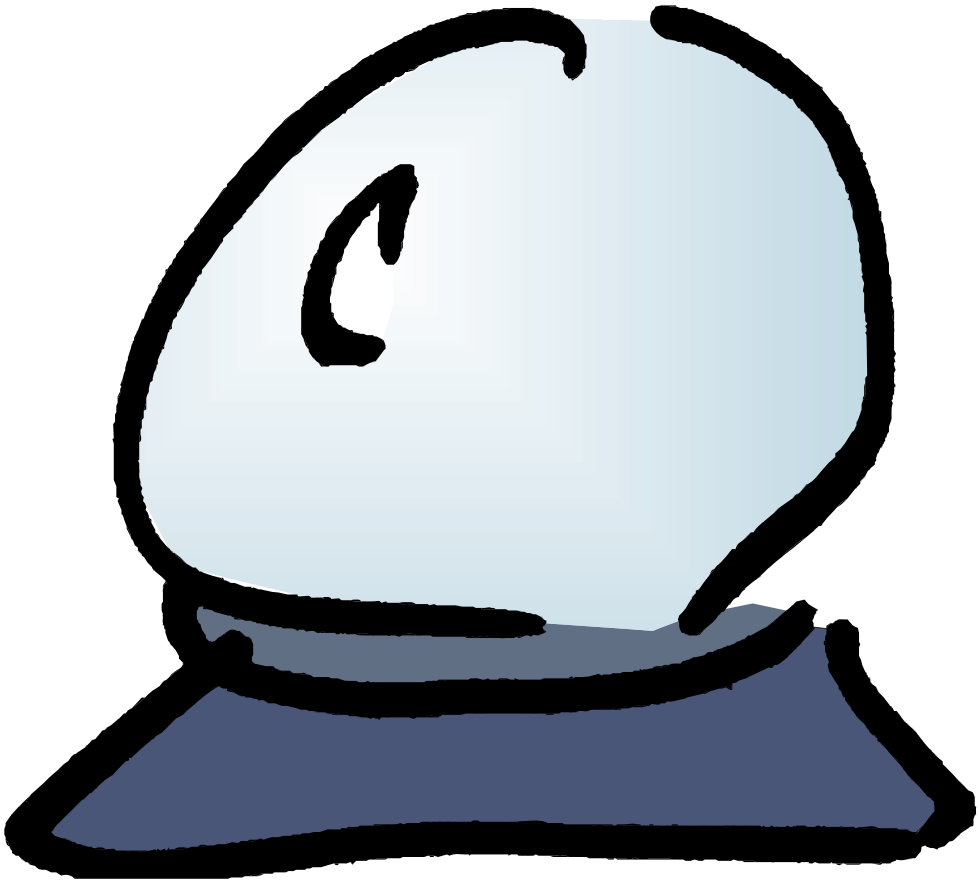
Internet Futures



Internet Futures

purpose:

share some musings about this industry and its future

think about some of the major factors that will shape our future

why

This industry has a
rich history

why

This industry has a rich history

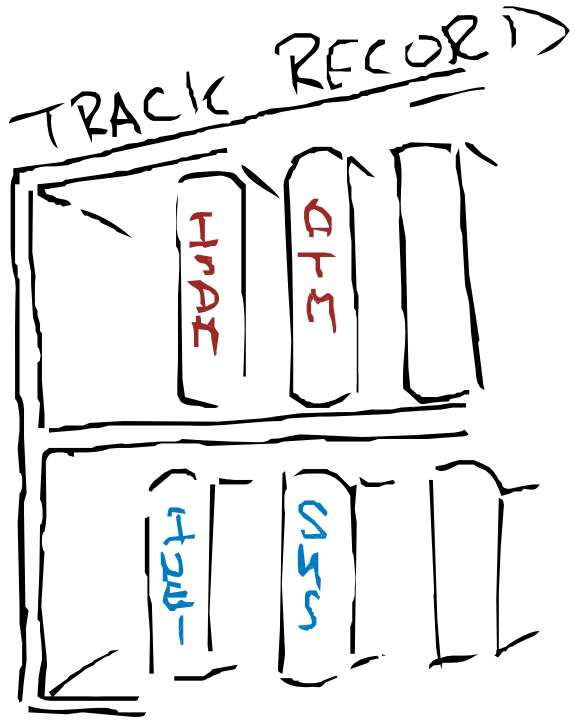
…of making poor guesses

why

This industry has a rich history

…of making poor guesses

and being taken by surprise!



