

Flowing Down From Layer 9 (say goodbye to the Internet?)

Scott Bradner

Harvard University

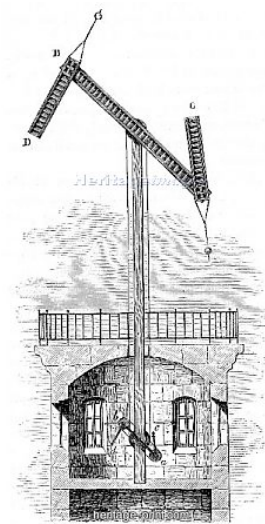
Office of the CTO

9 December, 2011

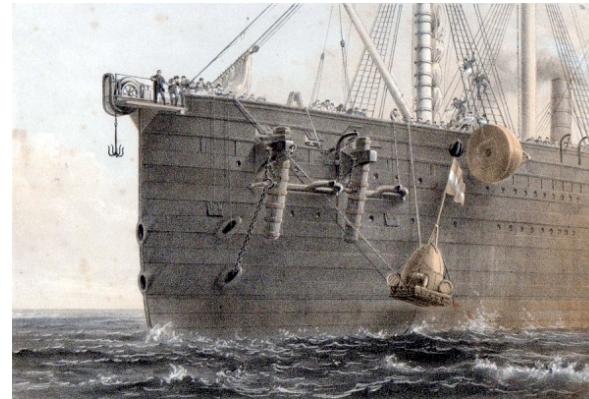
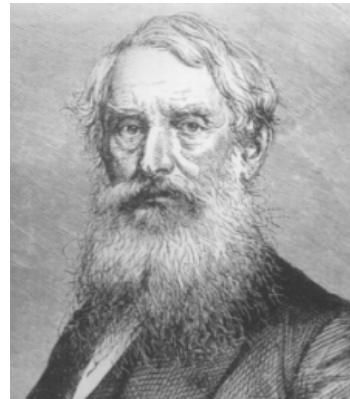
Layer 9 of the Internet Protocol



Long Distance Communication – P1



WHAT HATH GOD WROUGHT



1793

1844

1858

1875 – 650,000 miles

Telegraph Architecture

state-owned or licensed providers
& within state

approved services

revenue source for state

Telegraph Regulations



1865 – International Telegraph Convention (ITC)
International Telegraph Union (ITU)

ITC 1865

tariffs & settlements

technical standards

retention requirement

complaint process

. . .

protect state & morality

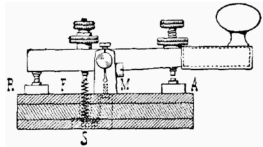
be able to stop messages that *“may appear dangerous to the safety of the State or which would be contrary to the laws of the country, public order or morality”*

Communications Regulation

more than technology

protect state, money & morality

ITU



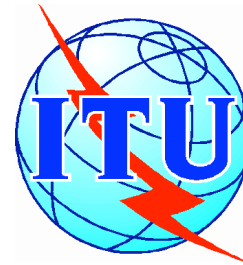
1865



1885



1906



1934



1949

because ITU “covered all forms of wireline
and wireless communication”

Telephone Architecture

state-owned or licensed providers

approved services

revenue source for state

circuit-based “intelligent network”

decade long planning cycles

Packet-Based Networks



1961



1962



1964



1964

best-effort
stupid network



Internet

overlay

ISPs (R&E + purpose built)

inter-net - 1983

Internet Regulation

what Internet regulation?

