHAPSODY NETWORKS
- SGI
- SMART STORAGE INC
- SMS DATA PRODUCTS GROUP INC
- SOLID DATA SYSTEMS
- SONY
- SPECTRA LOGIC CORP.
- ST. BERNARD SOFTWARE INC
- STONESOFT, INC.
- STORAGE AREA NETWORKS, INC.
- STORAGE COMPUTER CORP.
- STORAGE ENGINE INC.
- STORAGENETWORKS INC
- STORLOGIC
- SYCAMORE NETWORKS
- SYNTAX
- TANDBERG DATA INC
- TANTIA TECHNOLOGIES
- TEXAS MEMORY SYSTEMS
- TIDALWIRE INC.
- TOKYO ELECTRON LIMITED
- TOM SAWYER SOFTWARE
- TOMTEC CO., LTD.
- TRAAKAN INC
- TRICORD SYSTEMS
- TRILLIANT GROUP
- TRUESAN NETWORKS
- TURBO LINUX
- UNISYS CORP.
- VANGUARD TECHNOLOGY
- VIATHAN CORP.
- VICOM SYSTEMS, INC.
- VION CORP
- VISION SOLUUTIONS INC
- VITESSE SEMICONDUCTOR CORP
- VMIC
- WORLDSTOR
- YOTTAYOTTA, INC.
- ZEROWAIT
- ZZYZX PERIPHERALS, INC.
- 3M

IP STORAGE FORUM MEMBERS
- ADAPTEC
- ADIC
- AGILENT
- ALACRITECH
- ARISTOS LOGIC CORP.
- BROCADE COMMUNICATIONS SYSTEMS
- CEREVA NETWORKS, INC.
- CHAPARRAL NETWORK STORAGE, INC.
- CISCO SYSTEMS
- COMPAQ
- COMPUTER ASSOCIATES
- COMPUTER NETWORK TECHNOLOGY
- CROSSROADS SYSTEMS
- EMC
- EMULEX CORP.
- EUROLOGIC SYSTEMS
- FALCONSTOR, INC.
- FUJITSU COMPUTER PRODUCTS
- HEWLETT-PACKARD
- HITACHI DATA SYSTEMS
- IBM
- INRANGE TECHNOLOGY CORP.
- INTEL CORP.
- iREADY CORP.
- LEGATO SYSTEMS
- LSI LOGIC
- LUCENT TECHNOLOGIES
- McDATA CORP.
- MTI TECHNOLOGY CORP.
- NEC CORP.
- NETCONVERGENCE, INC.
- NISHAN SYSTEMS, INC.
- PIRUS NETWORKS
- QLOGIC
- QUANTUM | ATL
- SAN VALLEY SYSTEM
- SANCASTLE TECHNOLOGIES, INC.
- SPECTRA LOGIC CORP.
- STONEFLY NETWORKS, INC.
- STORAGETEK
- STOREAGE NETWORKING TECHNOLOGY
- TOKYO ELECTRON LIMITED
- TREBIA NETWORKS, INC.
- TROIKA NETWORKS
- VIXEL CORP.

SUPPORTED SOLUTIONS FORUM MEMBERS
- ADAPTEC
- ADIC
- AT&T
- BROCADE COMMUNICATIONS SYSTEMS
- CEREVA NETWORKS, INC.
- CHAPARRAL NETWORK STORAGE, INC.
- COMMVAULT SYSTEMS
- COMPAQ
- CROSSROADS SYSTEMS
- DATACORE SOFTWARE
- DELL COMPUTER CORP.
- EMC
- EMULEX CORP.
- HEWLETT-PACKARD
- HITACHI DATA SYSTEMS
- IBM
- INRANGE TECHNOLOGY CORP.
- JNI CORP.
- LEGATO SYSTEMS
- LSI LOGIC
- McDATA CORP.
- MTI TECHNOLOGY CORP.
- QLOGIC
- QUANTUM | ATL
- SEAGATE TECHNOLOGY
- SPECTRA LOGIC CORP.
- STORAGETEK
- SUN MICROSYSTEMS
- TROIKA NETWORKS
- VERITAS SOFTWARE CORP.
- VIXEL CORP.

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Kumar Malavalli–Brocade
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Paul Massiglia–VERITAS
Tom Clark–Nishan Systems
Larry Cormier–CommVault Systems
Jonathan Otis–ADIC
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Vincent Franceschini–Hiatchi Data Systems

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Garth Gibson–Panasas
Dave Anderson–Seagate Technology
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