

Internet Governance History

Points of Internet Control

Protocols & Standards

IP Address Space

DNS Names

Internet governance projects seek to make control transparent & democratic.

Decision Making Process

Open Decision Making

- Meetings generally open to all
- Decisions public
- Rationale is technical, not political or business.

Decision Making 2

VIEWS OF THE FUTURE

The last force on us -- us

The standards elephant of yesterday -- OSI.

The standards elephant of today -- it's right here.

As the Internet and its community grows, how do we manage the process of change and growth?

- **Open process -- let all voices be heard.**
- **Closed process -- make progress.**
- **Quick process -- keep up with reality.**
- **Slow process -- leave time to think.**
- **Market driven process -- the future is commercial.**
- **Scaling driven process -- the future is the Internet.**

We reject: kings, presidents and voting.

We believe in: rough consensus and running code.

Timeline

1969 – 1979 BBN Designs Internet; UCLA manages

1979 – Internet Configuration Control Board formed

- Established by Dr. Vinton Cerf, DARPA PM
- Dr. David C. Clark at MIT LCS Named chairman

January 1, 1983 – Transition from NCP → TCP/IP

1983 – ICCB reorganized into IAB and “task forces”

1985 – NSFNET Choses TCP/IP

1986 – First IETF meeting

Timeline Cont

1989 - IAB reorganized again. Just two task forces:

- IETF - Internet Engineering Task Force
- IRTF - Internet Research Task Force

1991 - NSF takes over non-military part of Internet

1992 - ISOC formed to coordinate & copyright for RFCs

Current Hierarchy

ISOC - Internet Society (international non-profit)

IAOC - Internet Administrative Oversight Committee

IASA - IETF Administrative Support Activity

IAD - Internet Administrative Director

But: "Neither IAD nor the IAOC have influence over IETF standards development."

Standards Development

IESG - Internet Engineering Standards Group

- Technical management of IETF and Standards process
- Composed of Area Directors selected by a Nominations Committee
- Areas: Applications, General, Internet, Operations & Management, Real-time applications and Infrastructure, Routing, Security, Transport

Internet Engineering Task Force

Technical work done by working groups & mailing lists

Three annual meetings

Membership open to anyone who attends meetings

Mission Statement: RFC 3935

W3C

World Wide Web Consortium

Independent standards body: HTTP, XML

Why was it formed?

Standards Bodies Left Out...

ISO - International Organization for Standardization

- ANSI - American National Standards Institute

ITU - International Telecommunication Union

ITU-T (Formerly CCITT, created X.25, X.400, etc)

Where are they?

Control of Numbers:
Internet Assigned Numbers Authority
<http://www.iana.org>

Top-Level Domains (TLDs)

- Country Code Domains (.ps?)
- Generic Domains (.aero, .asia, .com,xxx?)

Protocol Numbers (who picked port 22?)

High-level registry of IP addresses

“The word ‘authority’ in the IANA’s name is perhaps a bit misleading.” --- <http://www.iana.org/faqs/abuse-faq.htm>

IANA's IP Address Space

RIRs

Private IP addresses (10/8, 172.16/12, 192.168/16)

Autoconfiguration IP addresses (169.254/16)

Loopback Addresses (127/8) (isn't this wasteful?)

Multicast IP Addresses (224/12)

Unallocated IP addresses

References: RFCs 1112, 1918, 2236, 3330

<http://www.iana.org/faqs/abuse-faq.htm>

Regional Internet Registries

RIRs receive large blocks of IP space from IANA

Four RIRs:

- APNIC (Asia/Pacific Region)
- ARIN (North America and Sub-Saharan Africa)
- LACNIC (Latin America and some Caribbean Islands)
- RIPE NCC (Europe, Middle East, Central Asia, Africa)

Timeline 3

1992 – Network Solutions sole bidder NSF contract to take over domain name registration system

1995 – Network Solutions gets authority to charge for domain names

1998

- January 28: Postel, head of IANA, emails name server administrators and takes over temporary control of 8 out of 12.
- Feb: US National Telecommunications and Information Administration "Green Paper" published. "The Internet is Ours."
- September 29th: ICANN Created
- October 16th: Postel Dies

ICANN



“Internet Corporation for Assigned Names and Numbers”

California non-profit, created September 18, 1998

- Creature of US Department of Commerce & IANA

Vint Cerf (MCI) is currently Chairman of the BoD

Main contribution: Uniform Dispute Resolution Policy

Controls TLDs through ... what mechanism?

Root Servers

<http://www.root-servers.org/>

Real control of Internet Names --- but not Numbers

Servers operated by:

- VeriSign
- ISI
- Cogent
- NASA Ames
- Internet Systems Consortium (40 sites)
- US DoD NIC
- US ARL
- Autonomica
- Reseaux IP Europeens
- ICANN
- WIDE