



Standing on a Slippery Slope:
What does “open” mean?

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The meaning of *open*

- A prefix used to express positive values...
 - Open conversation
 - Open expression
 - Open channel of communication
 - Open mind
 - Open countenance
 - An open countenance often conceals close thoughts. *Portuguese proverb.*
 - Open borders



Open source

- An important concept in software development today.
- Rough idea: any license related to the software cannot prevent anyone from using it (and modifying it) for any purpose.
 - Goals of innovation, productivity, efficiency, empowerment.

Open source software definition

Free distribution

Source code available

Derived work acceptable

Integrity of the author's work

Distribution of any license required

Any license cannot discriminate

- Against people

- Against field of endeavor

- Against specific products

- Against other related software

- Against one or another technology

From The Open Source Initiative

It's not just software

- OpenCola
- Flavoring formula
 - 10.0 g food-grade gum arabic
 - 3.50 mL orange oil
 - 3.00 mL water
 - 2.75 mL lime oil
 - 1.25 mL cassia oil
 - 1.00 mL lemon oil
 - 1.00 mL nutmeg oil
 - 0.25 mL coriander oil
 - 0.25 mL neroli oil
 - 0.25 mL lavender oil



The open Internet?

- It is not “open source”.
 - It is not easy to change. But it is “open protocols”.
- The original design objectives:
 - Both the interfaces (e.g. the IP service) and the means to implement the service (e.g. any algorithms defined as part of the protocols) should be free of license or copyright constraint.
 - Operationally, there should be no license or IPR barriers to being an ISP or a technology provider.
 - The packet transport service was *general purpose*, to support as many applications as possible. It did not favor specific apps.
 - We did not use words like “open” or “neutral”.



Shifting focus

- In the early days, our worry was IPR and proprietary (undocumented) interfaces.
 - This is still an issue.
 - Patents sometimes “creep into” standards.
- But the focus now is on operators, not protocol designers.
- And the emerging focus is on governments.

Remember the four FCC principles?

- *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet,* consumers are entitled to access the lawful Internet content of their choice.
- *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet,* consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement.
- *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet,* consumers are entitled to connect their choice of legal devices that do not harm the network.
- *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet,* consumers are entitled to competition among network providers, application and service providers, and content providers.

And what happened?

- Later versions, cast as “rules” and not principles, restated these as explicit obligations on ISPs.
- I like to refer back to these principles as an initial (perhaps flawed) attempt to articulate objectives.
 - The rules (to some extent) lost any articulation of the objectives. A serious issue.

Invert this framing

If:

- Consumers are entitled to access the lawful Internet content of their choice.
- Consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement.
- Consumers are entitled to connect their choice of legal devices that do not harm the network.
- Consumers are entitled to competition among network providers, application and service providers, and content providers.

These actions will:

- Encourage broadband deployment.
- Preserve and promote the open and interconnected nature of the public Internet

Is this a definition of “open” or is this open a code word for other goals?

Goals of these principles?