telephone companies ignored Internet

experts: does not/cannot work

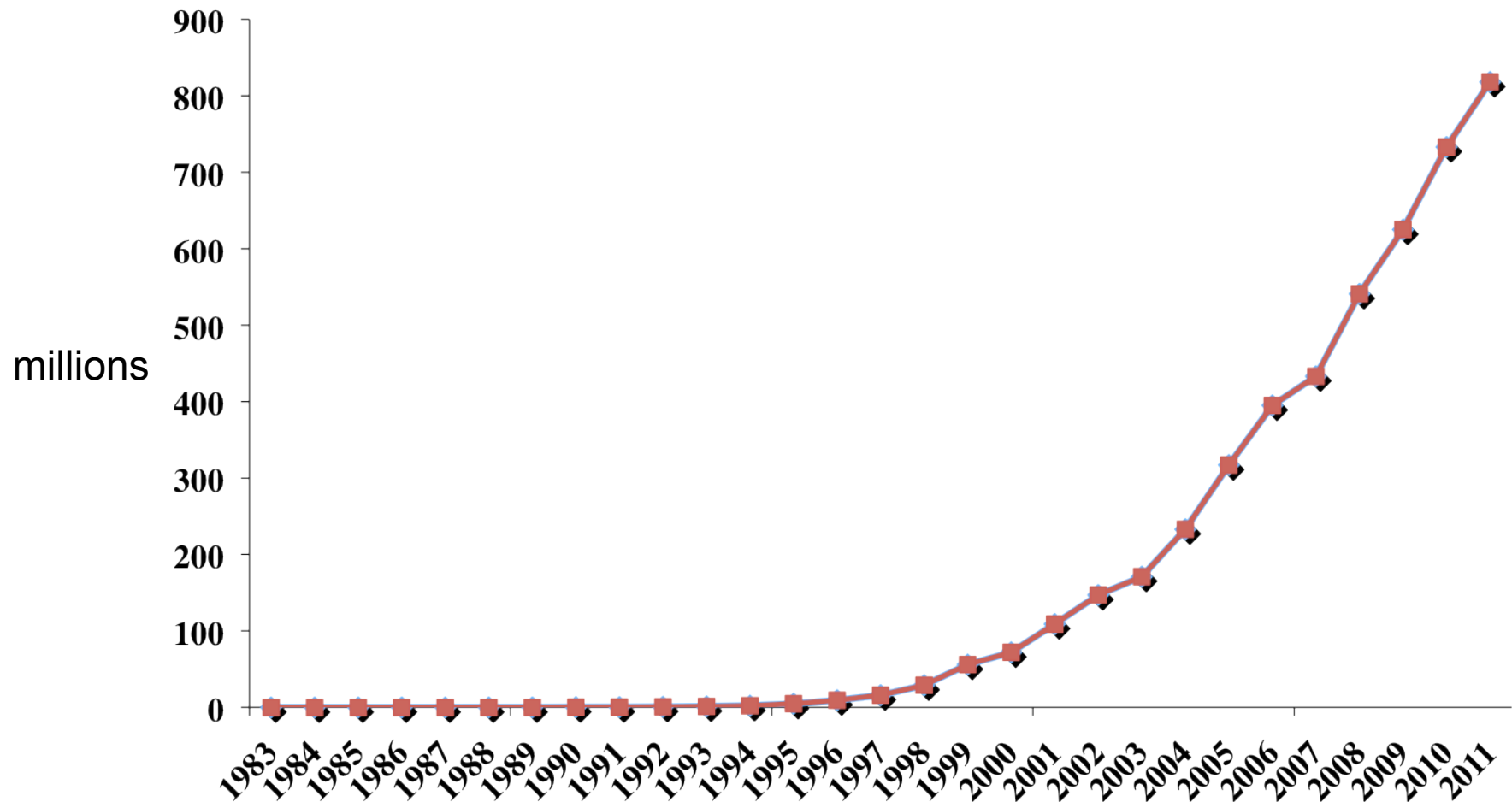


Teleco Mindset



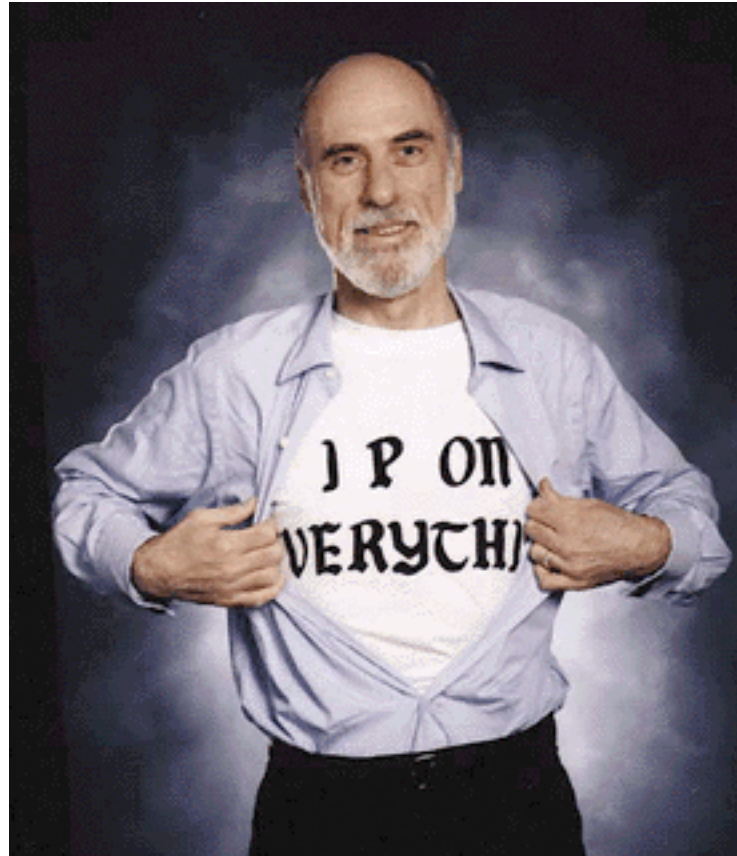
by definition

Internet Hosts



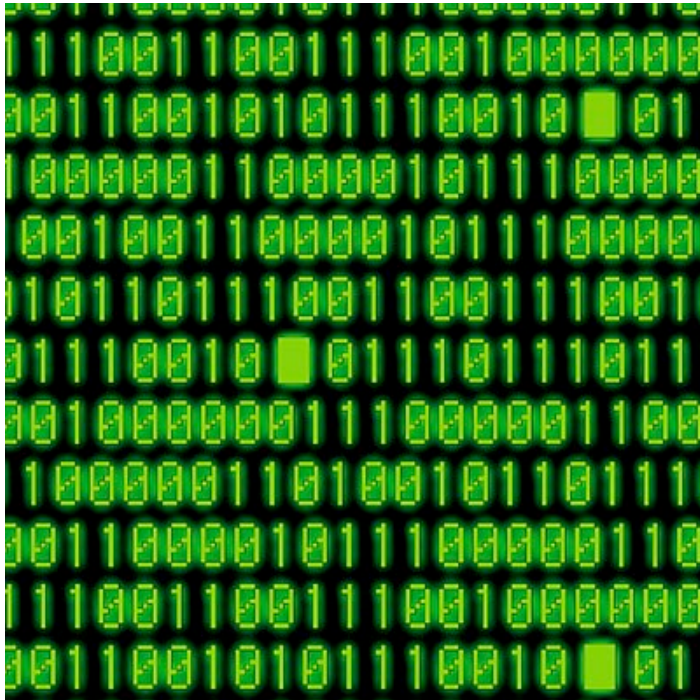
data from www.isc.org/ds

What Happened?



and vice-versa

Everything is Bits (and big money)



Educated Men & Women

students: learned at school

demanded at work

No Regulation???

inconceivable &
senseless

e.g.

