Internet Access Commons

Internet Access Infrastructure in collective property regime, as a viable alternative to rampant remonopolisation

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Quid du conférencier

Lecture's content

Internet Access Commons

Issues of Internet access in the context of Electronic Governance

Universal access to the Network

Driving forces for change

Technology

Socio-politics

Conclusions

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"Without the utopians of other times, men would still live in caves, miserable and naked;...utopia is the principle of all progress, and the essay into a better world." Anatole France

"The commune movement is part of a reawakening of belief in the possibilities for utopia that existed in the nineteenth century and exist again today, a belief that by creating the right social institution, human satisfaction and growth can be achieved". Rosabeth Moss Kanter

ISSUES OF INTERNET ACCESS IN THE CONTEXT OF E-GOVERNANCE

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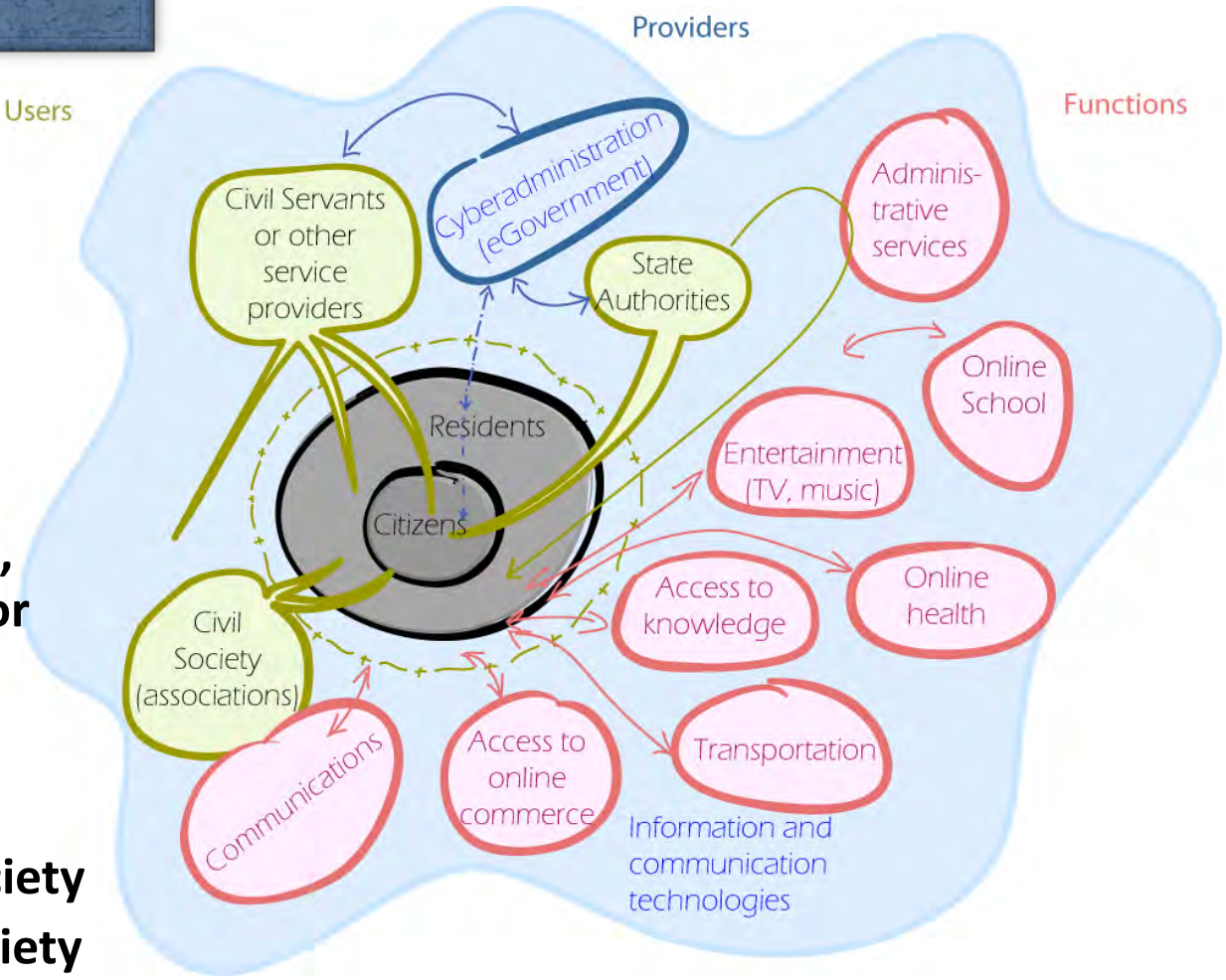
There's life beyond "Triple Play"

