UNIVERSITÄT BERN

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# international law of contemporary media

## session 4: internet governance (part one)

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**fall semester 2015,** 21 october 2015



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## goals of the day

- **the internet: origin, architecture, evolution**
- **internet governance: the domain name system, ICANN, organization and functions**
- **domain names registration and dispute settlement procedures**
- **controversies around the model of internet governance**
- **the future of internet governance**





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## internet history: 4 aspects

- **technological aspect:** a number of key technologies allowing the network of networks and communication over it
- **management aspect:** of a global and complex operational infrastructure
- **social aspect:** a broad community working together to create and develop the technology
- **commercialization aspect:** resulting in effective transition of research into a broadly deployed information infrastructure

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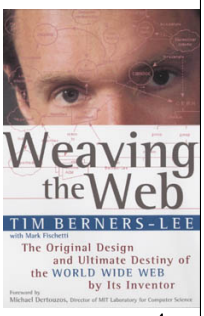
## sources on the history of the internet

- Tim Berners-Lee, *Weaving the Web* (Harper 2000)
- Barry M. Leiner et al., *A Brief History of the Internet*, http://www.isoc.org/internet/history/brief.shtml
- US Supreme Court, *American Civil Liberties Union, et al. v Janet Reno, Attorney General of the United States*, 929 F Supp 824 (1996)



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## internet history (i)

- 1960s: **packet-switching:** transmitted data broken up into small packets, sent to its destination through different routes, and reassembled at the other side
- ARPANET (US Defence Department's Advanced Research Projects Agency (ARPA))
- TCP/IP *(Transmission Control Protocol/Internet Protocol)*
- email and bulletin-board systems developed between the 70s and 80s; all main US universities connected to the network



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## internet history (ii)

- **1973:** the first int'l connection between ARPANET and University College of London
- new audience due to the introduction of personal computers in the **late 1970s** (1976 – the first Apple PC; 1981 – the first IBM PC)
- **World Wide Web:** Tim Berners-Lee at CERN; Berners-Lee saw the need for a standard linked information system accessible across the range of different computers in use
- **1993:** the first web-browser, *Mosaic*, at the US National Center for Supercomputer Applications (NCSA)

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## internet: salient design elements

- the internet was initially **not** a commercial project
- **no centralized control:** TCP/IP networks have no 'central' server responsible for managing traffic
- TCP/IP themselves are **publicly accessible, non-proprietary standards**
- **end-to-end connectivity:** a principal design element of the Internet that allows nodes of the network to send packets to all other nodes, without requiring intermediate network elements to maintain status information about the transmission
- **'dumb' network**; innovation at the edges of the network



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## how does the internet function?

- destination identified through **unique IP address**
- presently (still), Internet Protocol Version 4 **(IPv4):** a 32-bit number (a line of 32 zeroes and ones); and
- **IPv6**: 128 bits for the address; developed in 1995 and last standardized in 1998; slow deployment
- although IP addresses are stored as binary numbers, usually displayed as 208.77.188.166 (for IPv4) and 2001:db8:0:1234:0:567:1:1 (for IPv6)
- the **Domain Name System** links a precise series of letters with a precise series of numbers (icann.org = 192.0.34.163)



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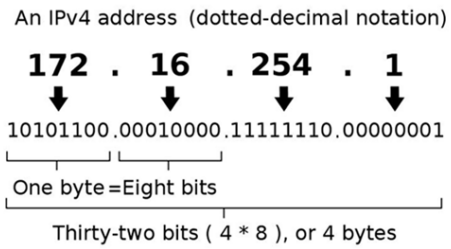
## IP address (IPv4)



## IPv6

An IPv6 address (in hexadecimal)

**2001:0DB8:AC10:FE01:0000:0000:0000:0000**

**2001:0DB8:AC10:FE01::** Zeroes can be omitted

0010000000000001:0000110110111000:1010110000010000:1111111000000001:

