

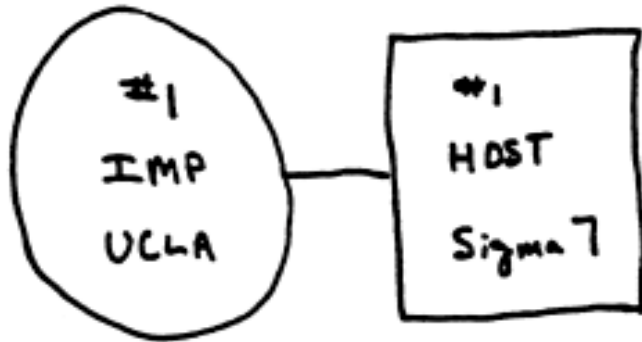
# Understanding Internet Focus Institutions

[Session 6]

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ITU Workshop on Internet Governance  
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# The Internet

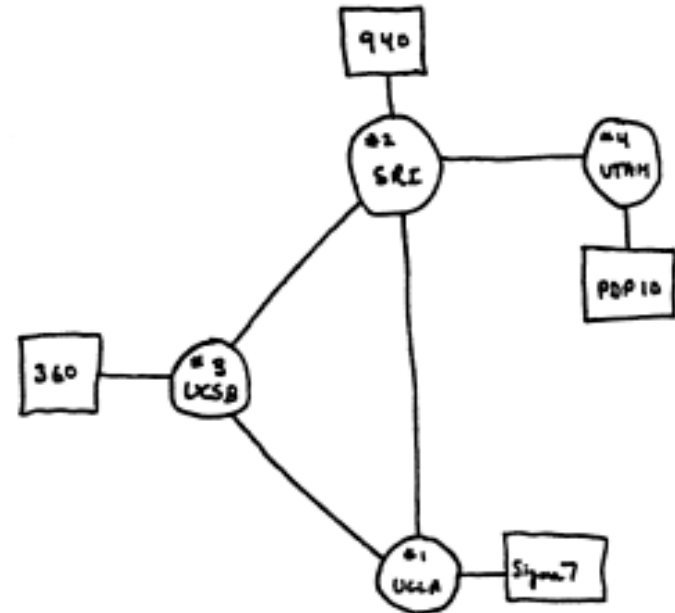
## Arpa Network – September 1969



THE ARPA NETWORK

SEPT 1969

1 NODE

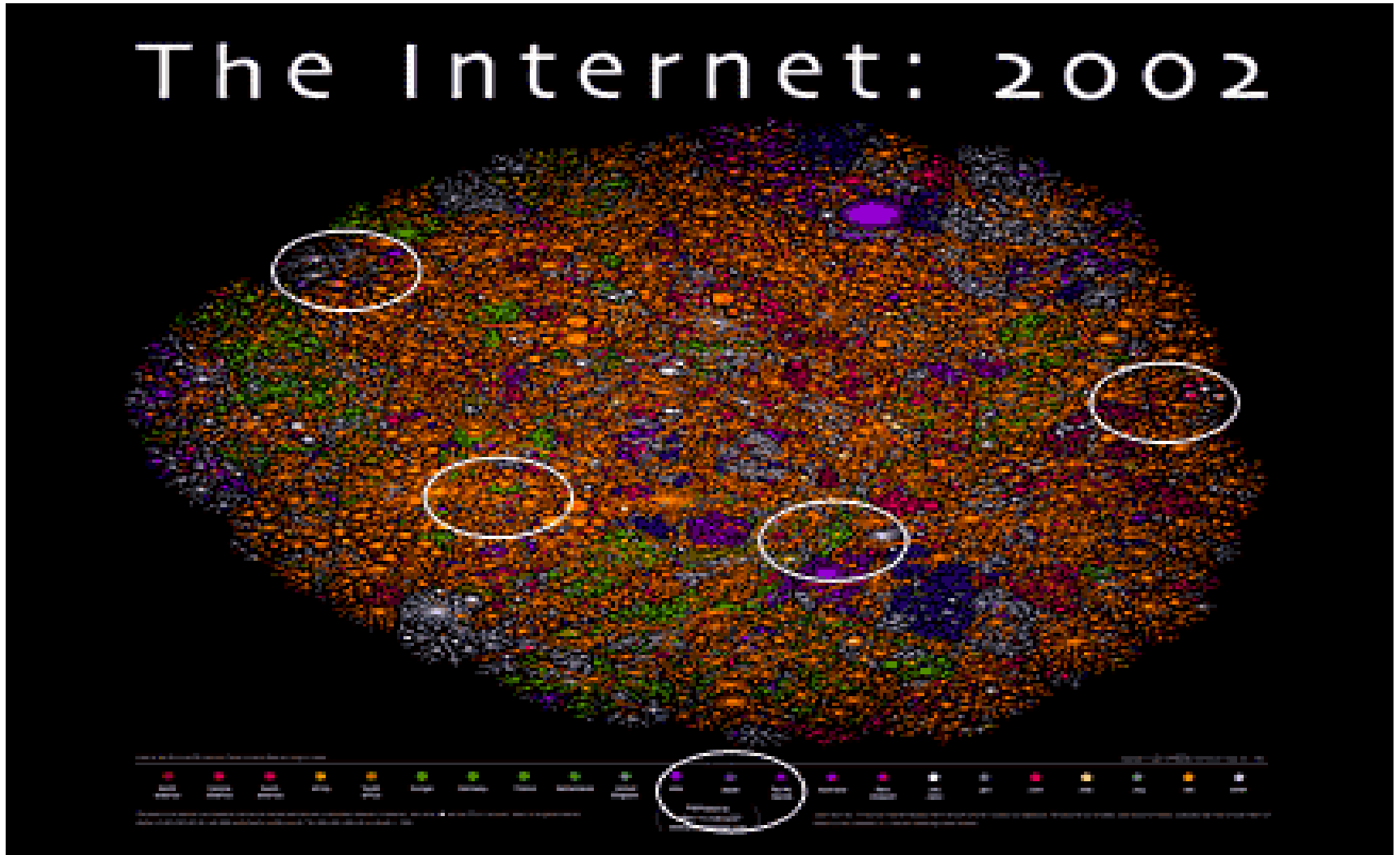


THE ARPA NETWORK

DEC 1969

4 NODES

# The Internet - 2002



Source: [peacockmaps.com](http://peacockmaps.com)

# The Internet

- Levels
  - National (ISPs, telecom networks, service providers, NIC, etc.)
  - Regional (Regional Registries)
  - Global (Different technical bodies, commercial entities, public policy nowadays)
  - Numerous bodies involved, all with respective expertise, respective responsibilities, respective interests.
- Issues associated with the Internet
  - E-commerce, Taxation, Content, Cultural diversity, Spam, Security, Financial transactions, Data protection, E-education.....
- Everybody owns, and is responsible for, the Internet. It takes all to make it function simply, to benefit. Numerous organizations have an interest and role in vast range of areas of the Internet
  - UNDP, ISOC, NEPAD, ITU, WIPO, UNESCO, ICANN, W3C, civil society, business community, investors, entrepreneurs, individuals.
- Welcome WSIS and outcome of the Summit, and welcome the debate around all these issues and all the new interest and voices.

# What ICANN does

- Coordinates policies relating to the unique assignment of:
  - Internet Domain Names
  - Numerical IP Addresses
  - Protocol Port and Parameter Numbers
- Coordinates the DNS Root Name Server System
- Root Server System Advisory Committee
- ICANN is – it is small secretariat which does the work for a very large and diverse set of stakeholder groups.

# The Internet

- Community involved in the Internet has expanded since the Internet's evolution.
- ICANN started as an effort to transition something purely under US control to the global community
- The model seeks to encapsulate the environment of the Internet – it is a living organization – it is not static, and is designed to be noisy and address differences of opinions.

# Domain Names and IP Addresses

- Domain names are the familiar, easy-to-remember names for computers on the Internet
- - e.g., kcom.biz, icann.org, nic.org.gh
- Domain names correlate to Internet Protocol numbers (IP numbers) (e.g., 98.37.241.130) that serve as routing addresses on the Internet
- The domain name system (DNS) translates domain names into IP numbers needed for routing packets of information over the Internet

# The Internet's DNS

- The Internet has a unique DNS system in which many partners are involved
- What comes with that?
  - Various decision making processes associated with the broad variety of Internet issues
  - multistakeholder
  - Global nature of Internet = global approach = global platforms, means everyone.