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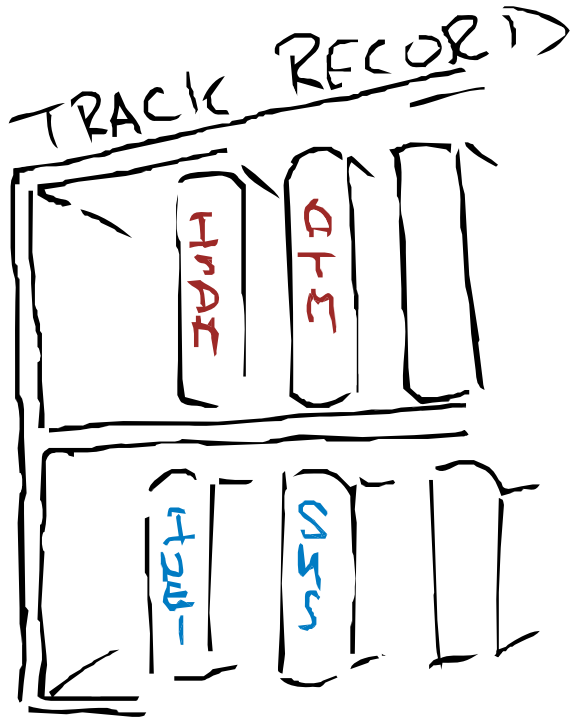


could we do a **better job?**

One approach:

1. Observe the situation and what's happening

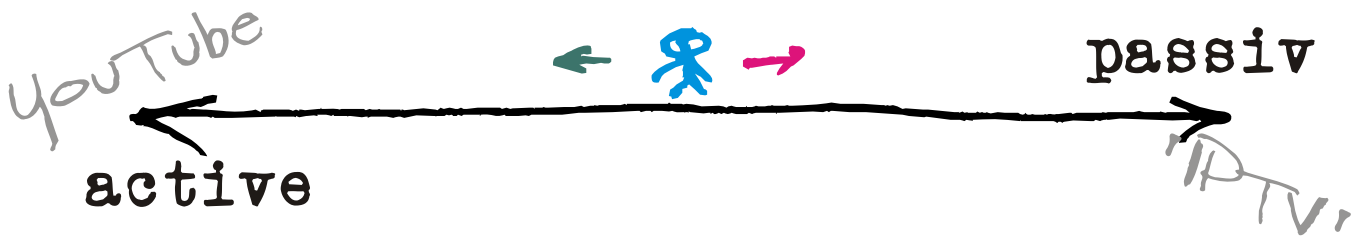
2. Believe what we see (the most difficult one!)

3. Understand where this may lead us and what options may be presented on the way

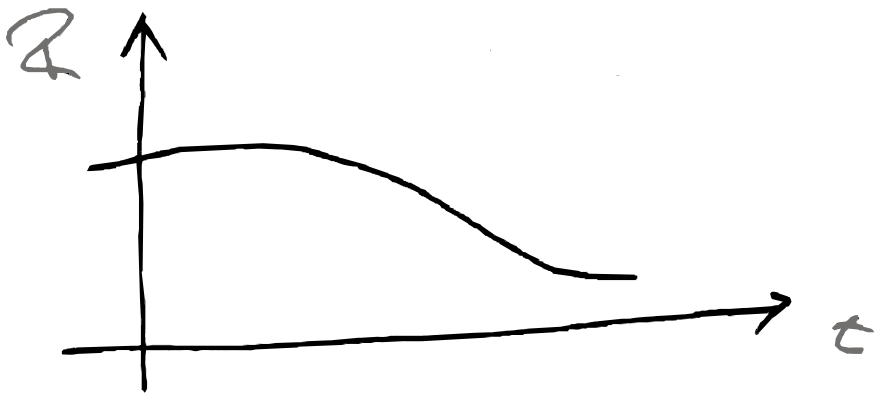
User forces on the Market

From telephony to chat
to mashups to p2p to ?

