

Internet: Information Revolution in the Third Millennium

Lynn St.Amour

<st.amour@isoc.org>


Executive Director Internet Society

<<http://www.isoc.org>>

Port Harcourt, Nigeria

January 20 -22, 1999

Presentation Outline

 Internet Society - background and genesis








Internet
Society -
what
have we
learned
and how
does it
apply to
the future
Current
Initiatives
and
Issues
The
Internet
and
Nigeria
How can
ISOC
help?

The Internet Society

 Who are we?



Where did we
come from?
Mission,
Principles,
Goals &
Objectives
Standards -
IETF, IAB,
IESG, IRTF,
IANA
Education -
Conferences,
Network
Training
Workshops,
Chapters
Initiatives -
Governance,
Cryptography,
Privacy,
Commerce,
Legal.....
Non-
governmental
international
organization
for global co-
operation and
co-ordination
of the Internet
7000+
Individual
members from
150 +
countries,
150+
Organizational
members
Chapters - 37
Official, ~ 15
Forming
Strong, active
educational
role (NTW,
INET, NDSS,
etc)

Governed by a
Board of
Trustees
elected by its
membership

ISOC Board of Trustees

Scott Bradner USA-Americas 1996-99

Vinton Cerf USA-Americas 1998-01

Susan Estrada USA-Americas 1996-99

David Farber USA-Americas 1996-99

John Gage USA-Americas 1998-99

John Gilmore USA-Americas 1997-00

Donald Heath USA-Americas 1996- (ex-officio)

Geoff Huston ASIA PACIFIC -Australia 1998-01

Christian Huitema EUROPE - France 1998-01

Kees Neggers EUROPE - Netherlands 1998-01

Christine Maxwell EUROPE - France 1997-00

Jun Murai ASIA PACIFIC - Japan 1997-00

Tim O'Reilly USA-Americas 1998-01

Jose Luis Pardos EUROPE - Spain 1997-00

George Sadowsky USA-Americas 1996-99

Ben Segal EUROPE - Switzerland 1997-00

**There is a need for a Board member(s) from Developing Countries.
It's probably too late for this year's election but we must be ready for next year.**




[Return To Top](#)

ISOC OFFICERS

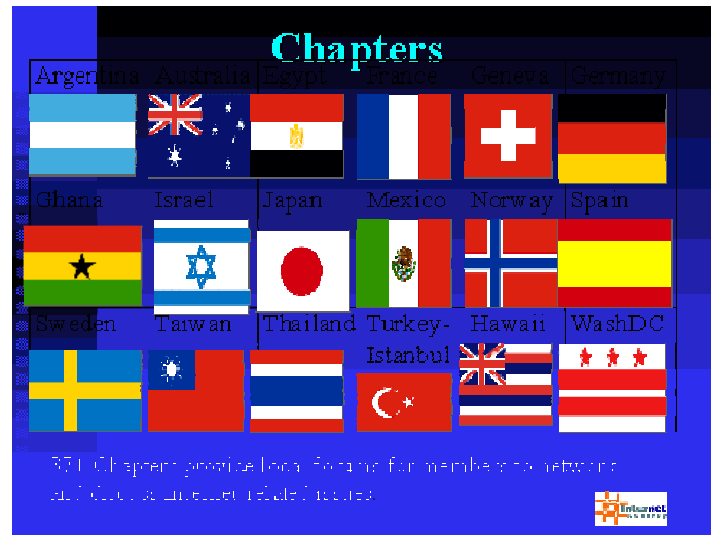
<u>Position</u>	<u>Name</u>
Chair	Vint Cerf
President/CEO	Donald Heath
Secretary	Geoff Huston
Treasurer	Christian Huitema
VP - Chapters	Ole J. Jacobsen
VP - Conferences	Javier Sola
VP - Education	George Sadowsky
VP - Membership	Christine Maxwell
VP - Publications	Nicholas Trio
VP - Standards	Scott Bradner