- eGov Services
- Entertainment
- eCommerce
- Office automation
- Only limited to imagination and entrepreneurial initiative on a local, regional, national or global level

Towards

- the Knowledge Society
- the Ubiquitous Society



Issues of eGovernance

Examples of G2B eGov applications

Issues of eGovernance

- Information services
- Communication services
- E-procurement
- E-tender
- Custom services
- One-Stop Shop
- Electronic Transfer of funds
- Advisory

- Investment opportunities, market conditions, competition, laws and regulation, national statistical information
- Connect government to customers and suppliers
- Web-based system for on-line procurement Involves communication of offers, agreements, procurements and sales statistics between public procurers and suppliers
- Publishing of all government tenders on-line. Central hub for local and international tenders record upload
- On-line system to process clearance of imports, payment of duty, delivery of release orders for shipments to leave the Free Ports & Warehouses, etc

Examples for G2C eGov applications

Issues of eGovernance

- Communication
- Transaction services
- Electronic transfer of funds
- Information services
- Social services
- Art and leisure services
- Educational services
- Death, birth, marriages
- Environmental services
- Miscellaneous services

- Public access to all services and information 24/7
- Direct democracy (or opinion poll)
- Telephony, e-mail, SMS, fax, call center services (handling of inquiries)
- Complaint/ request tracking

- On-line application forms for birth certificates, ID cards and passports, residence permit, marital status, land registry, etc
- Driver and vehicle registration and examination
- Income tax declarations
- Identification and authentication

- Different types of payments
- Bank cards used for payment of e-government services

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Examples for G2C eGov applications

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Issues of eGovernance

• Com

… and most of the time, the government already has all the needed information, so why are we still supposed to run from one office to another to request, get, transport, deliver data that was already available to the civil servants?

- Public access to all services and information 24/7
- Direct democracy (or opinion poll)
- Telephony, e-mail, SMS, fax, call center services (handling of inquiries)
- Complaint/ request tracking

- On-line application forms for birth certificates, ID cards and passports, residence permit, marital status, land registry, etc
- Driver and vehicle registration and examination
- Income tax declarations
- Identification and authentication

- Different types of payments
- Bank cards used for payment of e-government services

Free access to the Network

Issues of eGovernance

- eGov claims for **the common use of an unique internet, linking everybody; therefore cannot accept the digital divide**
- And yet, competences of provisioning Internet access to the population essentially belongs to the private sector
- State dictates the management of essential infrastructures while attempting to correct the dirtiest malfunctionings

Some causes of the Digital Divide

Universaal access to the network

- Skills gaps between different sectors of society
- Substantial variation in experience with ICTs across users, leading to different levels of trust and confidence in eGovernment
- Differences in take-up and use within the same household (e.g. between the older and younger members)
- **LACK OF AFFORDABLE TECHNOLOGICAL ACCESS** to eGov systems for some social groups or geographical areas

Technology Owner

Universaal access to the network

- Who owns the technology, i.e. the access network decides the future development of the society for the next 30 years at least
- Internet access is in the hands of the private sector
  - Technological choices ← Commercial choices
  - Protective measures against competition

Technology Owner

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Universaal access to the network