From radio to tv to ?

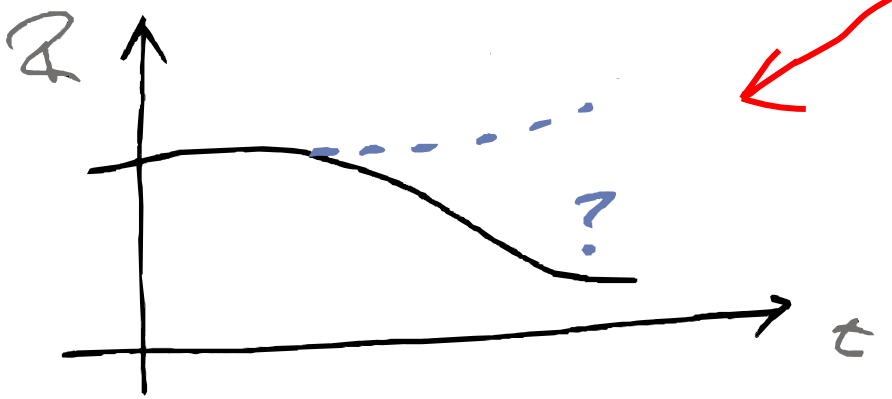


Revenue Profile



Revenue Profile

How to fill the gap of the Internet's revenue leak



Service Profile

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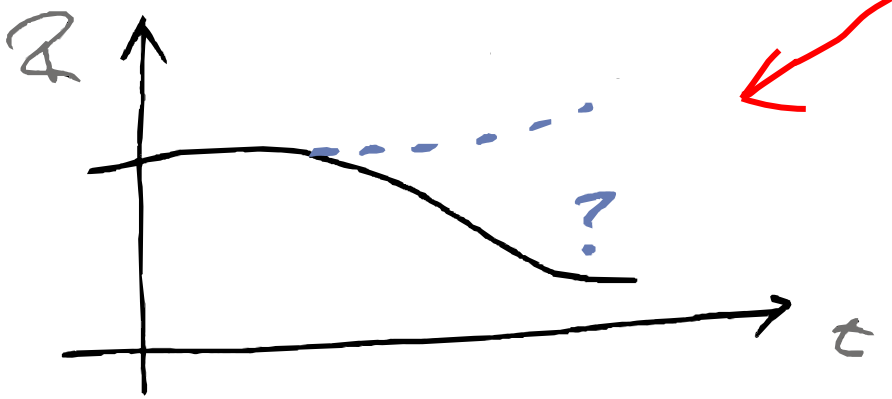
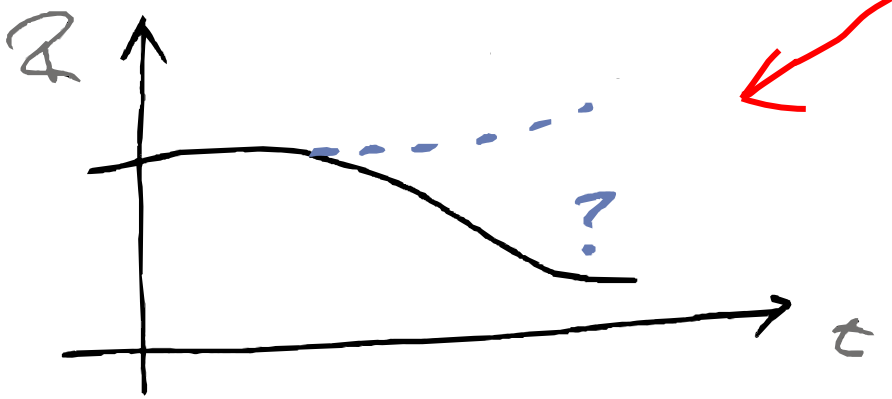


