



College of Information Studies

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# Internet Governance

Session 27

INST 346

Technologies, Infrastructure and Architecture

# WHO RUNS THE INTERNET?

## NO ONE PERSON, COMPANY, ORGANIZATION OR GOVERNMENT RUNS THE INTERNET.

The Internet itself is a globally distributed computer network comprised of many voluntarily interconnected autonomous networks. Similarly, its governance is conducted by a decentralized and international multi-stakeholder network of interconnected autonomous groups drawing from civil society, the private sector, governments, the academic and research communities, and national and international organizations. They work cooperatively from their respective roles to create shared policies and standards that maintain the Internet's global interoperability for the public good.

### WHO IS INVOLVED:

**IAB** **A C P S R**  
INTERNET ARCHITECTURE BOARD  
Oversees the technical and engineering development of the IETF and IRTF.  
[www.iab.org](http://www.iab.org)

**ICANN** **C O P V**  
INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS  
Coordinates the Internet's systems of unique identifiers: IP addresses, protocol parameter registries, top-level domain space (DNS root zone).  
[www.icann.org](http://www.icann.org)

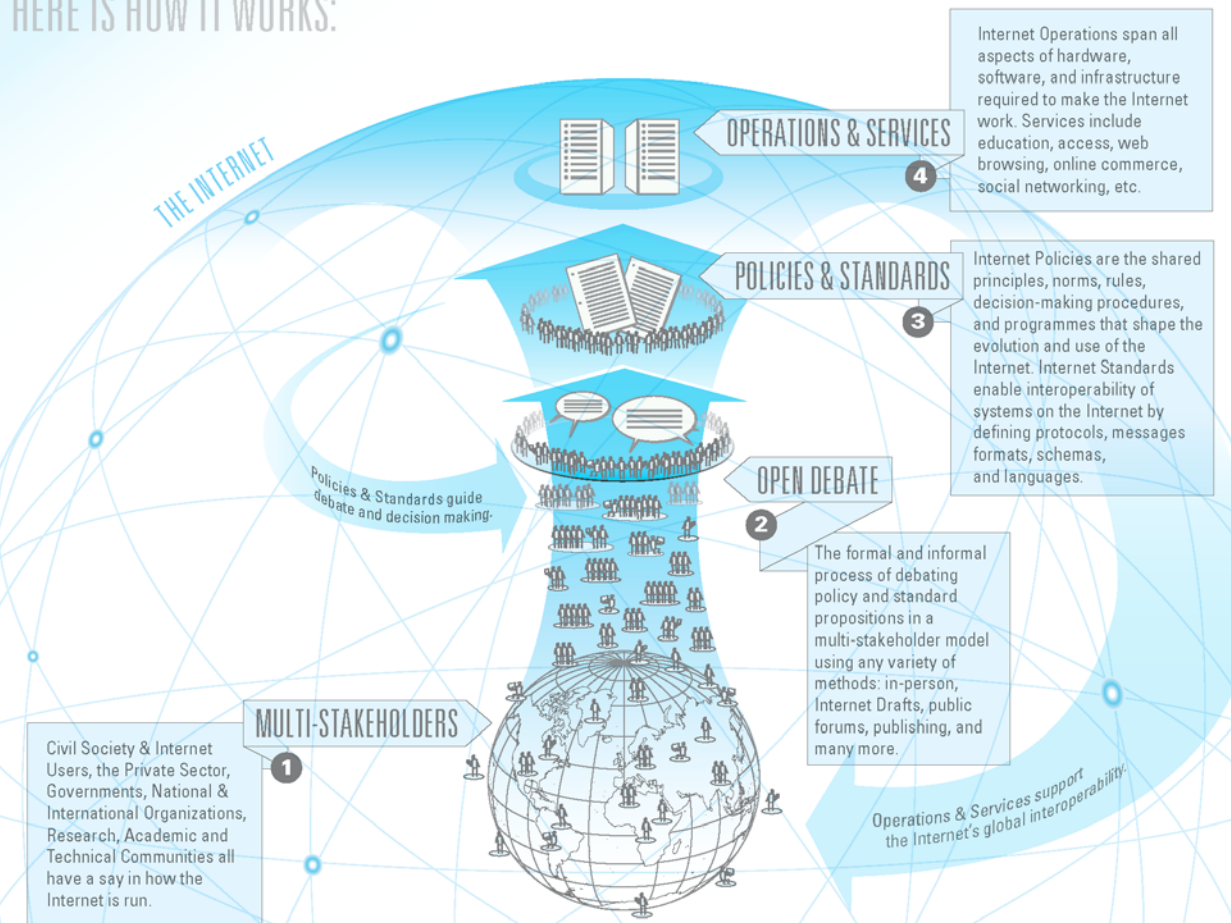
**IETF** **C P S**  
INTERNET ENGINEERING TASK FORCE  
Develops and promotes a wide range of Internet standards dealing in particular with standards of the Internet protocol suite. Their technical documents influence the way people design, use, and manage the Internet.  
[www.ietf.org](http://www.ietf.org)

**IGF** **A C P**  
INTERNET GOVERNANCE FORUM  
A multi-stakeholder open forum for debate on issues related to Internet governance.  
[www.intgovforum.org](http://www.intgovforum.org)

**IRTF** **R**  
INTERNET RESEARCH TASK FORCE  
Promotes research of the evolution of the Internet by creating focused, long-term research groups working on topics related to Internet protocols, applications, architecture and technology.  
[www.irtf.org](http://www.irtf.org)

**GOVERNMENTS AND INTER-GOVERNMENTAL ORGANIZATIONS** **C P**  
Develop laws, regulations and policies applicable to the Internet within their jurisdictions; participants in multilateral and multi-stakeholder regional and international fora on Internet governance.