- Who owns the technology, i.e. the access network decides the future development of the society for the next 30 years at least
- Internet access is in the hands of the private sector
  - Technological choices ← Commercial choices
  - Protective measures against competition
- But Society changes rapidly:
  - Pervasive Computing and the Ubiquitous Society are the heavy trends of tomorrow
- Access by all to the new communication channels is a matter of growing and crucial importance for the daily life
  - Digital Divide does not only affect eGov

In the context of unbundling

Universaal access to the network

The Regulator is supposed to check & ensure that the needs of the Society are respected

- From State owned to privatization
  - + Competition improves cost/benefit ratio for the user
  - + Infrastructures develop and renew faster
  - – Conflict of interests between commercial and evolving social needs
  - – Comeback of monopolies and trusts
- Will unbundling suffice to overcome these risks?

Rampant re-monopolisation

Universaal access to the network

- Telecom law reforms "forget" fibre optic unbundling
  - Competitors have trouble to access the 'curb'[1]
  - FTTH remains eventually the only future proof solution
- Cost of FTTH deployment is prohibitive
  - Historical Star topology is inappropriate
  - Electrical network topology is inappropriate
  - Vertical structures maintain high control on access networks and request a constant re-examination of regulations
  - Typical access cost of construction in urban areas of more than 3000€ per user, up to 7'000€ according to Swisscom (Fastweb experience?)

[1] DSLAM uses the 'Fibre to the Curb' principle

For the situation in Switzerland for example, see http://www.scal.ch/?tag=ftth

DRIVING FORCES FOR CHANGE

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What exactly is Internet?

Driving forces for change

- Internet is a confusing notion
  - Is it a universal network?
  - Is it about an open area of remotely distributed services accessible at any time?
- Do the access network operators offer this sort of services ?
  - Are they TV or entertainment producers?
  - Are they eCommerce suppliers?
  - **What is their real core business today?**

Technically speaking

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Driving forces for change

Menu

- Choice of topology
  - Vertical vs. Horizontal
  - Network and Access to Services Control
  - Bandwidth
  - Mobile Access

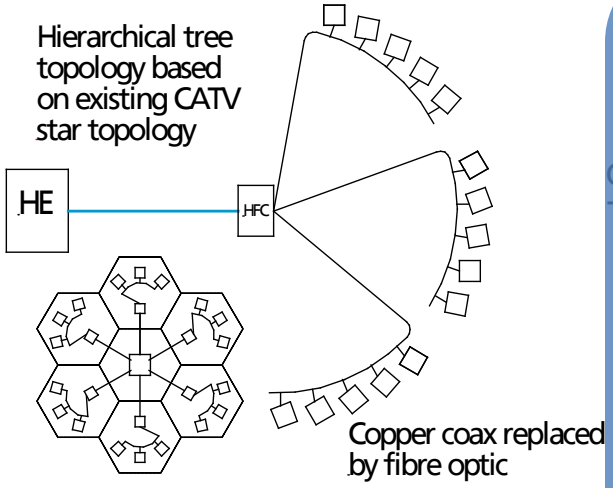
The Internet protocol (IP) is originally based on a bus topology, i.e. non hierarchical. It is the base on which the Internet – its application framework – is built