open vs walled garden

Service Profile



How to fill the gap of the Internet's revenue leak

open vs walled garden

infrastruc. services vs services/ content

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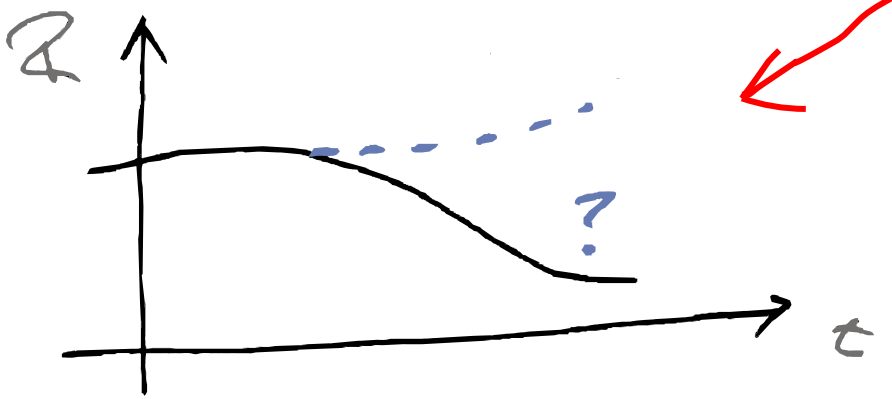

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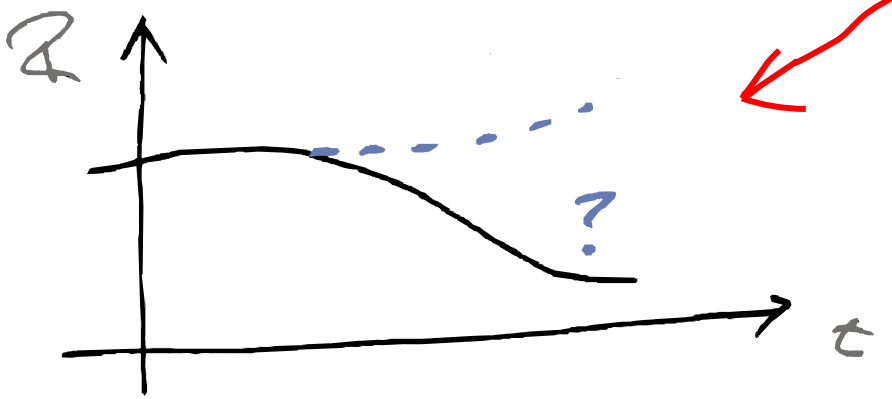

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e.t.c

driver dimensions

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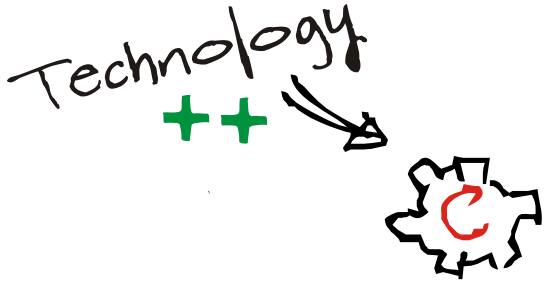

