

Internet Governance – when worlds collide

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SETTING THE STAGE: THE PLAYERS / WORLDVIEWS

Technical Community

- Original source of envisioning, building and managing the Internet and the world wide web
 - from its inception as a (largely US) research network
- Have carefully self-organized to take care of the network
- Understand what is good “for the Internet” itself
- Have visions and views of what more can be done with this globe-spanning phenomenon
- Experts from around the globe
 - self-identifying
- Resolve issues through iterative discussion and consensus on best outcome

Private Sector

- Largely aligned with Technical Community
 - But with an eye on the bottom line
- As the Internet evolved from a research network, operations and growth of the Internet is largely due to private corporations
 - ISPs
 - (Domain name) registries and registrars
- Some come from traditional telecomm sector, some don't
- Want as little intervention as possible with their business plans
- Resolve issues through competition and financial might

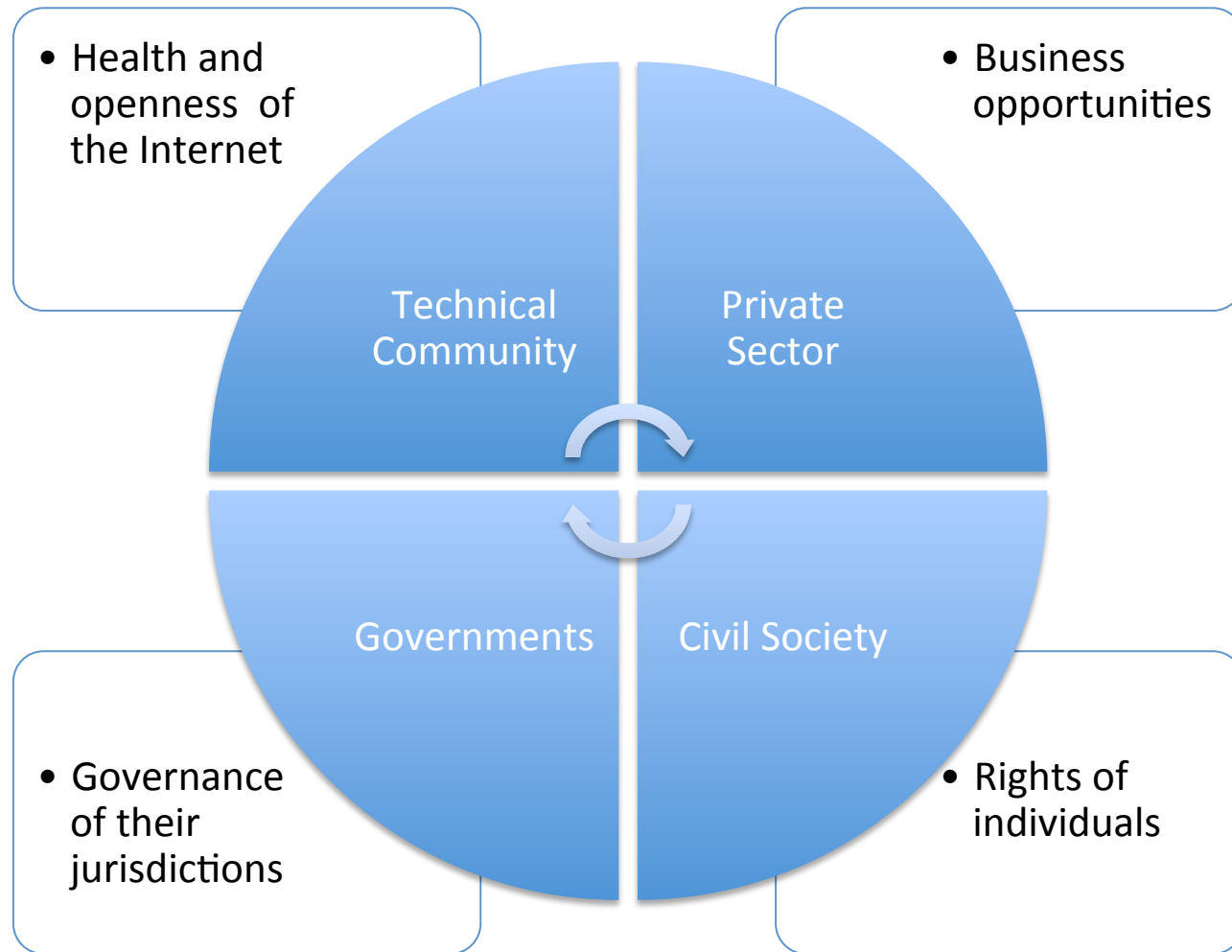
Civil Society

- Represent private persons' interests
 - empowerment
 - protection
- Focus on the Internet in terms of its reach and impact
- Free speech, human rights, etc
- Resolves issues through open discussion, dialogue, campaigns