# What ICANN does (cont)

- Coordinates the Internet's systems of unique identifiers
  - Technical coordination of unique values sometimes entails non-technical policy issues, such as, for example:
    - WHOIS database
    - UDRP
    - Registrar accreditation for .com, .info, .org, .biz, etc.
- Involves civil society, ccTLDs, registries, registrars, governments, technical community, business community, individuals, etc.
- Internationalization of the coordination, management, and related policy functions of the DNS, IP Addressing systems, and unique identifiers

*The global Internet community working together to promote the stability and integrity of the Internet*

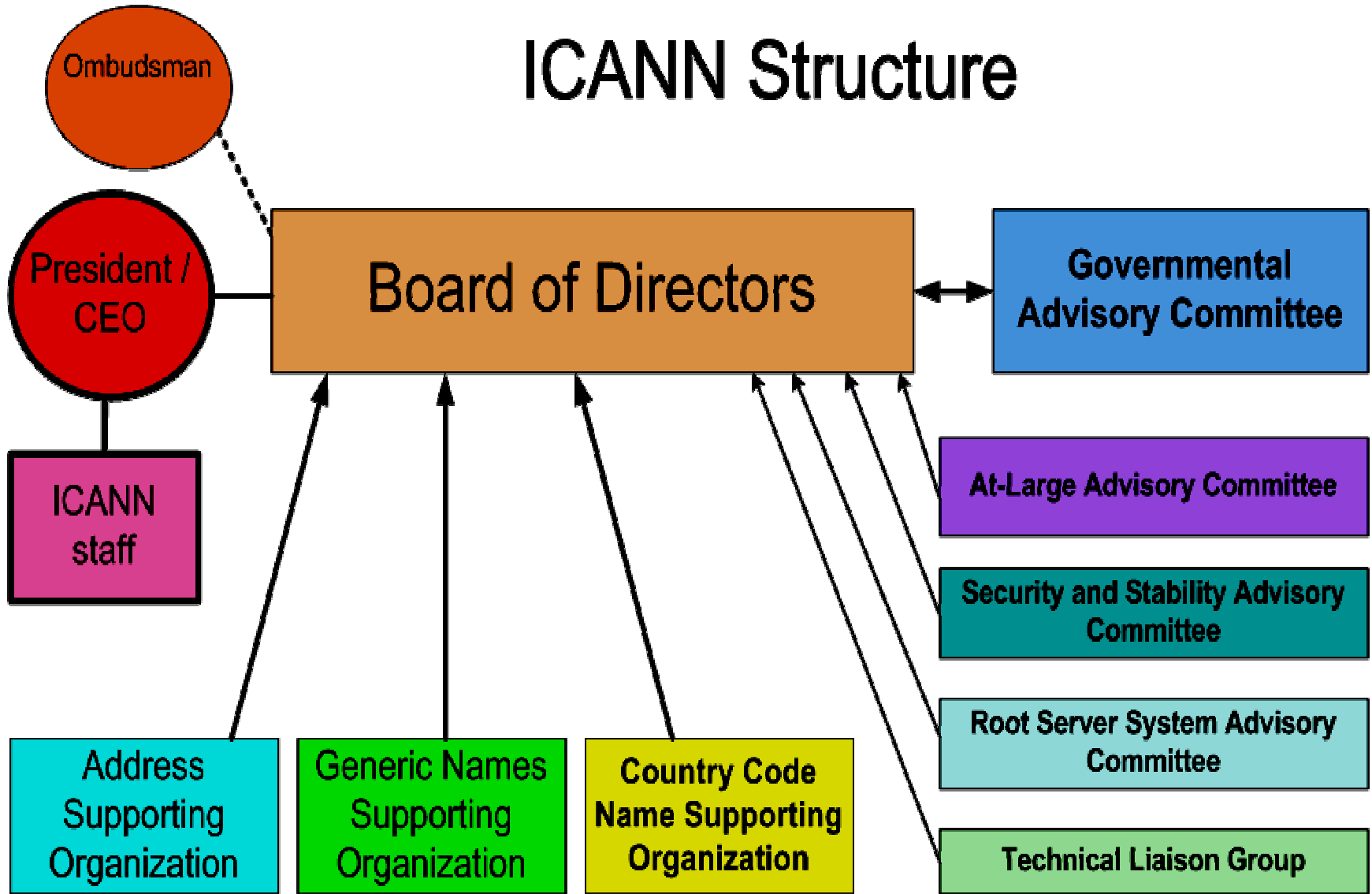
# Pre-ICANN

- Responsibilities handled by an individual, and through the “Internet Assigned Numbers Authority” by the Information Sciences Institute (ISI) at the University of Southern California, under a contract with the U.S. Government
- Involved a set of technical management functions
- IP Address Allocations
  - IPv4 addresses, IPv6 addresses, and Autonomous System Numbers to the Regional Internet Registries (RIRs)
- DNS root zone file management
- ccTLD/gTLD nameserver changes in the root zone and data changes for ccTLD/gTLD administrators
- .int domain name registry
- Additionally, Protocol parameter and port number assignment functions defined by the Internet Engineering Task Force (IETF)
- These and related functions now fall under ICANN

# Why do we have ICANN?

- Need for independence from US government in 1996/97
- Globalization of Internet
- Commercialization of Internet
- Need for accountability
- Need for more formalized management structure
- Dissatisfaction with lack of competition
- Trademark/domain name conflicts
- Local Internet community, while ensuring (as a part) the functioning of the Internet (the total) and thus being responsive to interest of the global community
  - For example: ICANN only responsible for allocation of number resources, not for take-up, or any industrial policy aspects (when do the fridge manufacturers implement it).

# ICANN Structure



# “Secretariat”

- Paul Twomey - CEO
  - appointed April 2003
- Senior Staff
  - Vice President, Business Operations – Kurt Pritz
  - Vice President, Policy Development Support - Paul Verhoef
  - General Manager, IANA – Doug Barton
  - General Manager, Public Participation – Kieren Baker
  - General Manager, Technical Operations – John Crain
  - General Manager, Global Partnerships – Theresa Swinehart