ISOC ADVISORY COUNCIL

 The voice of the organizational members

Each organization can appoint one representative and one alternate Advises ISOC on policy issues Important resource for understanding national concerns or

positions
Should be as
active as
possible



Role Chapters Play

Chapters are the 'front-line' to local communities, authorities and members

They are
key to wide
acceptance
and
socialization
of the
Internet
They are
ultimately
the
guardians
ensuring the
beneficial
open
evolution of
the Internet
.....for
everyone

WHO'S WHO AT ISOC Secretariat

President & CEO: Mr. Donald M. Heath
heath@isoc.org

Executive Director: Mr. Martin Burack

burack@isoc.org

Executive Director (EMEA) Ms. Lynn St.Amour

- st.amour@isoc.org

Director of Conferences: Ms. Torryn Brazell

brazell@isoc.org

Office Manager: Ms. Mary Burger

mburger@isoc.org

Membership Administrator-Individuals: Ms. Beth Strait

members@isoc.org

Membership Administrator-Organizations: Ms. Michele Lecomte

org-membership@isoc.org

Chapter Liaison: Mr. Gordon Howell

gordon@ibs.co.uk

Chapter Support: Ms. Terri Weigler

tweigler@MCLNET

Systems: Mr. Frank Brunotts

brunotts@isoc.org

Webmaster: Ms. Jane Benson

webmaster@isoc.org

Finance: Mr. Mike Sadowski

sadowski@isoc.org

OTI, ISOC Forum, ISOC Inside: Ms. Wendy Rickard

editor@isoc.org



[Return To Top](#)

The History Behind ISOC




The ARPA project and the need to effect connectivity between disparate institutions

Co-operation

was necessary
and was the
seed for an
open forum for
standardization
Ultimately, the
Internet
Engineering
Task Force
(IETF)
resulted
Standards
development
can lead to
charges of
anti-trust; legal
coverage is
important

The Development of ISOC


 An organizational home for the IETF


Internet Engineering Steering Group (IESG)

Internet Architecture Board (IAB)


Internet Research Task Force (IRTF)

Internet Assigned Numbers Authority (IANA)

 Financial, insurance, and legal umbrella for standards activities

 Technology giving way to political, social, legal, ethical, and commercial

History - Leading to Success

 Reasons for Success


**** Robust protocol - TCP/IP**

*** It has allowed world-wide scaling**

*** Simple - allows supreme efficiency**

*** Helps keep the Internet a neutral medium**

*** Preserves the end-to-end architecture**

 Reasons for Success

**** Robust protocol - TCP/IP**

**** Founding period where participants were virtually unnoticed**

- * X.25, ISDN, Frame Relay, SMDS, ATM, BISDN
- * Mistakes could be made
- * Learning could occur

Reasons for Success

Robust protocol - TCP/IP

Founding period where participants were virtually unnoticed

Environment conducive to co-operation

Participants wanted it to work

They worked together toward a common goal

Reasons for Success

Robust protocol - TCP/IP

Founding period where participants were virtually unnoticed

Environment conducive to cooperation

Freedom to experiment in uncontrolled environment

Open forum, bottom-up standards development

The IETF - from the need to "make it work"

The emergence of the concept of "Rough Consensus"

Rigorous process - weeds out weak solutions and encourages the best

It does not mean "unanimity."

It does mean broad-based participation and acceptance

Internet Society Mission

"To assure the beneficial, open evolution of the global Internet and its related internetworking technologies through leadership in standards, issues, and education."

Internet Society Purpose

"To take the Internet to where no net has ever been before"

Vint Cerf.