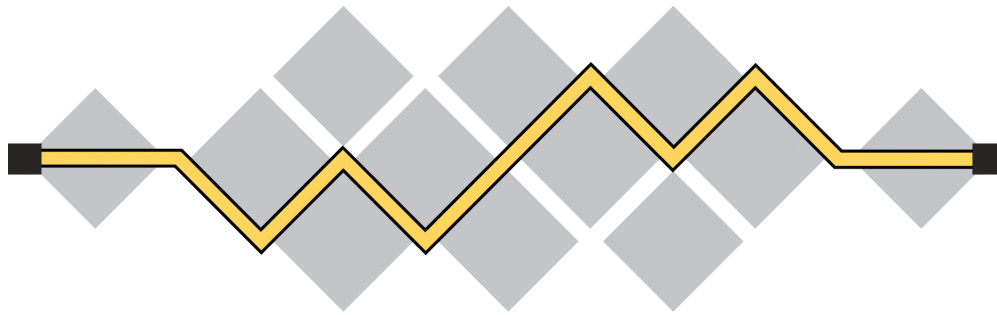
.iq



coordination, not regulation

but that is the way it is

Internet Engineering Task Force



I E T F®

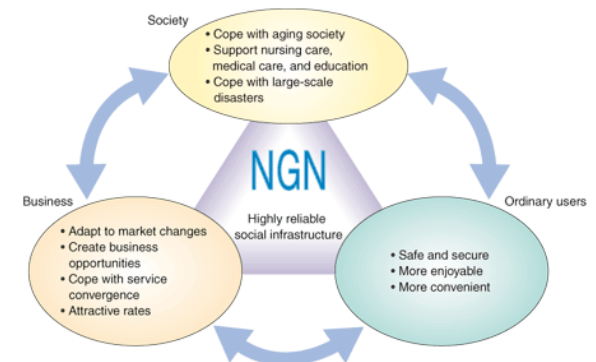
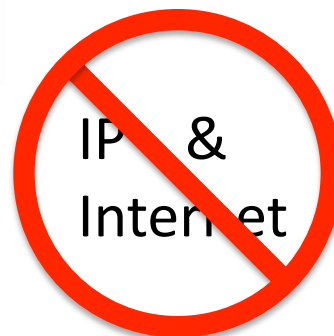
IP & Internet
people
open
voluntary



ITU-T



countries & companies
results open
voluntary (sort of)
regulations



ITU Wakes Up



IGF Internet
Governance
Forum

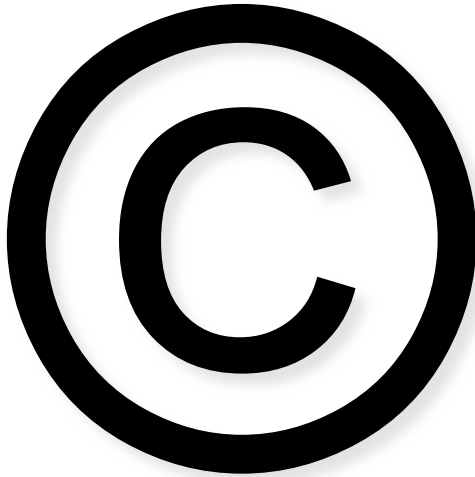
IGF Topics



Meanwhile, in the US

protect the kids

CDA



DMCA
HITECH

TM

Anticybersquatting
Consumer Protection
Act

Only For Kids?

concept: nothing that might harm a minor
can be allowed to reach a minor

common government solution:	CDA
put onus on sender	many states
	India (etc)