  - General Counsel – John Jeffrey

# Board of Directors

- 21 Person Board
  - 15 voting members
    - CEO
    - 6 chosen by Supporting Organizations
    - 8 chosen by Nominating Committee
  - 6 non-voting members
    - 4 chosen by Advisory Committees
    - 2 chosen by Technical Liaison Group

# Increased globalization

- Complete international accountability and completion of transition process
  - MoU steps
- Increased globalization and decentralization
  - Office in Brussels, with other regions to come
- Increased simplification of online and remote participation
- Increased developing country, and other interested stakeholders, participation
  - Increased capacity building and partnerships with interested parties
- Increased globalization by stakeholders
  - E.g, use of IDN, interest in implementation, work among stakeholders and sharing of experiences (e.g., among ccTLDs).

- ICANN is a public/private partnership which involves the participation of all relevant organisations at the national, regional, global level.
- It seeks to encapsulate the need for joint decision-making within technical framework of unique identifiers, while respecting relevant public policies, also in cases where the latter is not harmonised across some 200 countries;
- It is an open and transparent process, open to the full participation of those who have an interest, including all governments and relevant international organisations.

# Observation

- The public-private partnership, bottom-up, inclusive model for technical coordination - built over the last 35 years and now encapsulated in ICANN - involves tens of thousands of practitioners on a daily basis. Their results are impressive:
  - On a global level, there are an estimated 55 million domain names that are registered.
  - The Regional Internet Registries and ICANN have allocated approximately 313 million IP v4 addresses since 1999, with enough to last for another 20 years.
  - The new generation of IP v6 addresses contains  $3.4 \times 10^{38}$  addresses. Many billions for every person alive today. Approximately an IP address for each atom of the known Universe.
- Every day 750 millions users use the Internet to achieve approximately 18 billion resolutions per day. The system works. It works in the same way for all users of the Internet.

ICANN is open to all interested participants,  
processes are open, and your views are  
important and welcomed!

For information and where you might want to  
be involved, see:

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