ISOC Principles

From established Principles, we define:

****Goals and Objectives**

****Programs and Initiatives**

****Position on issues confronting the Internet**

****Our reason for being**

- 1. On-line free expression is not restricted by indirect means such as excessively restrictive governmental or private controls over computer hardware or software, telecommunications infrastructure, or other essential components of the Internet.**
- 2. Internet users may encrypt their communication and information without restriction**
- 3. No discrimination in use of the Internet on the basis of race, color, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status.**
- 4. Personal information generated on the Internet is neither misused nor used by another without informed consent of the principal.**
- 5. Encouragement of co-operation among networks: Connectivity is its own reward, therefore network providers are rewarded by cooperation with each other.**



[Return To Top](#)

ISOC Goals and Objectives

- ** Development, maintenance, evolution, and dissemination of standards**
- ** Growth and evolution of the Internet Architecture**
- ** Maintenance and evolution of administrative processes for operation of the Internet**
- ** Education and research**
- ** Harmonization and consolidation of positions on issues at international level**
- ** Collection and dissemination of information related to the Internet**
- ** Assisting technologically developing countries in implementing Internets**
- ** Liaison with other organizations and governments in effecting the above**

Standards Development

1. Applications

4. Operations and Management

7. User Services

2. Internet

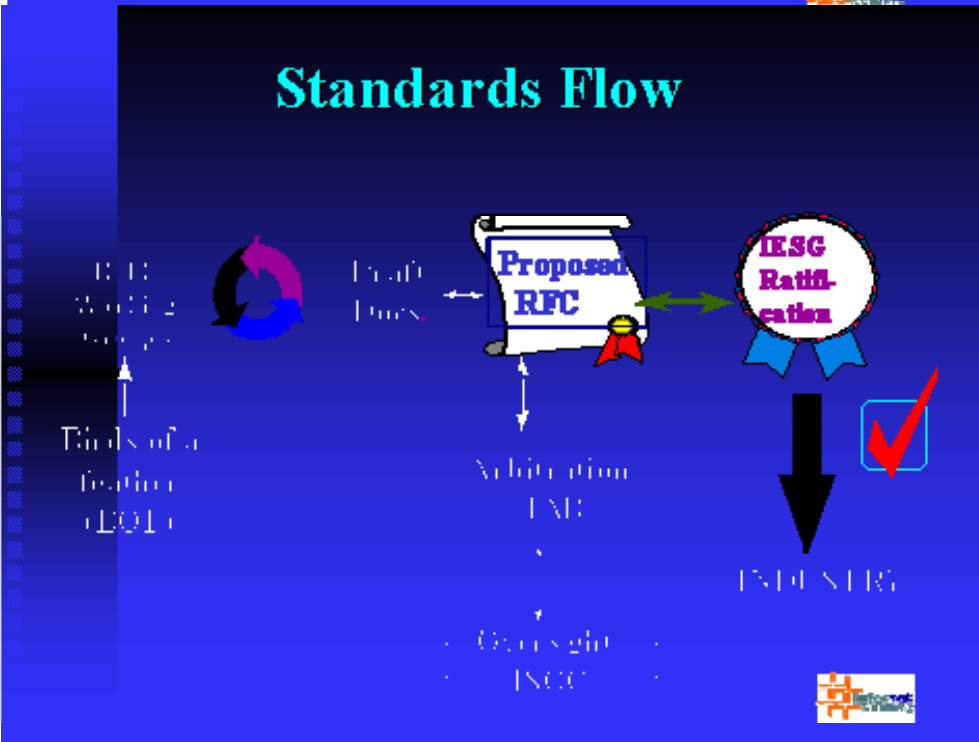
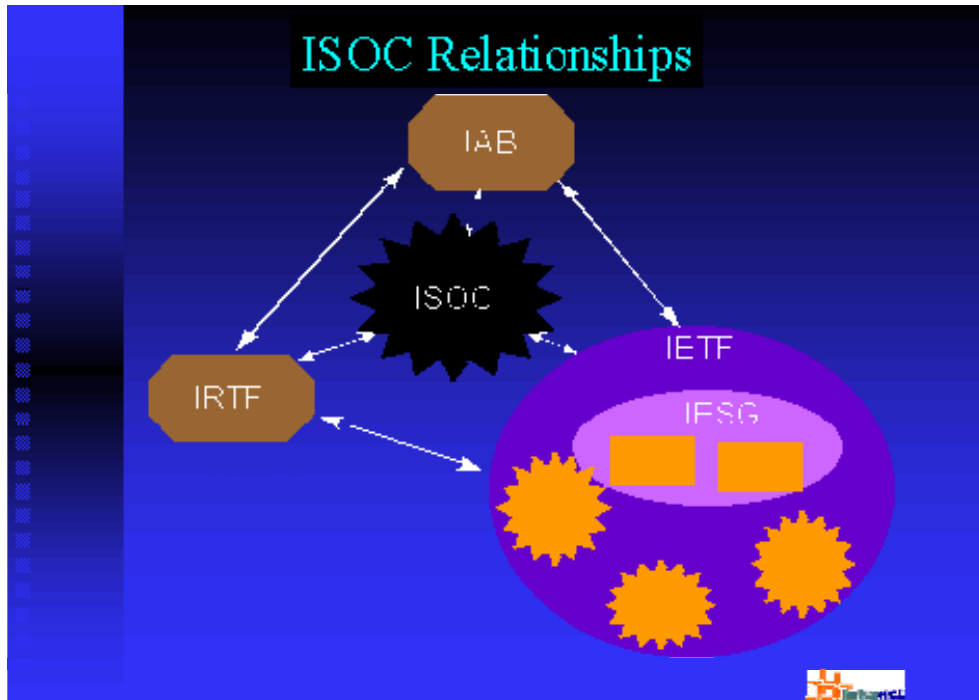
5. Security