### HERE IS HOW IT WORKS:



LEGEND: **A** Advice **C** Community Engagement **E** Education **O** Operations **P** Policy **R** Research **S** Standards **V** Services

### WHO IS INVOLVED:

**ISO 3166 MA** **S**  
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, MAINTENANCE AGENCY  
Defines names and postal codes of countries, dependent territories, special areas of geographic significance.  
[www.iso.org/iso/country\\_codes.htm](http://www.iso.org/iso/country_codes.htm)

**ISOC** **C E P V**  
INTERNET SOCIETY  
Assure the open development, evolution and use of the Internet for the benefit of all people throughout the world. Currently ISOC has over 90 chapters in around 80 countries.  
[www.internetsociety.org](http://www.internetsociety.org)

**RIRs** **O P V**  
5 REGIONAL INTERNET REGISTRIES  
Manage the allocation and registration of Internet number resources, such as IP addresses, within geographic regions of the world.  
[www.afrinic.net](http://www.afrinic.net) Africa  
[www.apnic.net](http://www.apnic.net) Asia Pacific  
[www.arin.net](http://www.arin.net) Canada & United States  
[www.lacnic.net](http://www.lacnic.net) Latin America & Caribbean  
[www.ripe.net](http://www.ripe.net) Europe, the Middle East & parts of Central Asia

**W3C** **S**  
WORLD WIDE WEB CONSORTIUM  
Create standards for the world wide web that enable an Open Web Platform, for example, by focusing on issues of accessibility, internationalization, and mobile web solutions.  
[www.w3.org](http://www.w3.org)

**INTERNET NETWORK OPERATORS' GROUPS** **A O V**  
Discuss and influence matters related to Internet operations and regulation within informal fora made up of Internet Service Providers (ISPs), Internet Exchange Points (IXPs), and others.

# “Layers” of Internet Governance

- Physical Infrastructure
- Logical Layer
- Content Layer

# Agenda

- Jurisdiction
- Internet Engineering Task Force (IETF)
- ICANN
- Other Standards
- US-CERT

# Multiple Jurisdictions

- Content creator
- Server owner
- Server location
- Router location
- Storage location
- User location
- User nationality
- International (radio, oceans, outer space)

# Some IETF “Requests for Comment”

RFC 5000	Internet Official Protocol Standards, 5/2008
RFC 1700	Assigned Numbers, J. Reynolds, 10/20/1994
RFC 1122	Requirements for Internet Hosts - Communication layers, 10/1/1989
RFC 1123	Requirements for Internet Hosts - Application and support, 10/1/1989
RFC 791	Internet Protocol, 9/1/1981
RFC 792	Internet Control Message Protocol, 9/1/1981
RFC 1112	Host extensions for IP multicasting, 8/1/1989
RFC 768	User Datagram Protocol, 8/28/1980
RFC 793	Transmission Control Protocol, 9/1/1981
RFC 854	Telnet Protocol specification, 5/1/1983
RFC 855	Telnet option specifications, 5/1/1983
RFC 959	File Transfer Protocol, 10/1/1985
RFC 821	Simple Mail Transfer Protocol, 8/1/1982
RFC 1869	SMTP Service Extensions, 11/6/1995
RFC 1870	SMTP Service Extension for Message Size Declaration, 11/6/1995
RFC 822	Standard for the format of ARPA Internet text messages, 8/13/1982
RFC 1049	Content-type header field for Internet messages, 3/1/1988
RFC 1034	Domain names - concepts and facilities, 11/1/1987
RFC 1035	Domain names - implementation and specification, 11/1/1987
RFC 974	Mail routing and the domain system, 1/1/1986

# Internet Corporation for Assigned Names and Numbers (ICANN)

- Mission: Enable universal resolvability
- Assigns IPv4 and IPv6 address blocks
  - Subassigned to Regional Internet Registries
- Domain name management
  - Auctions Top-Level Domain (TLD) names
  - Accredits domain name registrars
  - Establishes dispute resolution framework
  - Establishes WHOIS policy
- Assigns well-known port numbers

# Other Standards Bodies

- World Wide Web Consortium (W3C)
  - Web standards (HTTP, HTML, CSS, DOM, ...)
- International Standards Organization (ISO)
  - Unicode
- IEEE
  - Link-layer standards for Ethernet and WiFi
- One-off standards
  - JPEG, MPEG



# CERT-US and CERT/CC

- Accept reports of vulnerabilities
  - Mandatory for US government (to CERT-US)
  - Voluntary for others (to CERT/CC)
  - Generally disclosed within 45 days
- Coordinated national incident response
- NIST National Vulnerability Database