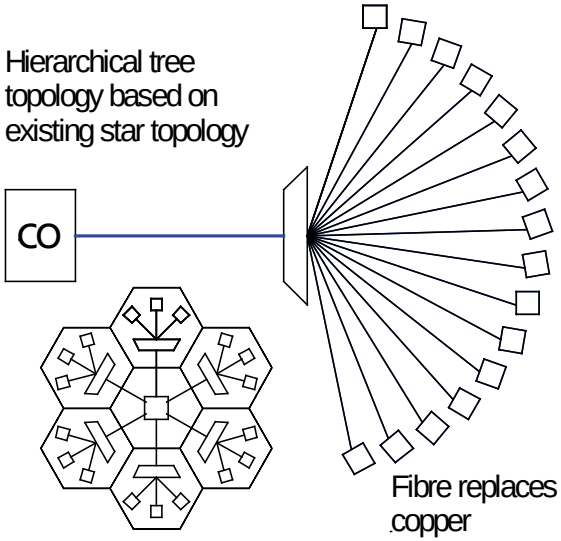
The technological alternative

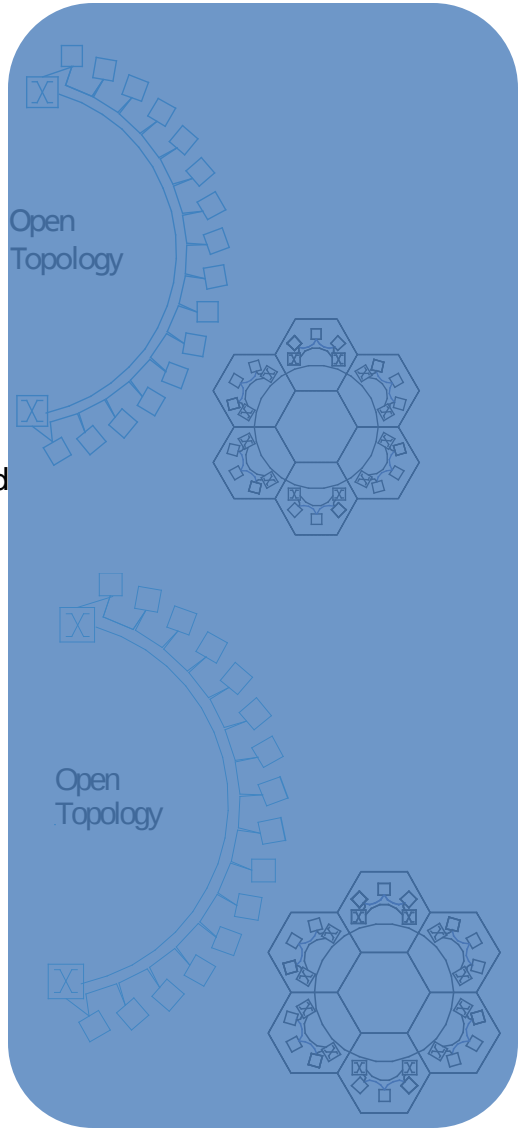
The Paradigm Change

Driving forces for change - technology

- **The use of the Public Domain for Infrastructure Networks is strongly embedded in history of the State**
- **Verticality is the essence of traditional utility networks**
- **Horizontality is at the core of IP networks**
- **Centralized construction and management of the Network**
- **Centralized delivery and management of Services**