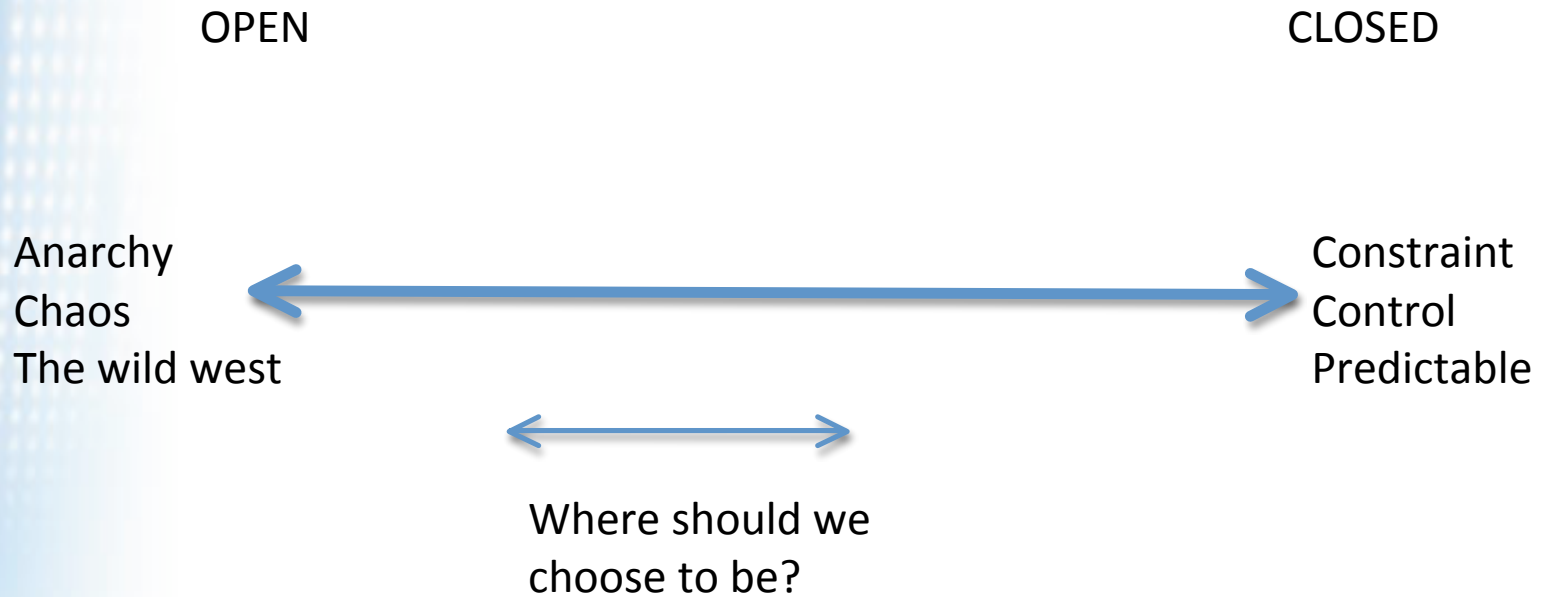
- Restrict the potential power of the ISPs.
 - Relates to general goal of balanced empowerment.
- Innovation?
 - Indirectly: a non-discriminatory platform may encourage investment.
 - The policy only directly protects the existing choices. Could freeze the pool of apps and still comply.
- Deployment?
 - But how? I didn't get this one.
- Interconnected Internet?
 - Not sure I got that one either.
- Competition?
 - Stated as a driver of “open”, not as a goal.



The fallacy of competitive pressure

- Will competitive choice lead to an open Internet?
 - Why would it?
 - Do consumers want “open”?
 - Depends on the definition and the details, of course.
 - But innovation and change leave consumers frustrated.
 - Cost, complexity, instability.

A spectrum from open to “closed”.



The answer may be different for:

