THE INTERNET

AND THE

INTERNET SOCIETY

Vinton G. Cerf

January 1993

internet map

An international professional society intended to advance and guide the development of the Internet for purposes of research, education and widespread, international use.

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The INTERNET SOCIETY provides:

o A *focus* for collaboration

o A *forum* for debate and discussion

o A *source* of shared values

o A *guide* for Internet evolution

o A *stimulus* for wider use

and

o A *vehicle* for education and research

SUMMARY OF ARTICLES OF INCORPORATION
INTERNET SOCIETY

1. Name

The name of the Corporation is Internet Society ("the Society").

2. The period of its duration is perpetual.

3. Purposes

To be a non-profit corporation, which shall be operated exclusively for educational, charitable and scientific purposes. Such educational, charitable, and scientific purposes shall include carrying on activities:

A. To facilitate and support the technical evolution of the Internet as a research and education infrastructure, and to stimulate the involvement of the scientific community, industry, government and others in the evolution of the Internet;

B. To educate the scientific community, industry and the public at large concerning the technology, use and application of the Internet;

C. To promote educational applications of Internet technology for the benefit of government, colleges and universities, industry, and the public at large;

D. To provide a forum for exploration of new Internet applications, and to stimulate collaboration among organizations in their operational use of the global Internet.

The Society shall take such actions as may be necessary or convenient to effect any or all of the purposes for which the Society is organized.

4. Stock

The Society shall not issue any capital stock.

5. Membership

The Society shall have student, individual and organizational members. Only regular individual members shall have the right to vote.

6. Board of Trustees

The initial Board of Trustees of the Society are the following individuals, namely, Charles N. Brownstein, Vinton G. Cerf, A. Lyman Chapin, Ira Fuchs, Frode Greisen, Juergen Harms, Geoff Huston, Robert E. Kahn, Tomaz Kalin, Kenneth M. King, Lawrence H. Landweber, Kees Neggers, Michael M. Roberts and Anthony M. Rutkowski.

7. Regulation of internal affairs

A. No part of the net earnings of the Society, if any, shall inure to the benefit of, or be distributable to, any of the Trustees or officers of the Society, or any other person, except that the Society shall be authorized and empowered to pay reasonable compensation for services rendered. No substantial part of the activities of the Society shall be the carrying on of propaganda, or otherwise attempting, to influence legislation. The Society shall not participate in, or intervene in (including the publishing or distributing of statements), any political campaign on behalf of any candidate for public office.

B. The Articles of Incorporation may be amended by the affirmative vote of at least four-fifths of the members of the Board of Trustees then in office, except that unanimous consent of the members of the Board of Trustees then in office shall be required for any amendment of this Article 7.

C. Upon any liquidation, dissolution, or winding up of the Society, after all of its liabilities and obligations have been paid, satisfied and discharged, or adequate provision has been made therefor, all of the assets of the Society shall be distributed exclusively for such educational, charitable and scientific purposes as the Board of Trustees (or such other persons as may be in charge of liquidation) shall determine.

These articles have been adopted by the Trustees of the Society.

December 10, 1992

Calendar of Events

6/91	Formation announced - INET - Copenhagen
9/91	Secretariat Formed - Reston, Virginia, USA
10/91	Memberships Accepted
1/92	First issue - *Internet Society News*
2/92	First Trustees Appointed
3/92	Initial By-Laws Adopted
5/92	Second Issue - *Internet Society News*
6/92	First Board, Council and Member Meeting INET 92, Kobe, Japan
9/92	Third Issue - *Internet Society News*
12/92	Second Board Meeting Reston, Virginia, USA
12/92	Final incorporation of Internet Society
12/92	Fourth Issue - *Internet Society News*

Planned

1/93	First Election of Trustees
2/93	Network and Distributed System Security Workshop (w/ IRTF's PSRG and LLNL) nessett@llnl.gov
3/93	Computers, Freedom and Privacy (w/ ACM) March 9 - 12, 1993 cfp93@well.sf.ca.us
5/93	Joint European Networking Conference (w/ RARE) May 10 - 13, 1993 Trondheim, Norway raresec@rare.nl
8/93	Second Annual Meeting - INET 93 San Francisco, USA August 17-20, 1993 request@inet93.stanford.edu
6/94	Third Annual Meeting - INET 94 Europe

INTERNET SOCIETY COMMITTEES

Administrative

- Executive Committee
- Nominations
- Elections

Topical

- Developing Countries
- Disaster Relief Coordination
- Chapters
- Editorial Advisory Board

Liaison

- ITU
- CCITT
- ISO
- IFIP

Activities

- Technical information outreach
- Internet/OSINET hubs (COS)

<u>INTERNET SOCIETY PUBLICATIONS</u>

Internet Society News

<u>INTERNET SOCIETY CONFERENCES</u>

INET 92 - Kobe, Japan

INET 93 - San Francisco, USA
August 17-20, 1993

INET 94 - Europe
May/June

INET 95 - TBD

INTERNET SOCIETY

Officers

o	Vinton Cerf	President
o	Larry Landweber	Vice President/Conf.
o	Tony Rutkowski	Vice President/Publ.
o	Frode Greisen	Treasurer
o	Juergen Harms	Secretary
o	Michael Roberts	Executive Director (ex off. Trustee)