The technological alternative

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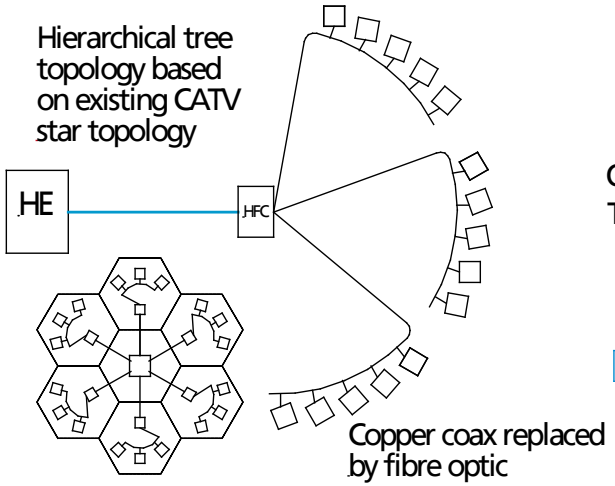
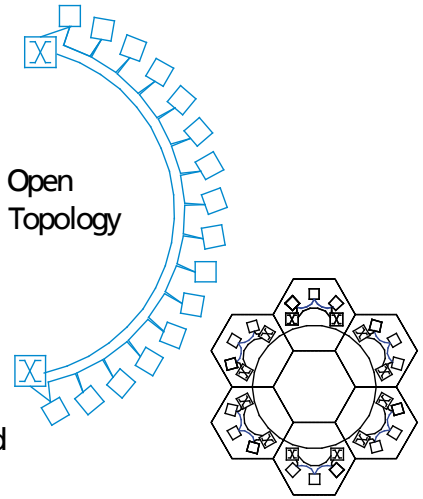
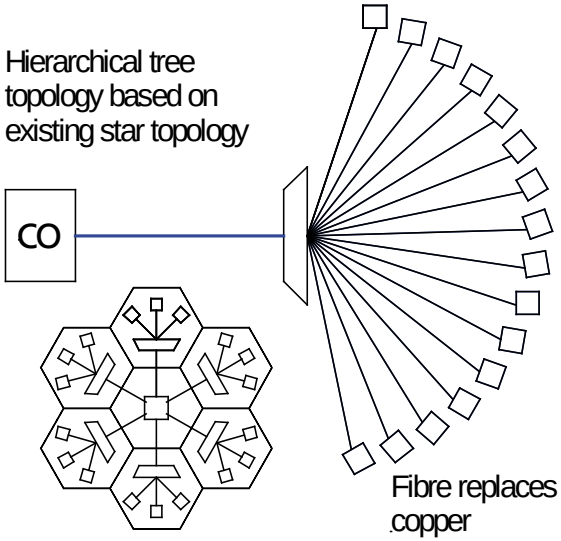
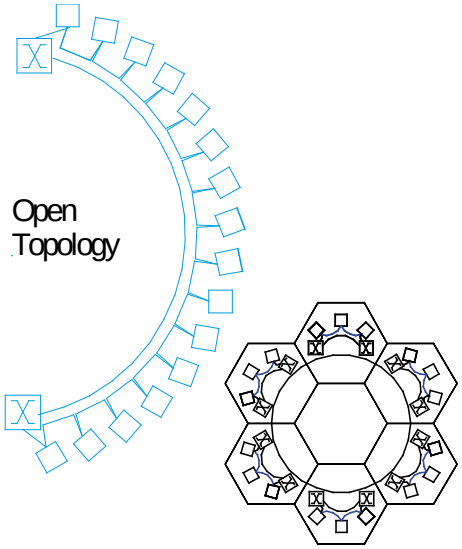








Carrying out FTTH based Internet Access

Driving forces for change - technology

Alternative to the "Horizontal Hierarchy "

For Users

- Usage cost sensibly reduced
- Access to services similar to those in urban centres
- Control of the network infrastructure in local hands
- Competition between service providers