Governments

- Have responsibility for the welfare of their citizens/constituencies/regions
 - including economy
- Have determined jurisdictions
 - regional
 - reach
- Resolve issues through
 - Laws and regulation (in-jurisdiction)
 - One-nation-one-vote treaty negotiation (between jurisdictions)

Tussle



3 IMPORTANT CONCEPTS AND 3 INTERPRETATIONS OF INTERNET GOVERNANCE

Concept #1

- Internet governance sparks fly when worldviews collide
 - it's a constant tussle
- Worldviews are naturally fairly divergent

What is Internet Governance? (1/3)

- Making the Internet work through responsible construction and sharing
 - Original definition
 - Still see sparks of it – collaborative discussion of best paths forward in network architecting and operation

Early steps of collective stewardship of the Internet

- Late 1960's – Internet invented, as a research network
- 1969 – RFC 1
 - Beginning of a series to collect and share publicly the agreed technical specifications
 - Now, more than 7,000 RFCs
- 1986 – creation of the Internet Engineering Task Force
 - Formal process for evolving specifications
 - Opened to the public in early 1990s
 - Meets 3 times a year, does most of its work on mailing lists
 - <http://www.ietf.org>

Network Neutrality: dust up between Private Sector and Technical Community

- Technical Community: the Internet requires unimpeded passage of traffic from one endpoint to any other endpoint
- Private Sector: has to be able to monetize their infrastructure, and is baffled at having to provide service to their (content) competitors

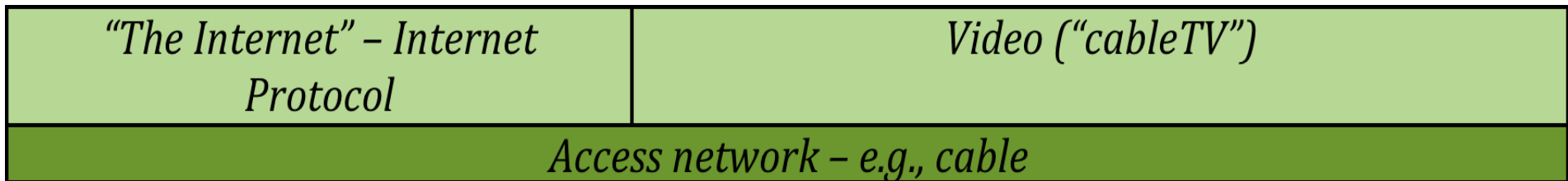
NET NEUTRALITY IN PICTURES

Customer experience used to be simple

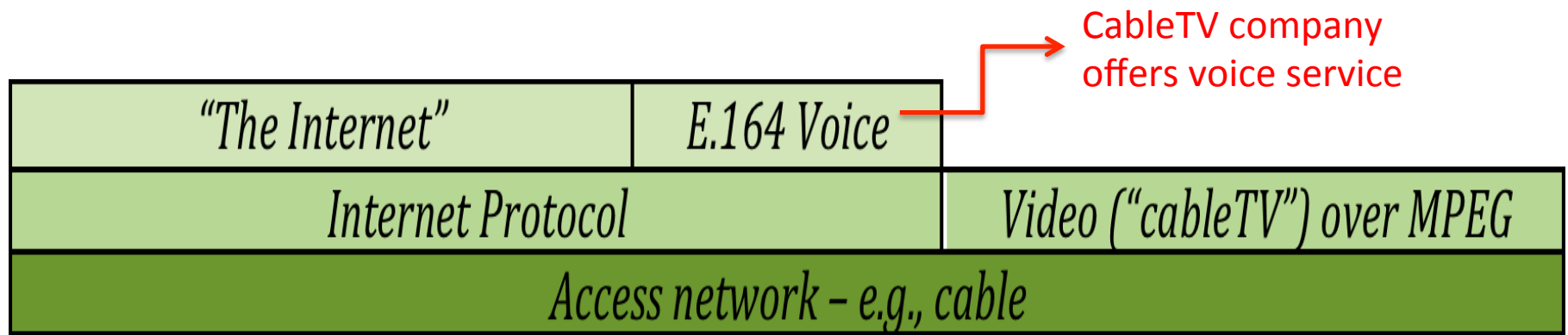
Service – e.g., video (“cable TV”)