INTERNET SOCIETY TRUSTEES

Introducing the

Charter and Founding Organizational Members

CHARTER MEMBERS

CORPORATION FOR NATIONAL RESEARCH INITIATIVES

RESEAU ASSOCIEES POUR LA RECHERCHE EUROPEENNE

EDUCOM

FOUNDING MEMBERS

ADVANCED NETWORK & SERVICES

APPLE COMPUTER CORPORATION

AT&T

AUSTRALIAN ACADEMIC AND RESEARCH NETWORK

BELL COMMUNICATIONS RESEARCH

BOLT BERANEK AND NEWMAN

CISCO SYSTEMS

COALITION FOR NETWORKED INFORMATION

CORPORATION FOR OPEN SYSTEMS INTERNATIONAL

CORPORATION FOR RESEARCH & EDUCATIONAL NETWORKING

DEFENSE INFORMATION SYSTEMS AGENCY

DIGITAL EQUIPMENT CORPORATION

EUROPEAN ACADEMIC RESEARCH NETWORK

EUROPEAN LABORATORY FOR PARTICLE PHYSICS

FREEPORT-MCMORAN

HUGHES AIRCRAFT COMPANY

INTERNATIONAL BUSINESS MACHINES CORPORATION

FOUNDING MEMBERS (Cont.)

INTEROP COMPANY

ISRAELI INTER-UNIVERSITY COMPUTATION CENTER

MCI COMMUNICATIONS CORPORATION

MICROSOFT CORPORATION

NATIONAL LIBRARY OF MEDICINE

NORDUNET

NOVELL, INC.

NYSERNET, INC.

PROTEON, INC.

SIEMENS AG

SOFT-SWITCH, INC.

SOFTWARE ENGINEERING INSTITUTE

SPRINT

3COM CORPORATION

UNIVERSITY OF NOTRE DAME

UNIVERSITY OF WASHINGTON

U S WEST COMMUNICATIONS, INC.

UUNET TECHNOLOGIES

WELLFLEET COMMUNICATIONS, INC.

ORGANIZATIONAL MEMBERS

ELECTRONIC FRONTIER FOUNDATION

NYNEX SCIENCE & TECHNOLOGY, INC.

TENON INTERSYSTEMS

Introducing the Internet Society

Advisory Council

Rick Adams	UUNET
Ed Albrigo	COS
Guy Almes	ANS
Stephen An	WELLFLEET
Michael Arnold	FREEPORT-MCMORAN
Cliff Bamford	MICROSOFT
William Biagi	COS
Daniele Bovio	EARN
David Brandin	INTEROP COMPANY
George Buchanan	HUGHES AIRCRAFT COMPANY
Lee Caldwell	NOVELL
Michael Carter	APPLE
Steve Cisler	APPLE
Michael Conn	MCI COMMUNICATIONS
Hans Deckers	EARN
Matthew Dovens	MCI COMMUNICATIONS
Robin Erskine	AARNET
David Farber	ELECTRONIC FRONTIER FOUNDATION
Francois Fluckiger	CERN
Howard Funk	IBM
Dain Gary	SOFTWARE ENGINEERING INSTITUTE
Cary Giese	U S WEST
William Grant	U S WEST
Terry Gray	UNIVERSITY OF WASHINGTON
Erik Grimmelmann	AT&T
Phil Gross	ANS
Anita Holmgren	TENON INTERSYSTEMS

Advisory Council (Cont.)

Steve Holmgrem	TENON INTERSYSTEMS
E.W. Bud Huber	HUGHES AIRCRAFT COMPANY
Ole Jacobsen	INTEROP COMPANY
Ron Johnson	UNIVERSITY OF WASHINGTON
Walter Johnston	NYNEX SCIENCE & TECHNOLOGY, INC.
Mitch Kapor	ELECTRONIC FRONTIER FOUNDATION
Anthony Lauck	DIGITAL
Donald Lindberg	NATIONAL LIBRARY OF MEDICINE
James Luckett	NYSERNet
Richard Mandelbaum	NYSERNet
Bruce Martin	IBM
Olivier Martin	CERN
Jeff Mayersohn	BOLT BERANEK AND NEWMAN
David McDonald	FREEPORT-MCMORAN
John Mullarvey	AARNET
Catherine Muther	CISCO SYSTEMS
C. Joe Pasquariello	DEFENSE INFORMATION SYSTEMS AGENCY
Andrew Partan	UUNET
Janet Perry	NOVELL
Paul Evan Peters	CNI
Rich Pethia	SOFTWARE ENGINEERING INSTITUTE
John Pickens	3COM
Werner Sammer	SIEMENS AG
Thomas Schwarcz	SIEMENS AG
Paul Severino	WELLFLEET

Advisory Council (Cont.)