common government proposal:
put onus on ISP

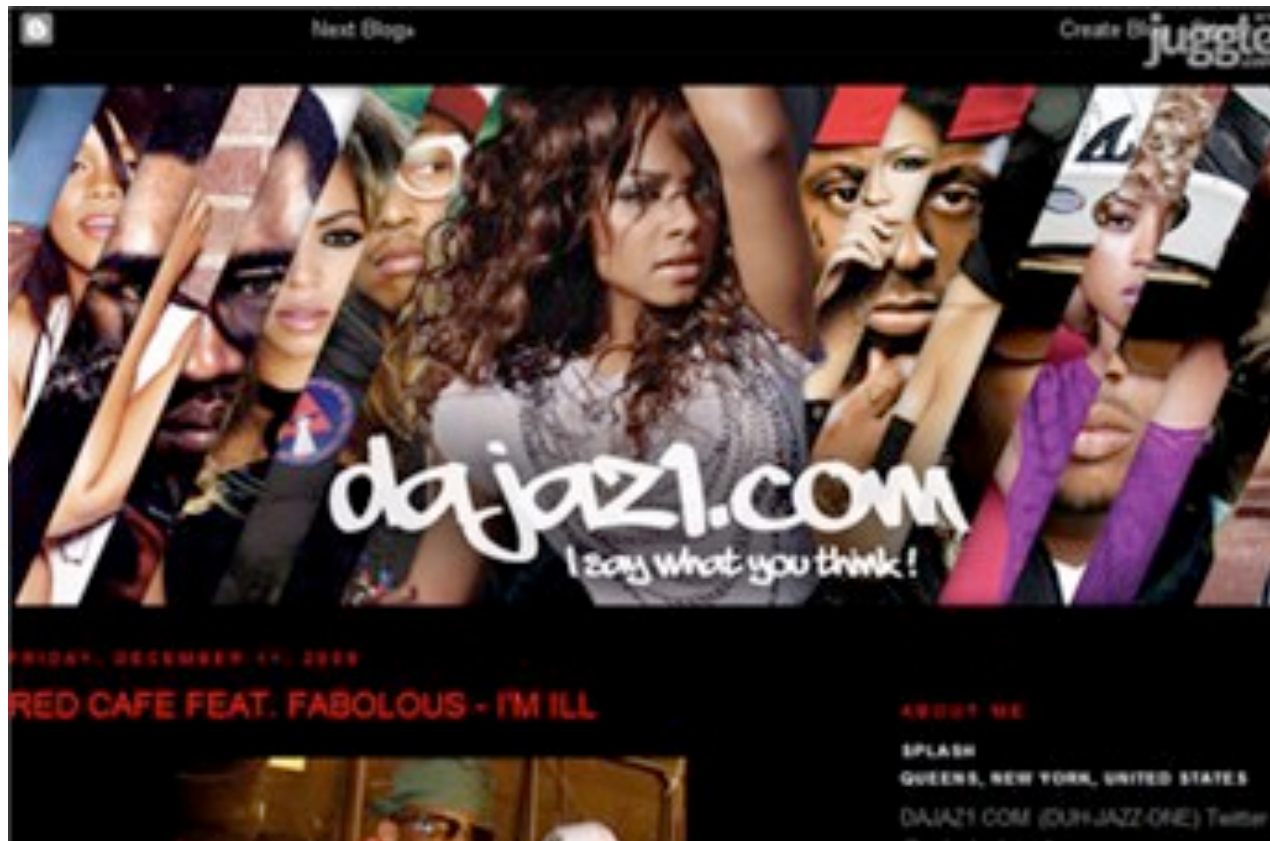