Access network – e.g., cable

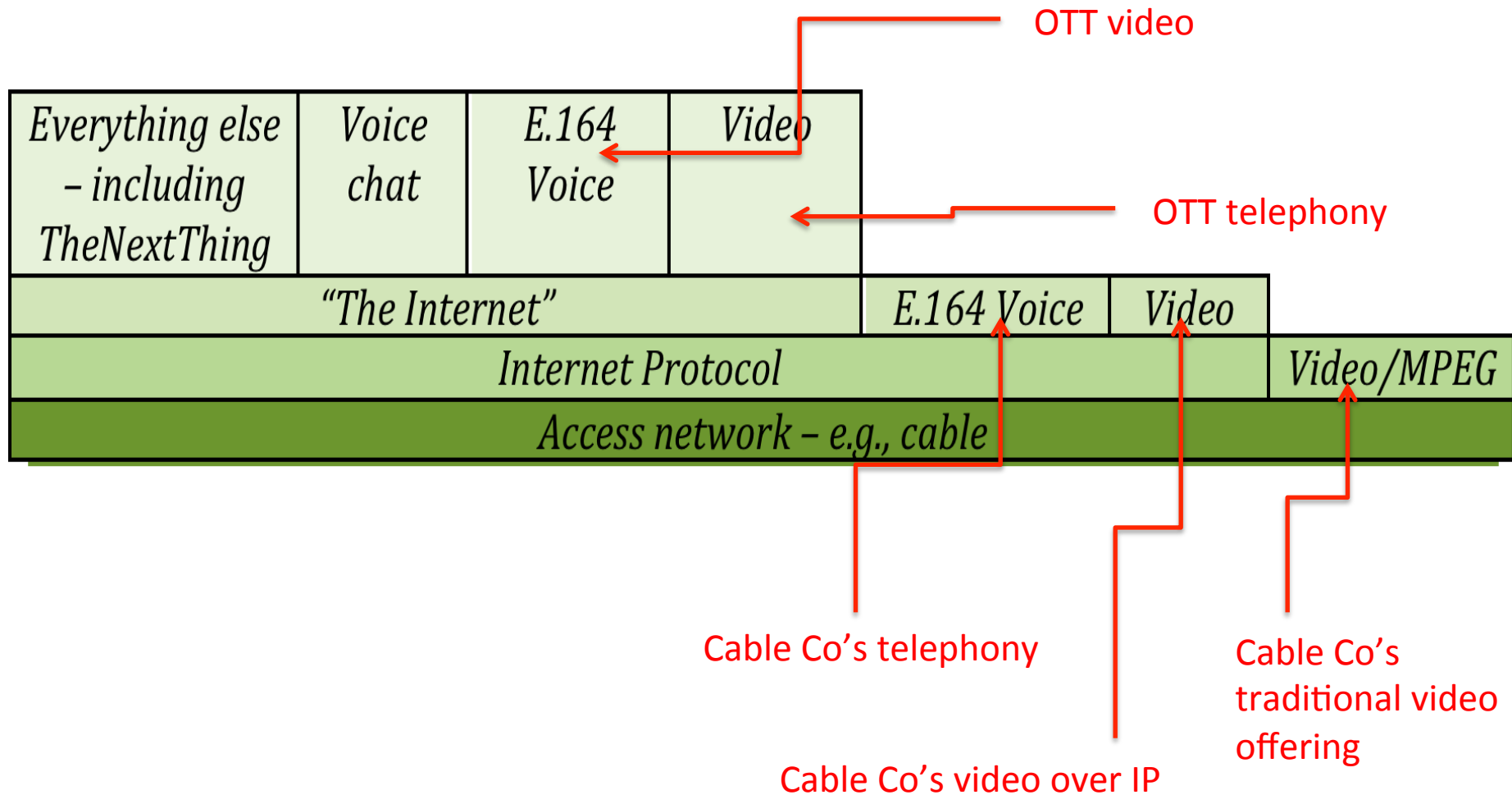
Once you have the last mile... may as well use it for new services



Or competing....