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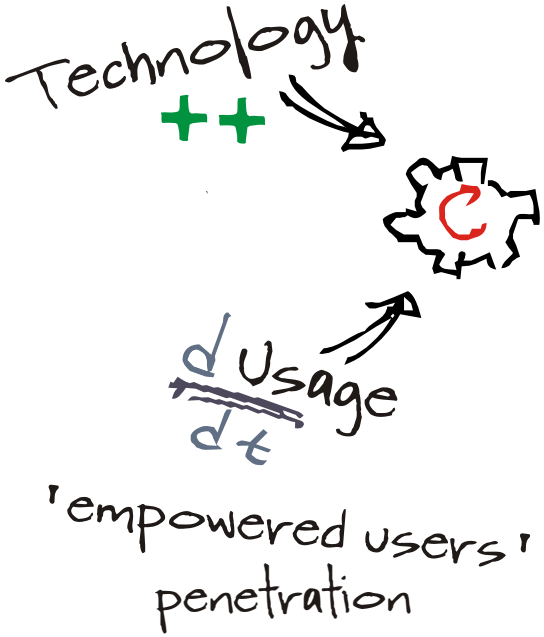

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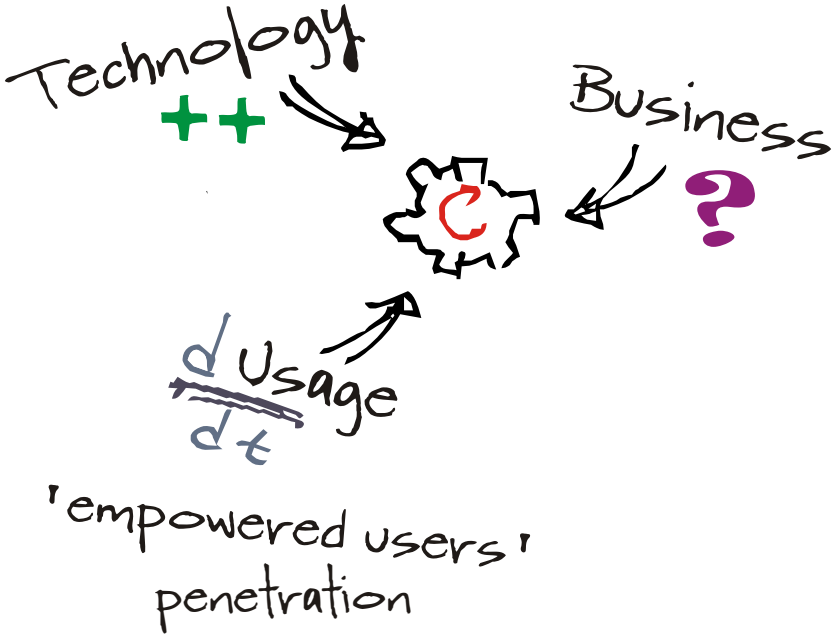