Conviction by Accusation



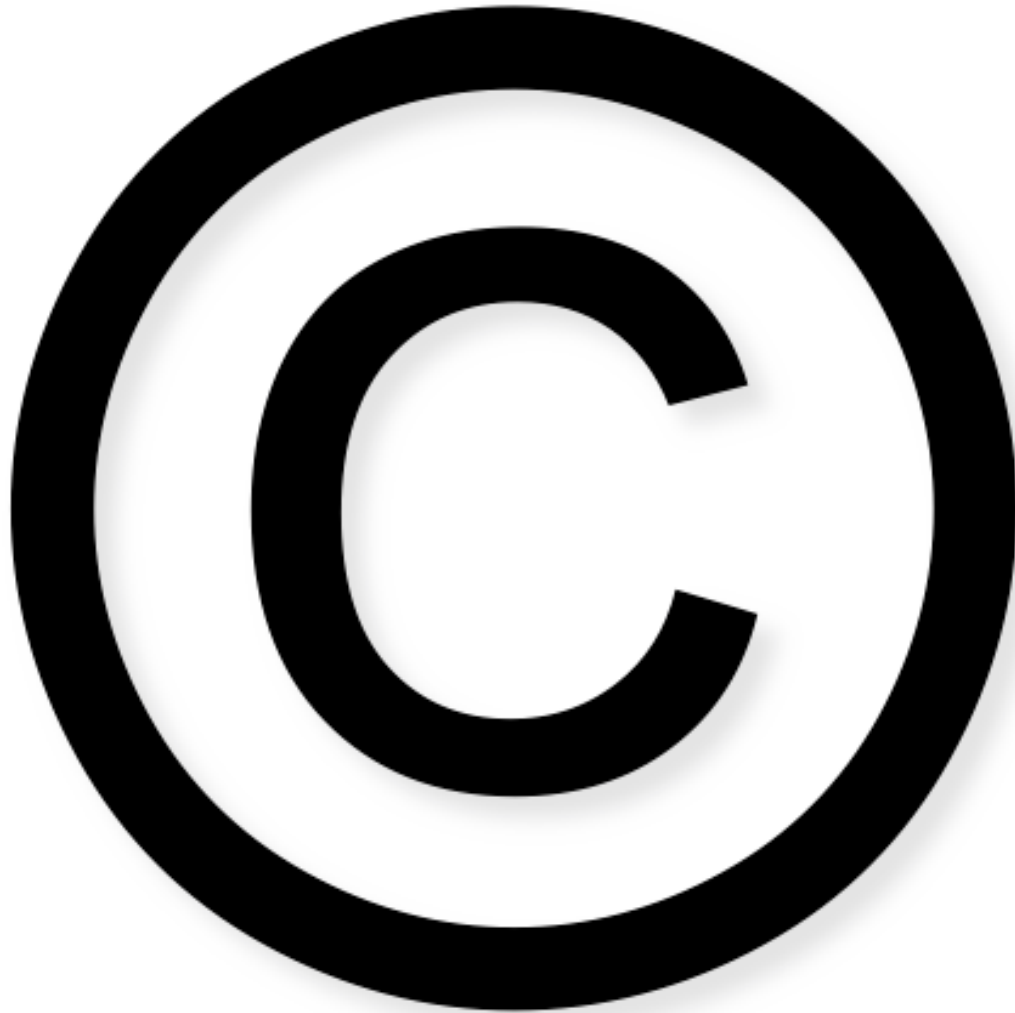
Immigration and Customs Enforcement?