0000000000000000:0000000000000000:0000000000000000:0000000000000000



## domain names (i)

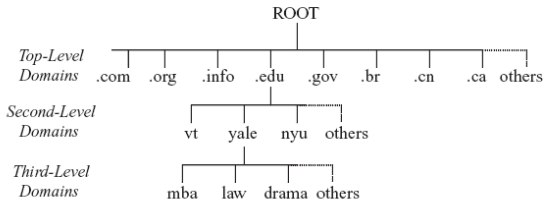



**Figure 1.2**
Domain name space



## domain names (ii)

- top-level domain names (TLDs)
- **generic top-level domain names (gTLDs)**
- **initially: com, edu, gov, mil, org, net**
- **1998: int; 2000: aero, biz, coop, info, museum, name, pro; 2005: cat, jobs, mobi, tel, travel;**
- **2011: major opening; related controversies**
- **2014: first batch of new gTLDs**

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## domain names (iii)

- **country code top-level domain names (ccTLDs)**
- all ccTLD identifiers are two letters long, and all two-letter top-level domains are ccTLDs
- for states and independent territories only corresponding to ISO 3166-1 country codes
- with few exceptions (**uk, eu**); commercial use (**tv, fm, dj, ag, pr, sr**)



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## domain names: number and growth

- Internet grew by a million domain names in the first quarter of 2010, ending the quarter with a base of more than 193 million registrations across all of the top-Level domains
- 2015, second quarter: 296 million
- Verisign's average daily Domain Name System (DNS) query load during the second quarter of 2015 was 111 billion across all TLDs operated by Verisign, with a peak of 182 billion.



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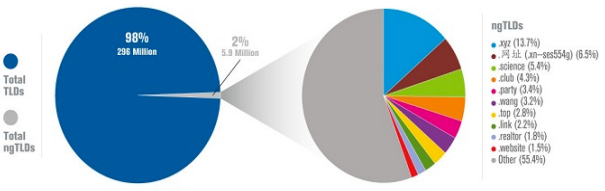
## domain names stats



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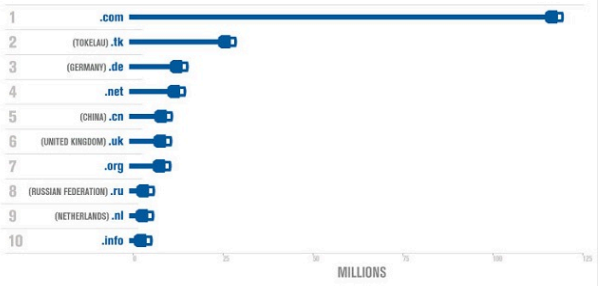
## domain names stats

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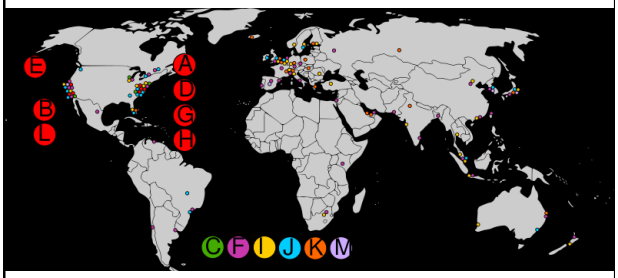
## root servers

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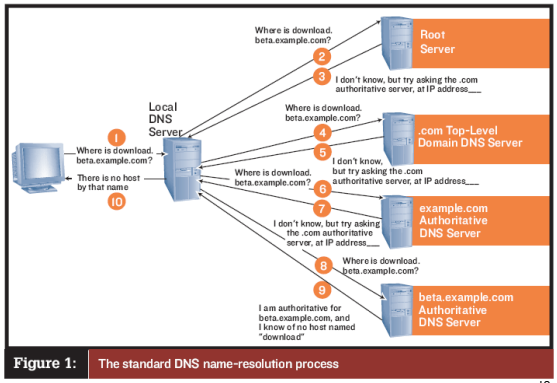