For Businesses

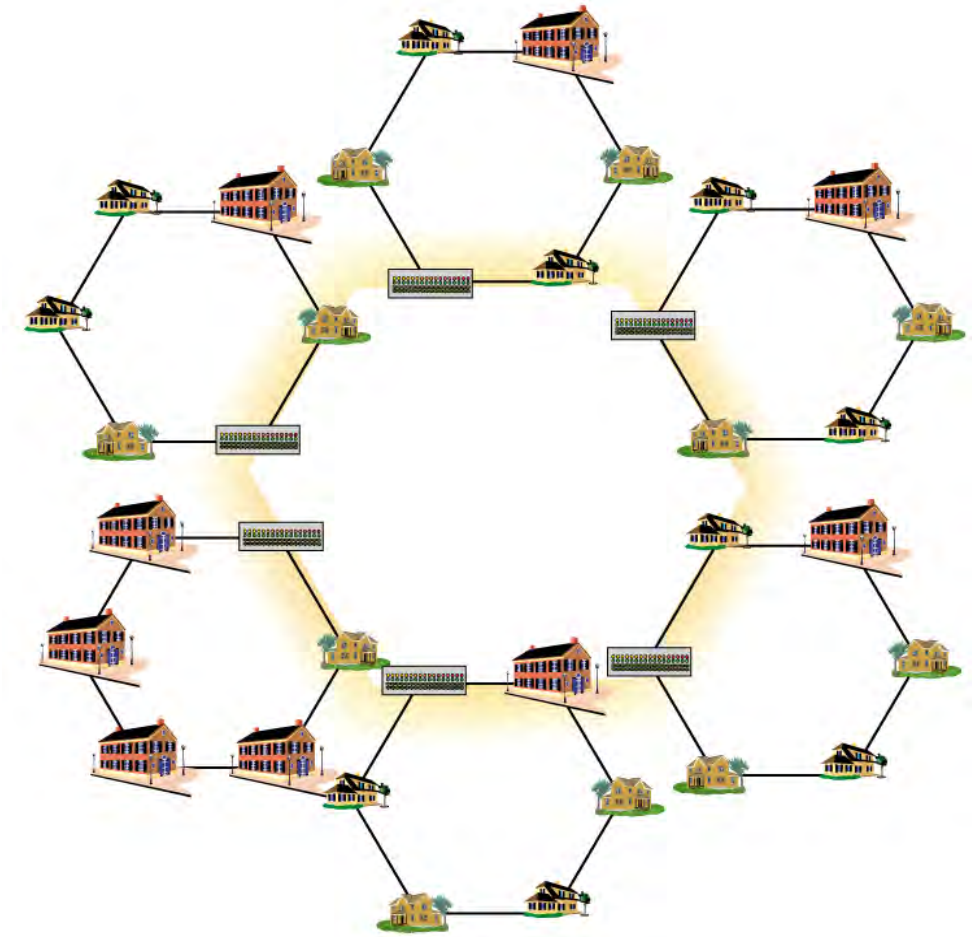
- Open new business opportunities currently out of reach
- Implications in
  - Project management,
  - Supervision and carrying out of its execution,
  - First in maintenance organisation, later in ...
  - coordination and supervision of service delivery

The technological alternative

Universal Access Network

Driving forces for change - technology

- Neighbour to Neighbour Construction
- Bees Nest Topology
- Accretion mechanisms
- Very low cost
- High reliability and redundancy
- Respectful of norms at the interfaces
- Provides the basis for a real access network



Practically...

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Driving forces for change - technology

Practically...

Driving forces for change - technology

Practically...

Practically...

Practically...

Sociologically speaking

Menu

- Conception and setting up of "Internet Access Commons"
- 2009 Nobel Prize in Economics to Elinor Ostrom
  - Internet is a Common Pool Resource (CPR)
  - Demonstrate weaknesses of State and Private Sector in managing CPRs
  - Study and validation of models of long lasting and sustainable Commons
- Management of such Commons

The social alternative

- Nor state neither private sector can provide acceptable long term solutions
  - State regulates afterwards, checks and tries to adapt the framework. It is good but too slow
  - Private sector faces huge conflicts of interests that have never been resolved in favour of the public
    - Consequence: persistence of archaic topologies
    - Marketing promises rather than reality
- Proposition: let the users themselves solve the access problem - with a little help from elsewhere - they are only asking for that
  - Yes, ... maybe, ... but how?

Internet, an organisation of the « Spontaneous Order » type

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Driving forces for change - sociology

- Three Key Questions:
  - Who is the owner of Internet?
  - Who created its value ?
  - Who decides about the services to offer?
- Internet is not a project
- Internet is not natural

So to put this ostensibly new-world order in the proper perspective, it helps to recall the historic computing breakthroughs that made the modern Internet possible. Even if today's technologies do usher in a new digital society, they may simply represent the culmination of many advances that have long been in existence but are finally coming together by serendipity if not design–an example of what late Austrian economist F.A. Hayek called "spontaneous order." (Declan McCullagh)

The Internet Commons

Driving forces for change - sociology

- *Commons* is a general term that refers to a resource, shared by a group of people, which is neither a private nor strictly a public resource
  - The term is also used to define a property-rights regime
- Internet is a shared resource
  - Spontaneous organization
  - The behaviours and conditions on the web—congestion, free riding, conflicts, overuse, and "pollution"—are identified within other types of commons
- Self-organized commons require strong collective-action and self-governing mechanisms, as well as a high degree of social capital on the part of the stakeholders