8. General - Director is also Chair of IETF

3. Routing

6. Transport

 IETF - <<http://www.ietf.org/>>



Standards Development

<http://www.iana.org/iana/overview.html>

<http://www.iana.org/domain-names.html#Country Code Domains>

<http://www.iana.org/iana/ip-addresses.html>

<http://www.isi.edu/div7/iana/descript.html>

**General Assignment of Various Protocols
RFC Editor**

 IANA



Standards Development - Internet Corp. for Assigned Names and Numbers ICANN

- ** was IANA <<http://www.iana.org/>**
- * IP Addresses**
- * Protocol Numbers and Assignment**
- * RFC Editor (for ISOC)**
- * Country Code Domains**

 ICANN <<http://www.icann.org/>

ICANN - Internet Corp. for Assigned Names and Numbers

**‘End-user’ Membership Organization
Address Supporting Organization
Protocol Supporting Organization
Domain Name Supporting Organization**


 IANA to be transitioned from US Gov’t. to a private, international non-profit
 corp.





ICANN will
be
membership
based
Four (4)
Membership
groups
Critical
issues - to
be
addressed

**Acceptance of the SO Applications
Addition of top level domains
Intellectual Property Issues
Membership Organization make-up...and more**

 These must be addressed while ensuring the continued stability of the Internet

Questions

Can the culture of today apply tomorrow?

Can principles of rough consensus be used in other areas such as legal, political, social, ethical, economic and electronic commerce? Are the Internet users and builders of today different from those of the past?

Answers

Yes

"Take cooperation out of the Internet, and the Internet will simply cease to be."



[Return To Top](#)

Governance

If the Internet is ever going to achieve it's fullest.

ISOC Initiatives

- * **Network Training Workshops: San Jose.. .**
- * **Developing Countries Networking Workshop**
- * **K-12 Workshop on Internet in the schools**
- * **Technical tutorials|**

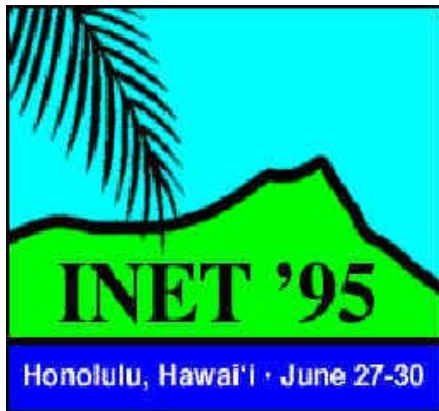
Think Quest - an international, \$100 M annual scholarship program for students
Annual Symposium on Network and Distributed System Security (NDSS)

Education:

** Annual INET conference & pre-conference events:

International Networking Conferences INET

- * **Annual conference with focus on education, commerce, policy, internetworking, security, etc.**
- * **Emphasis on diverse international participation**
- * **Rotates to different global regions each year**
- * **Published proceedings of valuable diverse research papers - papers are peer reviewed**



ISOC Initiatives

- Legal Defense of "Internet": ISOC is working to protect and free the term "Internet" from commercial ownership.
- Electronic Commerce: ISOC submitted comments on and influenced the U.S. White House strategy paper on Global Electronic Commerce.