**Figure 1:** The standard DNS name-resolution process

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## domain name registration

- **Internet Corporation for Assigned Names and Numbers (ICANN)** and **Internet Assigned Numbers Authority (IANA)**
- **accredited registries** (for each gTLDs): http://www.icann.org/en/about/agreements/registries
- **accredited registrars:** (CH: CADiware; camPoint AG; Core Int. Council of Registrars)
- **for ccTLDs:** http://www.iana.org/domains/root/db/#
- **transfer to switchplus:** https://www.switchplus.ch/en/home/?__SWITCHplusBox=true



## icann: functions

- domain name management (accreditation of registries, registrars, global coordination, etc)
- maintaining the DNS root zone file
- supervising the administration of the Uniform Dispute Resolution Policy
- policy-making: new top level domains to be added to the root system; coordinate the development of other technical protocol parameters as needed to maintain universal connectivity on the Internet



## icann: organization

- non-profit corporation created September 1998
- headquartered in Playa Vista, CA
- complex organisational structure:
- **3 supporting organizations:** Generic Names Supporting Organization (GNSO); Country Code Names Supporting Organization (ccNSO); Address Supporting Organization (ASO)
- **advisory committees**: **Governmental Advisory Committee (GAC)**; At-Large Advisory Committee (ALAC); Root Server System Advisory Committee; Security and Stability Advisory Committee (SSAC); Technical Liaison Group (TLG)

## icann's multi-stakeholder model

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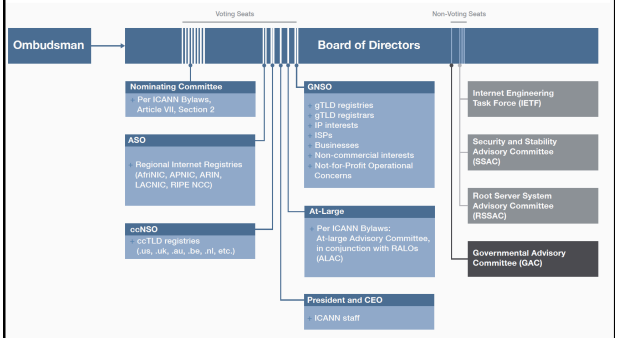


ICANN

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## icann: organization

- **final decisions taken by a Board of Directors**
- **the Board:** 21 members: 15 of which have voting rights and 6 are non-voting liaisons. The majority of the voting members (8) are chosen by an independent **Nominating Committee** and the remainder are nominated members from supporting organizations
- **President and CEO,** who is also a Board member and directs the work of ICANN staff
- **ICANN Ombudsman** acts as an independent reviewer of the work of the ICANN staff and Board





ICANN

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## icann: status

- evolution of the internet governance and the relationship with the US
- **Memorandum of Understanding (MoU)** between ICANN and the US Department of Commerce, **1998**
- principles: (i) stability; (ii) competition; (iii) private, bottom-up coordination; (iv) representation
- **'privatization' of the DNS**
- MoU envisages that this privatization may take time and that the DoC requires assurances that the private sector has the capability and resources to assume these important responsibilities

## icann: status

- MoU – seven times amended and extended
- **Joint Project Agreement (JPA)** – the seventh amendment meant to complete the transition of the 'privatization' of the DNS: 'plan for a deliberate move from the existing structure to a private-sector structure without disruption to the functioning of the DNS'
- **termination of the JPA, 30 September 2009**

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## icann: as of 1 oct. 2009

- **Affirmation of Commitments (AoC) by the US Department of Commerce and ICANN**
- **shifts oversight of ICANN from DoC to several multi-stakeholder review panels (reviews to improve accountability, transparency, promote competition, preserve security, etc)**
- **asserted importance of GAC**
- **ICANN remains not-for-profit; US based**
- **AoC is a long-lasting agreement , not temporary**
- **however, the management of the root zone remains with the DoC (through IANA)**