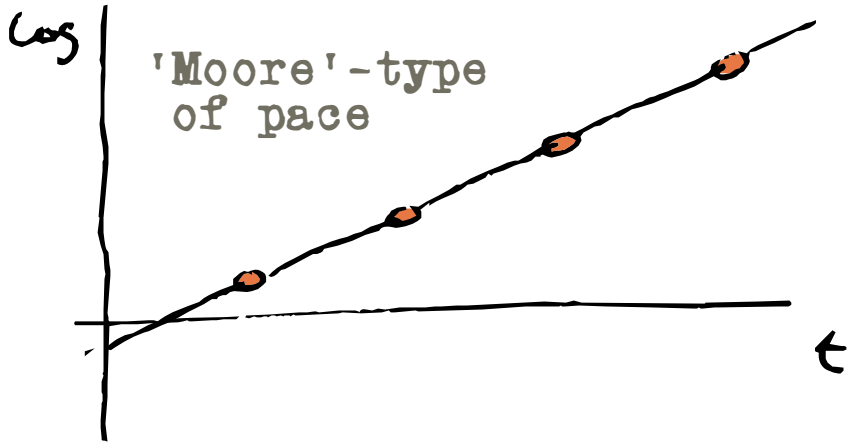
technology

++

surplus

fast refill

enabling windows



technology

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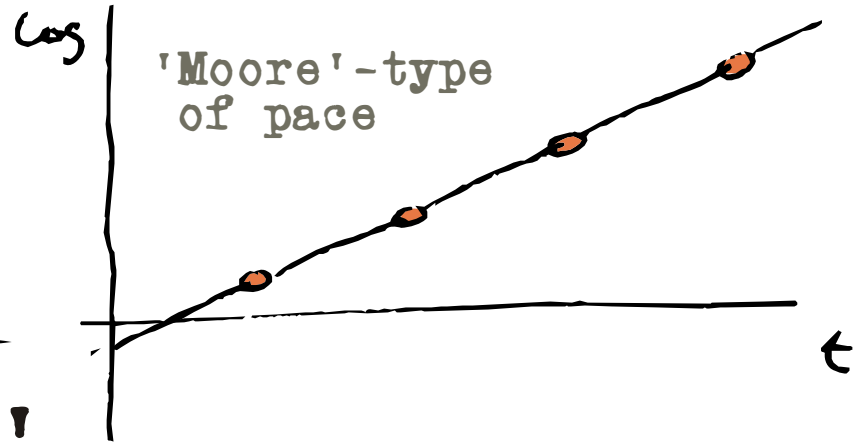
? see it ... ... seize it !



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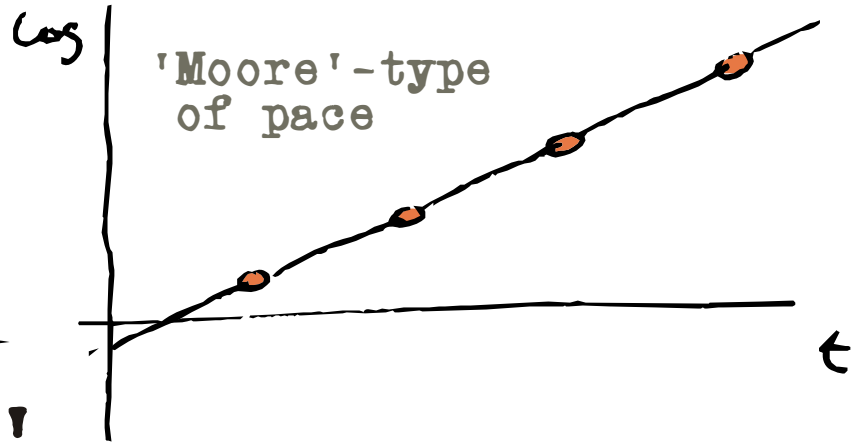
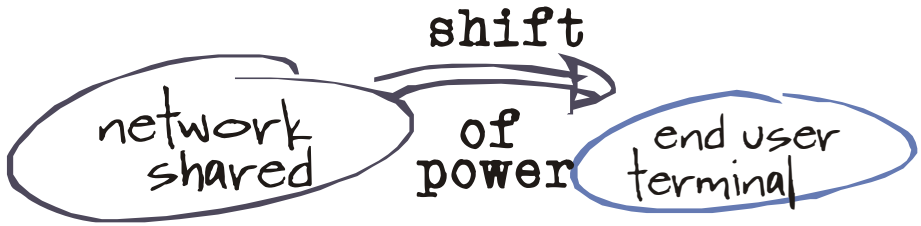


general trend



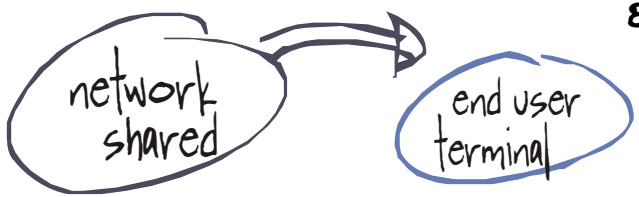
technology

new production paradigms

technology

new production paradigms

Over the top apps



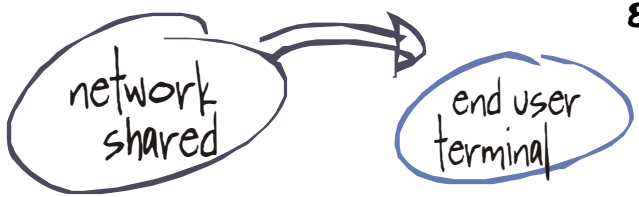
e.g Skype

a 'network—service' produced outside of the 'network'