**Protection
Against
Excessive
Regulation:**
ISOC fights
against

constraints
of access,
content, etc.
[e.g, U.S.,
Thailand,
Germany]
**Self
Regulation:**
ISOC is a
leader in the
development
of the
strategy to
transition
control of
the Internet
from the
U.S.
Government
to industry
self-
governance.

Incredible Growth of the Internet

> 100 mio users

> 40 mio hosts

> 13 mio Domains

Present in virtually every country (incl. all but a handful of African countries)

Key Drivers

Massive increases in bandwidth through new technologies and ultimately lower costs

Convergence
of
Telecomms,
IT, Media,
Consumer
Electronics,
Publishing,
Information
and
Distribution

Significant
progress
made in
security

What's Coming

Increased connectivity and Increased convergence

Placeholder for history of convergence slides as not yet in powerpoint format

Factors putting pressure on Governance

- ** Rapid technological change
- ** Pervasive social change
- ** Internet becoming critical/synonymous with commercial success
- ** Egalitarian medium
- ** Dispersion of control(s)

Governance - What ISOC is Doing

- ** Development of appropriate, secure, and stable standards through the IETF
- ** Coordination with global organizations - to assure an unfragmented Internet
- ** Internet Domain Name System (DNS)
- ** Intellectual Property Task Force member
- ** 'consulting' with various governments
- ** ...and many other activities

Governance

If the Internet is ever going to achieve it's fullest potential, it will require self-governance.

Why The Internet Is Important To Nigeria

The Internet will be the "universal communication medium" for data, voice and multimedia

It will be key

to advances in virtually all commercial sectors and will in the long-term be a critical factor in determining your standard of living

"The third millenium marks the age for Africans to emerge dramatically into the Information Age, and the Internet can provide the means. The world recognizes the potential of Africa and needs only the incentive you can provide, for it to invest the necessary money and resources to provision the required infrastructure."

Don Heath

The Internet and Nigeria

"There is little doubt that the Internet is destined to play a key role as a major communications infrastructure. Its origins in computer-mediated communication and its current visibility in commerce, personal discourse, education and research suggest that Internet skills are becoming a global necessity.

Nigerians can and should take rapid, purposeful and determined steps to enhance access to and use of the Internet in Nigeria and in Africa."

Vint Cerf

Constraints on Internet growth in Nigeria

 Inadequate telecoms infrastructure







Competition for limited funds: telecoms, IT infrastructure, education, healthcare
Low foreign investment
Pace and breadth of change is staggering and the implications can be difficult to understand, never mind lead
Lack of training

What can Nigeria do?

 Continue **AGGRESSIVELY** with NII plans











Educate...educate...educate
Learn what's happening, get involved
Ensure responsible growth of the Net
Work with infrastructure providers - all of them
Work with key adopters - schools, medical...
Increase awareness of Internet Culture and way of

working
Educate...educate...educate

What can Nigeria do NOW?

While 'waiting' for adequate Infrastructure to come - prepare the political, social, educational and legal ground

These areas
are just as
important as
good
telecoms
infrastructure

Life Lesson # 126

Leadership:

"Finding out where everyone is going and then running like hell to get out in front."



Vint Cerf

What can ISOC do to help?

'Local' training courses

Help drive 'Sister' programs between universities, cities, etc. for:used equipmenttraining
Keep fighting the 'good fight' but....

Open Discussion

I'd like to hear your ideas!



[Return To Top](#)