- Users
- Innovators
- Security experts



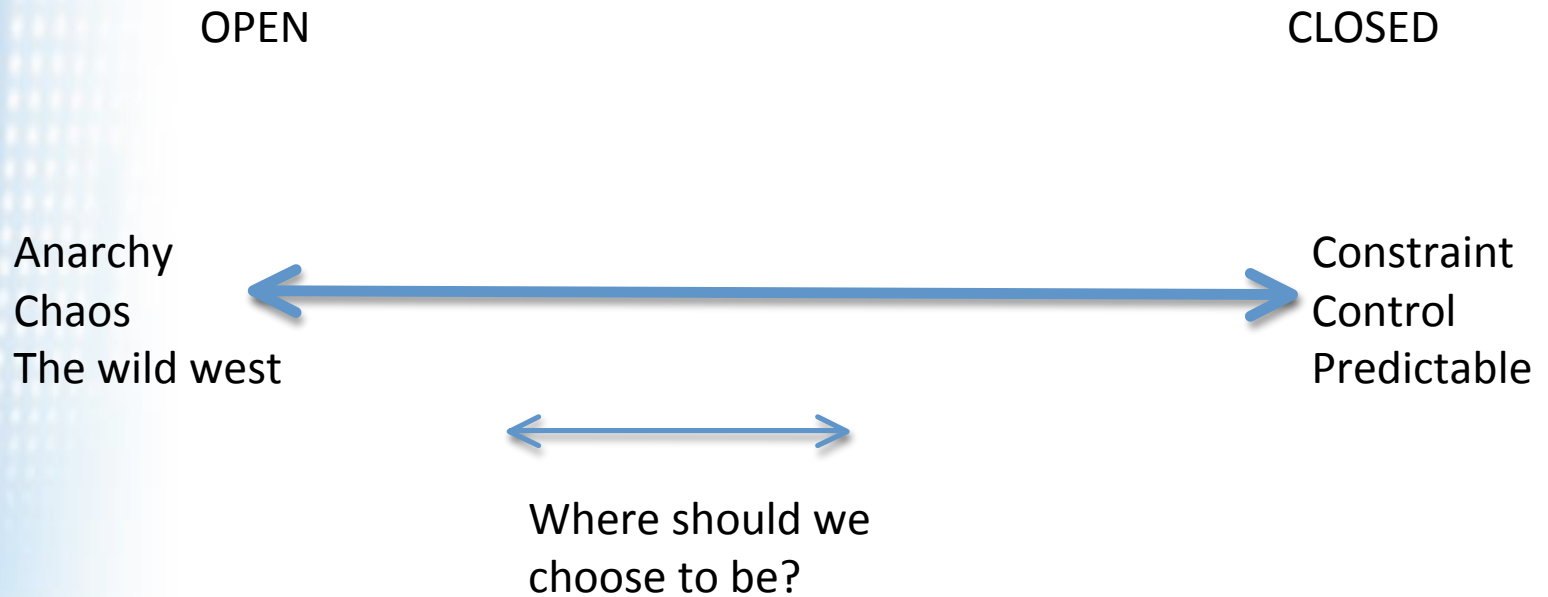
Making sense of all this

- “Open” through three lenses
 - Security
 - Economics
 - Social/societal

Security

- “Open” will always be problematic.
- An open system, if open to all patterns of communication, is open to bad ones.
- Always a push to block the bad ones.
 - But who get to define “bad”?
 - Expect wide variation across countries and purposes.
- See Jonathan Zittrain, *The future of the Internet—and how to stop it.*

A spectrum from open to “closed”.



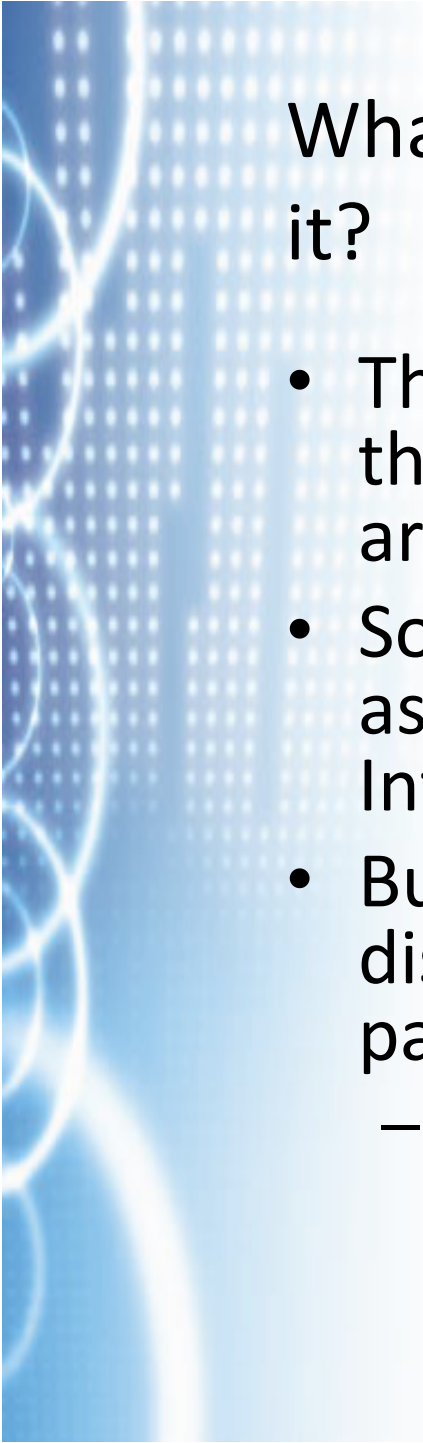
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Economics

- An open platform is arguably a powerful stimulus to innovation and investment.
 - No license or IPR barriers.
 - No “run-time” unpredictable impairments.
- See Barbara van Schewick: *Internet Architecture and Innovation*.



What does “end-to-end” have to do with it?

- The advocates for innovation have equated the open platform with the end-to-end argument.
- Some have taken the end-to-end argument as defining the open character of the Internet.
- But...the word “open” and the goals discussed here do not appear in the original paper.
 - The original paper discusses correct operation of reliable protocols.