court: no \$ damage, no foul

Example



Next at Home



**Preventing Real Online
Threats to Economic
Creativity and Theft of
Intellectual Property Act of
2011 (PROTECT IP)**

**Stop Online Piracy Act
(SOPA)**

Execute on Accusation

e.g., SOPA (in part)

copyright holder can (with or without court OK)

require ISPs to block access to sites

disable DNS resolution

require search engines to hide matches

require banks to not transfer money to site owners

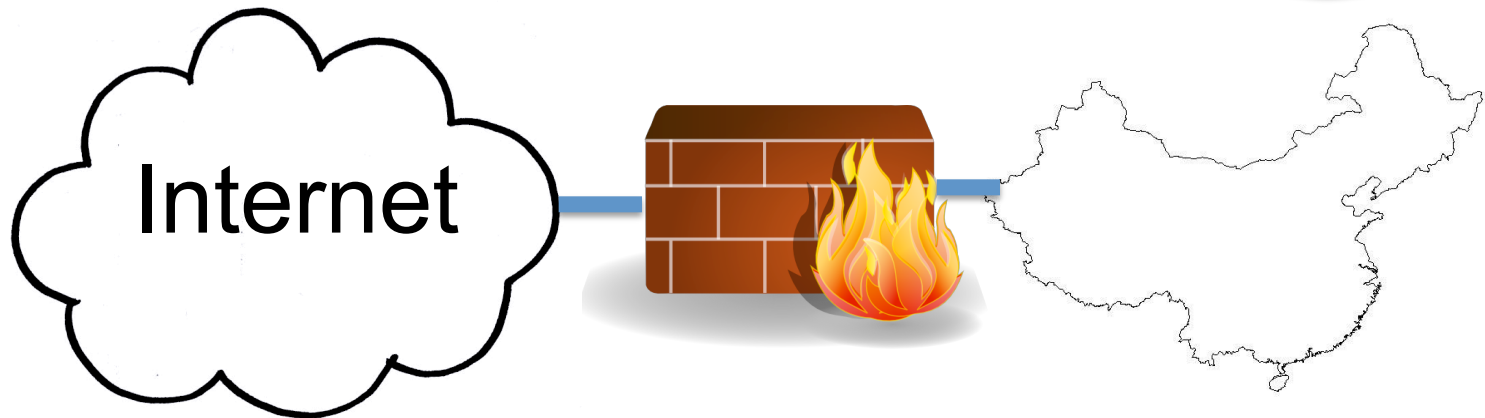
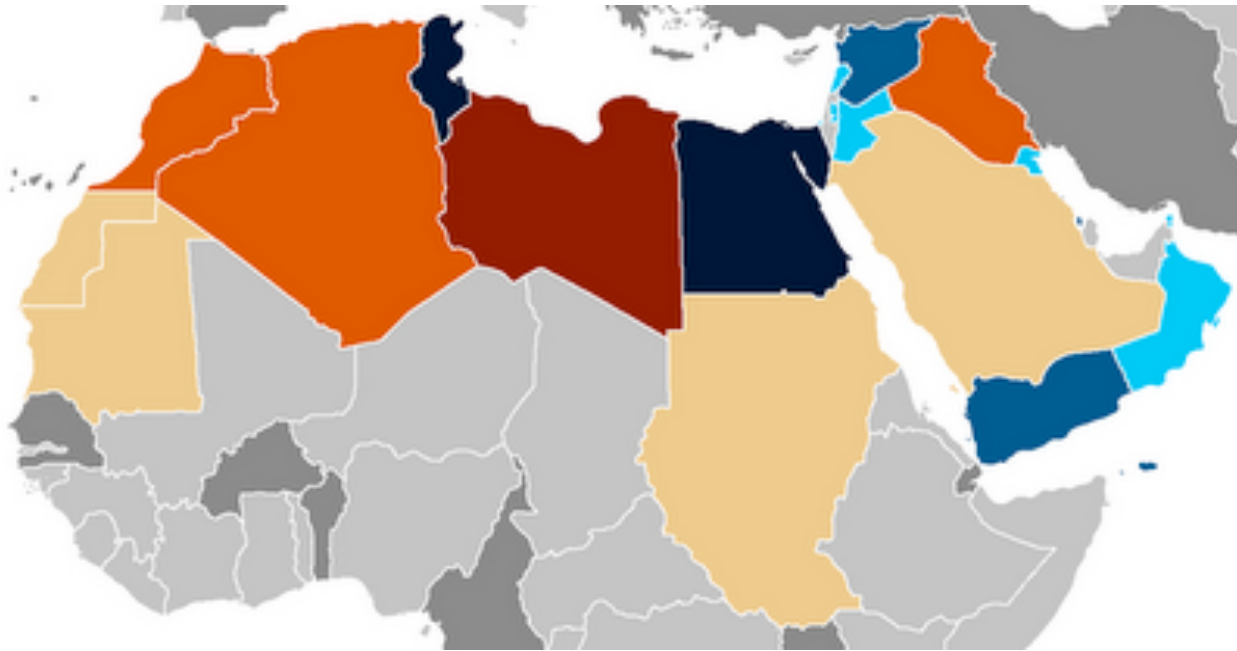
block advertising services from advertising site

site owner permitted to go to court
to block blocking



factoid: SOPA sponsors \$274 K ea
PROTECT IP sponsors \$519 K ea
(over careers)

Society & the Internet



Innovation Is Too Good To Last

The Internet is now too important to leave to the people that know what they are doing.



“Regulating internet to correct the excesses and abuses that arise from the total absence of rules is a moral imperative”

Too Good To Last, contd.



“One of these is establishing international control over the Internet using the monitoring and supervisory capabilities of the International Telecommunication Union (ITU). If we are going to talk about the democratisation of international relations, I think a critical sphere is information exchange and global control over such exchange. This is certainly a priority on the international agenda.

The UN is the Answer?



UN Committee for Internet Related Policies (CIRP)



India to Facebook:
use people to monitor
postings

factoid: Facebook updates
700 per second (in 2010)

CIRP

committee of 50 countries, selected to ensure 'fair geographic representation'

"Coordinate and oversee the bodies responsible for technical and operational functioning of the Internet, including global standards setting;"

"Promote the promotion and protection of all human rights, namely, civil, political, social, economic and cultural rights, including the Right to Development;"



meanwhile – the ITU has not gone away
(also country-based decisions)

ITU (Still)



VS

IP v2

Russia: make ITU recommendations mandatory under treaty

2012 World Conference on International Telecommunications (WCIT)

What About the Internet?

the Internet is about (chaotic) innovation
in technology, business & society



*“Just as the strength of the Internet is chaos,
so the strength of our liberty depends upon
the chaos and cacophony of the unfettered
speech the First Amendment protects”*

but, on the Internet, the First
Amendment is a local ordinance



?