David Sincoskie	**BELLCORE**
Leonard Swatski	**DEFENSE INFORMATION SYSTEMS AGENCY**
Dave Thompson	**MICROSOFT**
Michael Thurk	**DIGITAL**
Paul Tsuchiya	**BELLCORE**
Peter Villemoes	**NORDUNET**
Richard West	**CNI**

INTERNET SOCIETY STATISTICS

Organizational Members

• Charter Members	3
• Founding Members	
For-profit	21
Non-profit	15
• Organizational	3
Total	42

Individual Members

• Europe/Eastern Europe	220
• Asia	20
• Africa	32
• Pacific Rim	343
• North, Central and South America	944
• Middle East	17
Total	1576

Ten Critical Internet Development Areas

- o Growth
- o Internationalization
- o Commercialization
- o Security
- o Privacy
- o Mobility
- o Speed/Dynamic Range
- o Standards
- o Multimedia Applications
- o Distributed Computing

GROWTH

- o Approx. 10,000 networks on Internet
- o Add'l 20K not connected
- o About 7,000 routed through NSFNET
- o Class B limited to 2**14 nets (~16K)
- o Class C has 2**21 nets (~2M)
- o Sparse utilization of address space
- o Overloading of routing system
- o No topological discipline!
- o RIP -> OSPF or IS-IS
- o EGP -> BGP or IDPR (long term)
- o CIDR
- o Need IP V7 w/new address mgmt

INTERNATIONALIZATION

- o Many countries now linked US, UK, DE, FR, IT, IL, CH, NO, SE, FI, YU, PO, ES, AU, JP, MX, BR, IS, SA, CA, IR, RK, CS, SU, HU, AS, IN, ...
- o EMAIL extends via BITNET, UUNET, FIDONET and international commercial carriers
- o RFC1174 Provisions (IAB/FNC) Distributed NIC/Address assignment
- o Reseaux Associees pour la Recherche d'Europeenne (RARE)
- o Coordinating Committee on Intercontinetal Networking (CCIRN) and derivatives
- o International IAB Membership
- o Export Control Effects

COMMERCIALIZATION

- o US: PSI, UUNET, ANS CO+RE, CERFNet, JVNCNET, CIX, Sprint, Infonet
  SMDS: Southwest Bell, Bell South
- o Finnish & Swedish PTTs
- o UK: Private TCP/IP Services
- o Industry standard for multi-vendor Networking
- o Need for Authentication/Accounting
- o Charging: impact on protocols (!)
- o Competitive Products & Services (impact on standards setting)

SECURITY

- o NRC/Clark - "Computers at Risk!"

- o Computer Emergency Response Teams (CERTs) - SEI/CMU/Pethia

- o Common Authentication Technology
  Kerberos/MIT + RSA/RSADSI
  MD2 & MD4 (Message Digests)
  Authentication API - in dev't.

- o Host Password->Authentication

- o Router/Server Authentication including Net Management

- o Export Controls
  Authentication/Dept. of Commerce
  Confidentiality/Dept. of State/ITARS

- o All Protocol Standards Subject to Security Review

PRIVACY

- o Privacy Enhanced Mail (PEM)
  Certificate Authorities
  Certificate Generation Units
  Internet Certificate Registration Service

- o Trans-border Data Flow Issues

- o End-to-End Confidentiality
  Telnet, File Transfer, ...

MOBILITY

- o Dynamic Name/Address Binding DNS? Muilticast? Forwarding?
- o SLIP and PPP (authenticity!)
- o Connection Re-direction? TCP extension?? UDP??

SPEED

- o Gigabit Networking
  ATM, SONET, PLANET, SUNSHINE
  CNRI/DARPA/NSF Gigabit Testbeds

- o FDDI and Gigabit LANS

- o 100 Mbls Ethernet

- o TCP Extensions
  Extended Window and Sequence
  Space
  Selective Acknowledgements
  Header Prediction

- o Flow/Congestion Controls

- o Implementation Strategies
  Hardware Assist?

- o New Protocols - XTP, OSI/TPx

- o Resource Allocation/Priority

STANDARDS

- o IAB/IETF - Better Defined Process
- o Coexistence with OSI (!)
- o Cooperation with Other Orgs
  ANSI, ITU(!), IEEE, NISO, T1, ISO, CCITT
- o Accommodation of Proprietary Stds
  e.g. SUN/NFS, DEC SPx, Novell IPX, ...
- o Accommodation of Patented Stds
  e.g. RSA

MULTIMEDIA APPLICATIONS

- o Compound Document Standards
- o RFC822-> x.400 Extensions (MIME)
- o Resource Allocation/Prioritization
  (e.g. voice, video...)
- o Hypertext, Hyperdatabases...
- o Digital Library Systems
- o Multimedia Video-Conferencing
- o Packet audio, video multicasting

DISTRIBUTED COMPUTING

- o Global File System
- o Knowbots (and related systems)
- o OSF Distributed computing Environment
- o Access Control, Resource Sharing
  Memory Access, File Access,
  Processor Sharing, ...

Internet

in the

Future