Source: Understanding Knowledge as a Commons (Hess & Ostrom MIT Press, 2008)

Classification of Property Rights
in the context of natural resources

- **Access** —a right to enter a defined physical property.
- **Withdrawal** —a right to harvest the products of a resource such as timber, water, or food for pastoral animals.
- **Management** —a right to regulate the use patterns of other harvesters and to transform a resource system by building improvements.
- **Exclusion** —a right to determine who else will have the right of access to a resource and whether that right can be transferred.
- **Alienation** —a right to sell or lease any of the above for rights.

Source: Schlager, Edella, and Elinor Ostrom. 1992. "Property-Rights Regimes and Natural Resources: A Conceptual Analysis." *Land Economics 68(3):249–62.*

CPRs adapted to Internet

Driving forces for change - sociology

		Subtractability or "rivalness" (how much of the good is left after consumption)	
		Low	High
Exclusion (cost to exclude consumers **and** cost of excluding consumers)	Difficult - high	**Public goods** Open Software Internet Access Social Wi-Fi Networks	**Common-pool resources** Human based access to services Traditional access to govt. services Bandwidth Use
	Easy - low	**Toll or club goods** Entertainment Industry Proprietary software Proprietary norms and other barriers to competition	**Private goods** Wired Networks Domain names Personal computers

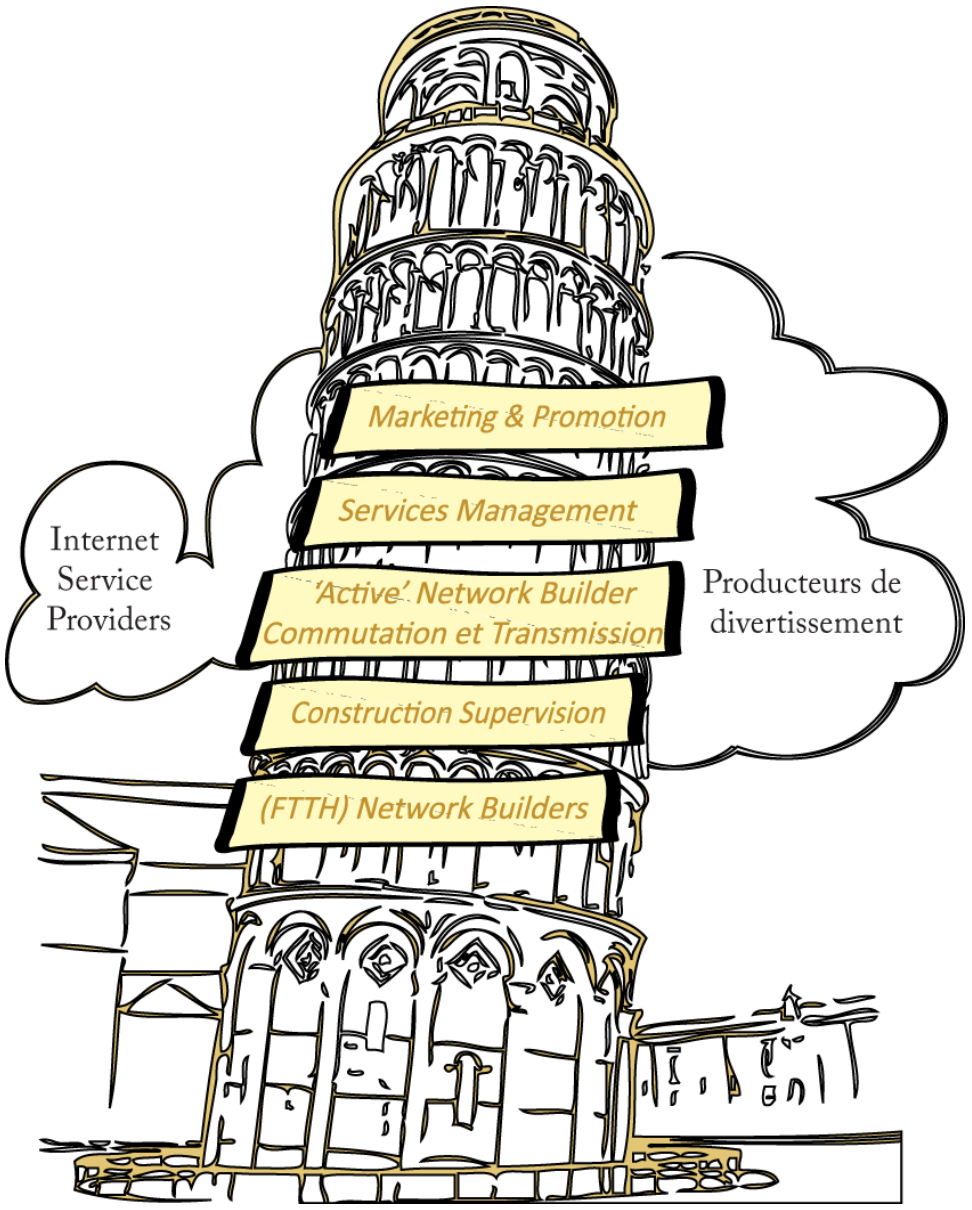
Source: Adapted from Ostrom & Ostrom 1977 and Justyna Hofmokl, International Journal of the Commons, Vol. 4, no 1 February 2010, pp. 226–250