Social/societal

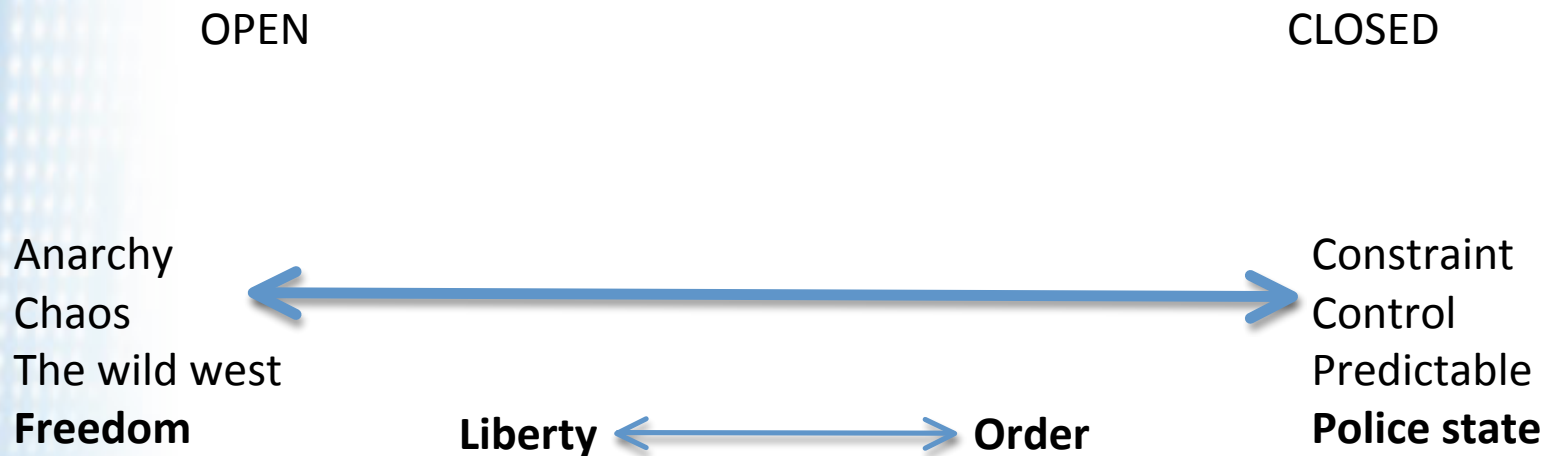
- “Open” is associated with freedom, free speech, and a functioning civil society.
- Quotes from Secretary of State Hillary Clinton (2010 and 2011 “Internet” speeches)
 - Liberty and security, transparency and confidentiality, freedom of expression and tolerance
 - these all make up the foundation of a free, open, and secure society as well as a free, open, and secure internet[.]
 - I urge countries everywhere instead to join us in the bet we have made, a bet that an open internet will lead to stronger, more prosperous countries.

Look at some words

- The juxtaposition of “open, free and secure”.
- “Open” implies “stronger” and “prosperous”.
- Liberty and security, transparency and confidentiality, freedom of expression and tolerance make up the foundation a free, open, and secure internet.

- Again, the word “open” is code for a linkage between a set of characteristics on the one hand and a set of goals on the other.
 - Obscures the actual logic and reasoning.
 - But great rhetoric, of course.

A spectrum from open to closed.



Where should we
choose to be?

The deeper goals seem to be:

- Stability
- Prosperity

Free (as opposed to open)

- The Free Software Foundation uses the word “free” rather than “open”.
 - They say “Free as in speech, not free as in beer”.
- The four freedoms:
 - The freedom to run the program, for any purpose (freedom 0).
 - The freedom to study how the program works, and change it to make it do what you wish (freedom 1). Access to the source code is a precondition for this.
 - The freedom to redistribute copies so you can help your neighbor (freedom 2).
 - The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

It's not just cola—Free Beer

Free as in beer, not free as
in beer.

- The recipe for Version 4.0 can be found at:
<http://freebeer.org/blog/recipe>



To quote Wikipedia: The beer was created by students at the IT-University in Copenhagen together with Superflex, a Copenhagen-based artist collective, to illustrate how concepts of the free software movement might be applied outside the digital world.

What to make of “open”?

- Actually, I don't like the word as it is used.
 - It seems to be an intermediate connector between goals and mechanisms that can obscure the logic.
 - It actually does not tell us what we should build or what regulators should do.
 - It implies an end-point rather than a balance.
- So why this agenda, this meeting?



Put some substance on the analysis

- Consider the relation of open to social goals: freedom, etc.
- Consider different approaches to achieving stability.
- Consider the balancing act of security.
- Continue our consideration of the revolution around video
 - From closed to (some sort of) open.
- Consider interconnection as the next policy debate about open/neutral.
- Consider what users are actually doing and what this means for the balancing act.