technology

new production paradigms

Over the top apps



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mobility

multi/broad-cast

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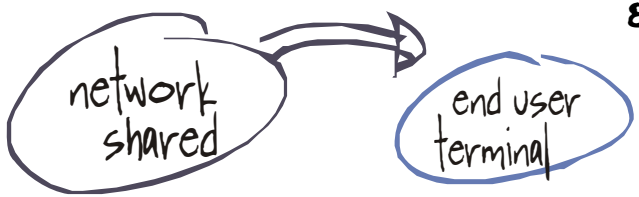

e.g Skype

a 'network—service' produced outside of the 'network'

Content is a commodity application that users do rather than a valuable service that is delivered by service providers

mobility

multi/broad-cast

...

technology

surplus enables divergence

for

- simplicity
- performance

technology

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~~QoS~~

~~IMS~~

~~Network VPNs~~

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Web enabled user generated content

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Web enabled user generated content

heterogeniety

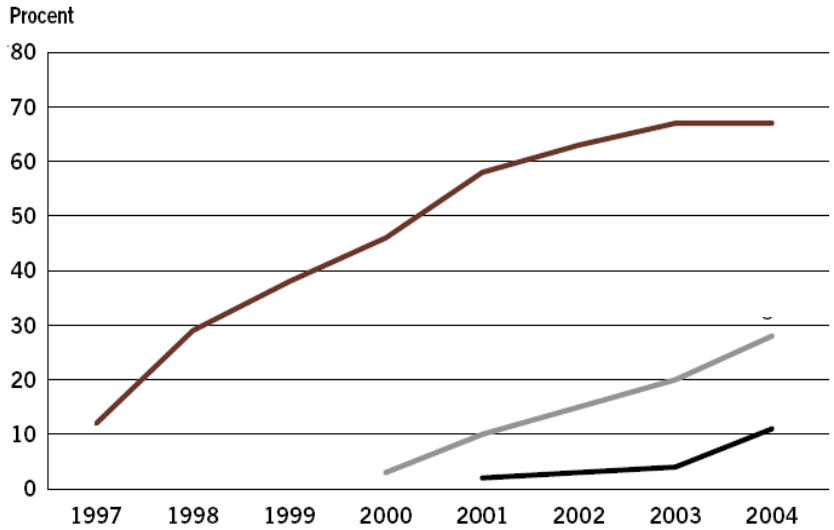
convergence complemented with divergence