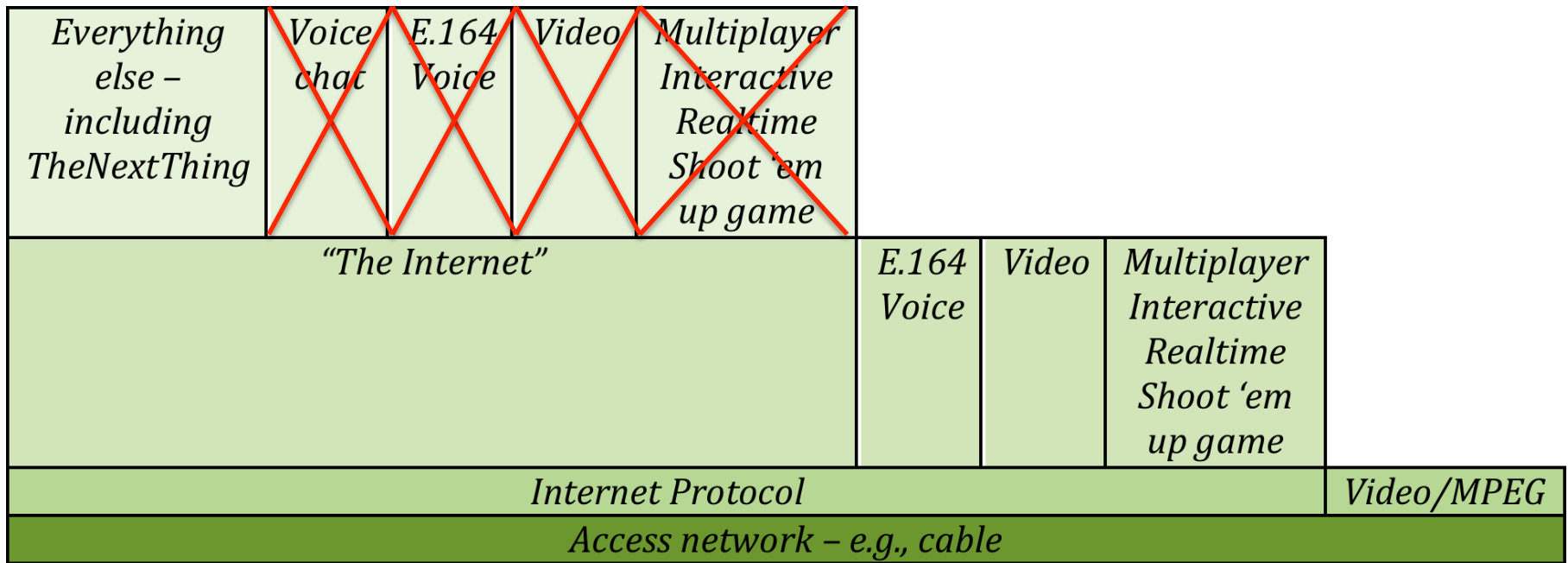
Because your customers will look for competition, too...



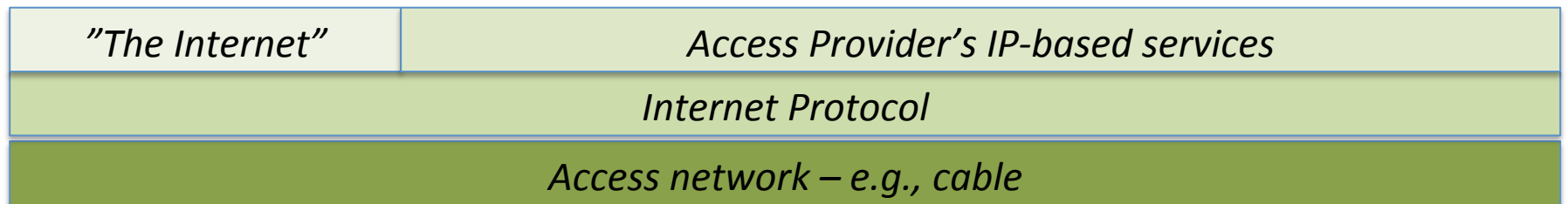
But when does it become anti-competitive?