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## icann in transition

- **post-Snowden**
- **the NetMundial initiative april 2014**
- **IANA transition, 2014: US would cease to have oversight over the IANA functions and give those to the 'global multistakeholder community'**
- **ongoing process to be completed in 2016**

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## uniform domain name dispute resolution policy (udrp)

- all registrars must follow the UDRP
- under the UDRP, trademark-based domain-name disputes must be resolved by agreement, court action, or arbitration before a registrar will cancel, suspend, or transfer a domain name
- disputes alleged to arise from abusive registrations of domain names (e.g. cybersquatting) may be addressed by **expedited administrative proceedings that the holder of trademark rights initiates by filing a complaint with an approved dispute-resolution service provider**





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## udrp

- **Asian Domain Name Dispute Resolution Centre** (as of 28 February 2002); three offices: Beijing, Hong Kong and Seoul
- **National Arbitration Forum** (as of 23 December 1999), Minneapolis, MN
- **WIPO Arbitration and Mediation Center**, World Intellectual Property Organization (as of 1 December 1999), Geneva
- **Czech Arbitration Court** (as of 23 January 2008), Prague





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## udrp

- UDRP does not prevent either party from submitting a dispute to a competent court
- while the mandatory application of the UDRP is limited to gTLDs, such as .com, .info, .net and .org, the WIPO Center also assists many ccTLD registries. These procedures are mostly modeled after the UDRP, but may take account of the particular circumstances of individual ccTLDs. The WIPO Center provides udrp services to 58 ccTLD registries
- WIPO Arbitration Center: more than 25 000 cases up to now

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## udrp

- strict time frames (< 60 days)
- panels (1 or three panelists)
- decision in 14 days
- unless otherwise agreed by the Parties, **the language** of the proceeding **is that of the Registration Agreement**
- no in-person hearings; no lawyers' representation requirement
- remedies limited to **cancellation of domain name** or **transfer of domain name registration to the complainant**





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## art. 4 udrp

- You (the 'registrant') are required to submit to a mandatory administrative proceeding in the event that a third party (a 'complainant') asserts to the applicable Provider that:
- (i) **your domain name is identical or confusingly similar to a trademark or service mark** in which the complainant has rights; and
- (ii) **you have no rights or legitimate interests in respect of the domain name;** and
- (iii) **your domain name has been registered and is being used in bad faith**





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## art. 4 udrp

- **demonstration of rights or legitimate interests:**
- (i) before any notice to you of the dispute, your use of the domain name or a name corresponding to the domain name in connection with a bona fide offering of goods or services; or
- (ii) you (as an individual, business, or other organization) have been commonly known by the domain name, even if you have acquired no trademark; or
- (iii) you are making a legitimate noncommercial or fair use of the domain name, without intent for commercial gain to misleadingly divert consumers or to tarnish the trademark at issue

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## discussion

- **some cases**
- **pros and cons udrp**
- **pros and cons of the entire ICANN model**
- **the future of internet governance**



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## IG: infrastructure

***inner circle (strong, direct impact on the internet)***

- root server system, interconnection, routing
- names and numbers
- technical standardization
- network security

***outer circle (less direct/narrowly bounded impact)***

- international telecommunications
- international trade in services and goods
- international radio frequency spectrum
- international satellite regime
- International development programmes



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## IG: communication and commerce

***inner circle (strong, direct impact on the internet)***

- information content and cross-border flows
- cyber-crime and cyber-security
- intellectual property
- international trade in services
- e-commerce (contracting, authentication, taxation, jurisdiction/choice of law)

***outer circle (less direct/narrowly bounded impact)***

- information content and cross-border flows
- privacy protection
- spam and consumer protection

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- **thank you.**
- **contact: mira.burri@wti.org**