The economical alternative

Driving forces for change - sociology

- The cost of vertical models vs. Time to Market/ Cost to acquire a customer
- Differentiation on Services vs. Marketing
- Customer satisfaction thanks to direct access to competitors
- Paradigm Change in service provisioning and delivery

The Horizontal Model



Shared Objectives

Driving forces for change - sociology

For Users:

- Using freely his own Internet access, every resident can take benefit from online services such as e-commerce, e-entertainment and e-Government, easily, comprehensively and affordably, thus strongly reducing the Digital Divide

For Businesses:

- Offer an alternative to communities
- Create new job opportunities
- Draw long term commercial benefits

The political alternative

Driving forces for change - sociology

- Cost of regulation
- Cost of multiplying infrastructures
- Control over a vital infrastructure
- Competition between cities on standard of living

The public trust doctrine

Driving forces for change - sociology

- Certain resources are inherently public in nature, and may not be owned by either private individuals or the government
  - It goes back to Roman law
  - It holds that government is a trustee of the people's interests, not the owner of the public's property, and so it cannot sell or give away that property to private interests
- The "precautionary principle“
  - also situated within the commons framework
  - any proponents of new risks have a duty to take anticipatory action to prevent harm

Program

Conclusions

- Embodiment of need in the population and within people in charge of the problem,
- Constitution of legal structures, [1]
- Information and acquisition of the population to the concept of Internet Commons,
- Technical studies to define a suitable network topology,
- Negotiations, acquisition of e-service and e-applications,
- Building of supporting infrastructure
- Acquisition of Internet technology active devices,
- Constitution of the network, tests, commissioning, etc.,

[1]) addressing two interrelated theoretical puzzles:

-- How do users self-organize or create the conditions for institutional change to overcome collective-action dilemmas? and

-- What are the conditions that enhance the sustainability of resources and the robustness of institutions over time?

Alternatives ?

Conclusions

- **Alternate commercial motivations**
  - Let things go, do nothing and hope, as a smaller service providers, to find niche markets in a market created by someone else?
- **Alternative to the execution plan**
  - Work with established communities rather than with Commons ?
- **Alternative Projects**
  - Are there other means to reach the above objectives ? (slide 25)

Conclusion in Action

Conclusions

- Let us create The Internet Commons Associations
  - Whose first mission would be to promote the creation of local chapter in charge of gathering the future members of the Commons
  - Define the structures of technical and legal advisers
  - Setup channels to provision and deliver such services as:
    - Maintenance and management
    - E-Gov
    - E-Commerce