<i>Everything else – including TheNextThing</i>	<i>Voice chat</i>	<i>E.164 Voice</i>	<i>Video</i>	<i>Multiplayer Interactive Realtime Shoot ‘em up game</i>			
<i>“The Internet”</i>				<i>E.164 Voice</i>	<i>Video</i>	<i>Multiplayer Interactive Realtime Shoot ‘em up game</i>	
<i>Internet Protocol</i>							<i>Video/MPEG</i>
<i>Access network – e.g., cable</i>							

Blocking



Information ~~Superhighway~~ Dirt Road



Concept #1 – redux

- Internet governance sparks fly when worldviews collide
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Competing World Views

- Civil Society
 - Right to competitive (free) OTT products
- Private Sector
 - Business model!
- Government
 - How to regulate for citizens's best interests?
- Technical Community
 - Unimpeded passage of packets
 - @Private Sector: Offer the best Internet access possible
 - @Government: Don't break the Internet with unnecessary rules

What is Internet Governance? (2/3)

- Code for “management of critical Internet resources on a global basis”
 - International struggle to control the domain name system and/or IP addresses
- Can the US pull the plug on a country’s Internet?
 - No
 - Country code domain name (e.g., .br for Brazil) relies on the DNS root zone file

Further Steps in Evolution of Collective Stewardship of the Internet

- 1992 – IETF creates the concept of Regional Internet Registries
 - for management of allocations of increasingly scarce IPv4 addresses
 - recognizing globalization of the Internet
 - Today, there are 5 regional registries
- 1998 – Internet Corporation for Assigned Names and Numbers (ICANN)
 - recognizing domain name “industry”
 - undertaking contract from USG to carry out IANA registry activities
- Lather, rinse, repeat

Evolution of the Internet Assigned Number Authority (IANA)

- Originally – a notebook managed by Jonathan B. Postel
- 1998 – ICANN took over functions, under contract to US Department of Commerce
 - registries for Internet protocol parameters
 - IP addresses – to RIRs
 - DNS root zone
- 2014 – US DoC announces it is ready to see its oversight role end, should the appropriate follow on structure be found

Concept #1 – redux

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Competing World Views on IANA

- Governments
 - don't like being beholden to one government
 - concerned about being kicked off the Internet
 - don't want to be beholden to particular (other) governments
 - do or do not want this to be a UN function
- Civil Society
 - everyone has a right to have a say
- Private Sector
 - more competition in TLD space
- Technical Community
 - IANA is clerical; this is just the oversight role
 - status quo works

What is Internet Governance? (3/3)

- Physical world governance meeting and incorporating the Internet and its uses
 - As the Internet becomes increasingly part of our lives, it's hard to separate “governance of the population” from the Internet

Concept #2

- The Internet knows no physical boundaries
 - Indeed, *diversity* is key to achieve robustness of Internet infrastructure

DRIVING TOWARDS NATIONAL BOUNDARIES ON THE INTERNET'S NETWORKS

Reactions to NSA Revelations

- Admission that the USG is not the only government that scoops up data about all Internet traffic through its networks
- Call for Internet service data stores within (each) country
 - prohibitive barrier to entry for new services
 - not necessarily better privacy protection for users, depending on country
- Plans to re-route international Internet connections
 - Not healthy when it is just a knee-jerk political statement

Sovereignty and (Cyber)Security

- BRICs at the ITU
 - Brazil, Russia, India, China
 - Demands for international treaties to “address” cybersecurity
 - Desire to replicate inter-national telephone charging for Internet traffic
- Implicitly requires forcing the Internet to “stop” at national boundaries

Diversity and Resilience

- The Internet is more resilient if there is diversity in infrastructure
 - Secondary ccTLD servers outside of country
 - Multiple independent connections
- Useful when there are disasters
 - Man-made (political)
 - Natural
 - Why Haiti was still “on the net” after 2010 earthquake

Economic Realities

- It may be cheaper, easier, and faster to send a packet from Vancouver (Canada) to Toronto (Canada) via Seattle (United States) than any all-Canadian route
 - but that makes the traffic subject to US inspection.
- Many international connections out of Latin America terminate in Miami, because that provides the most direct link to all other continents.
 - that means traffic from Santiago (Chile) to London (UK) may well pass through the US and be subjected to US government inspection/collection.

Concept #2 – redux

- The Internet knows no physical boundaries
 - Indeed, *diversity* is key to achieve robustness of Internet infrastructure

To Take Away...

- No regional jurisdiction is an island on the Internet
 - The choices of one will have an impact on others
- Understanding what's “right” or “best” is rarely unidimensional

Concept #3

- Internet governance should not only be about regulating technology and its use

What this is

- Aiming to shape citizens' behaviour through laws impacting in-jurisdiction Internet infrastructure
- A variation on the theme of “just because you can, doesn't mean you should...”
- The Internet platform is global and requires global agreement to standards

ILLUSTRATION: IPR

Intellectual Property Rights

- Problems:
 - Fake Louis Vuitton bags sold elsewhere
 - Rebroadcasting of sports events
 - Massive movie download sites

SOPA/PIPA

- Stop Online Piracy Act/PROTECT IP
 - United States bill/act – not adopted
 - Wikipedia and others “went dark” in protest
 - E.g., requiring US ISPs to have DNS servers that would block websites of “known” IPR violators
- Problems
 - Doesn’t work
 - You can run your own DNS server, or use anything other than your ISP’s
 - Breaks the DNS technology (DNSSEC)
 - Lots of collateral damage (can’t e-mail to the domain anymore)
 - Prevents US citizens from accessing the IPR, but not the world

DHS domain seizure

- DHS will serve court orders to seize domains from US-based registries (e.g. .com, .net, .org)
 - E.g., a few years ago – Rojadirecta.org
- Took down a Spain-based domain on the grounds it was serving ill-gotten sports video.
- Spanish courts upheld the service as legitimate.
- But the .org server is in the US.
- Of course rojadirecta.es popped up immediately.

All of these things assume an IPR “industry”

- Movies, music, fashion.
- “My right to copy outweighs your right to make money”
- What about little IPR – how to manage it?
 - Your video showing up elsewhere
 - Your video NOT showing up elsewhere (prevented from going viral)
- None of the above approaches would do anything for you, the small entrepreneur, crafts person, etc.

Implications

Action against Technology

- DNS blocking
 - Ideological
 - IPR
- In-country blocking of services
 - VoIP
 - Facebook
 - Internet

Global impact

- Ancillary effects
 - Lose DNS as a building block for new technology, services
 - Break existing systems
- Not Internet services
 - No longer an internet network

Concept #3 – redux

- Internet governance should not only be about regulating technology and its use

SUMMARY AND WHERE NEXT

Summary

- The Internet was not designed as a single-purpose, coherent network – it doesn't even notice national boundaries
 - And that's what gives us much of what we love about it
- Increasing regulation of the wrong things could break what we love
 - Forcing networks to line up on national boundaries
 - But – let's think about why the Internet works in the face of disaster...
 - Regulating the Internet when really it's some service that you wanted to focus on
 - E.g., "telephony"
- At the same time, there are key issues that need regulation in order to foster an orderly future for all
 - So, we, all, need to figure out how to do it right

Concepts

- Internet governance sparks fly when worldviews collide
- The Internet knows no physical boundaries
- Internet governance should not only be about regulating technology and its use

Conclusions

- As of yet, there are no conclusions in Internet Governance :-)
- But, there are existing and future problems
- Let me leave you with one to think about...

(Plain Old Telephone System)

LOOKING DOWN THE LINE AT THE END OF POTS

Historically

- Services have been looked at in terms of “verticals”
 - Voice
 - Global managed numbering system
 - International agreements (and charging)
 - SS7 signaling network
 - dedicated last mile network (historically)
 - Internet
 - Unimpeded passage of packets to globally managed address system
 - Delivery over “last mile” network

End of the Plain Old Telephone System (2018)

- What happens to all the existing (voice) telecomm regulation when POTS is terminated?
 - worldviews will collide
 - international issues
 - regulation of (Internet) technology?

No clear answers...

- It's going to be time for a fresh approach

QUESTIONS

<http://www.thinkingcat.com>

This I believe...

The Internet was created for connecting and sharing — initially, connecting research networks and sharing (computing) resources. Ever since it “escaped” the research lab, it has provided a basis for individuals of all age and background to connect and share in ways previously unimagined. The things we’ve seen in the last twenty years would surely have been deemed *impossible*, except that they have been achieved. As long as the Internet remains open and non-discriminating to all-comers, the people (individuals, communities and organizations) of this planet will continue to amaze each other with the creative uses to which they put the Internet.

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