interoperability

when there is a use for it

$\frac{d\,usage}{dt}$

penetration
who and how

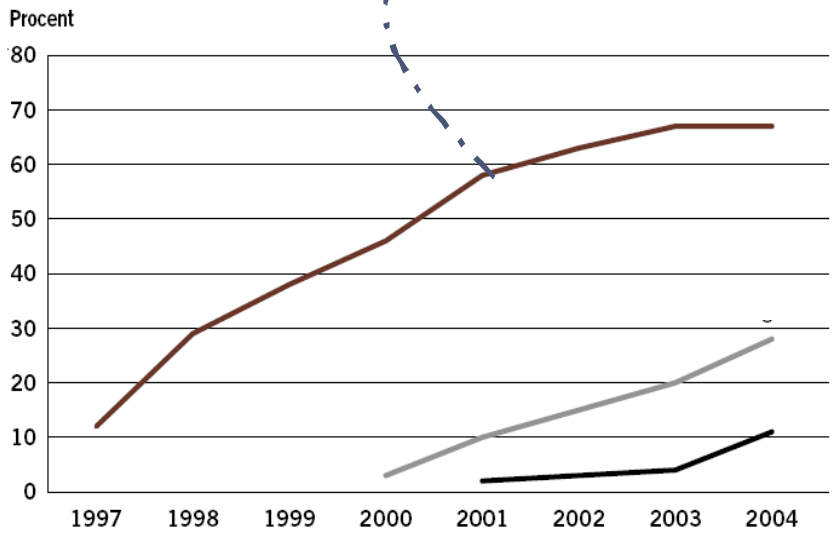


$\frac{d\,usage}{dt}$

penetration
who and how

passive

1:st generation
c/s on demand
peep-hole



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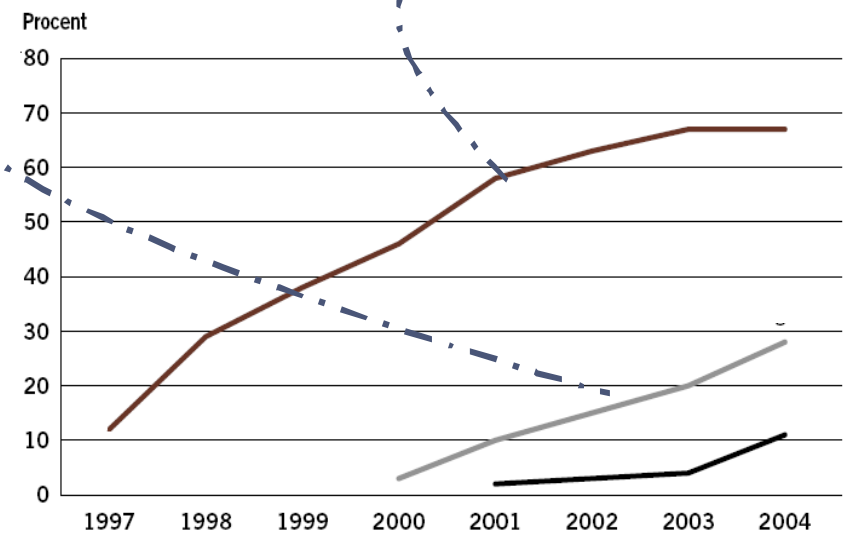
2:nd generation
allways on
p/p services



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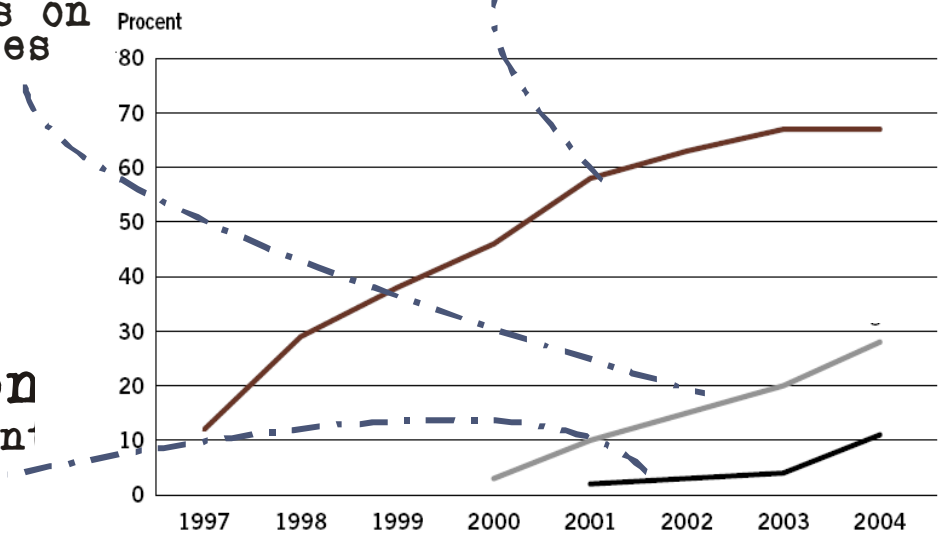
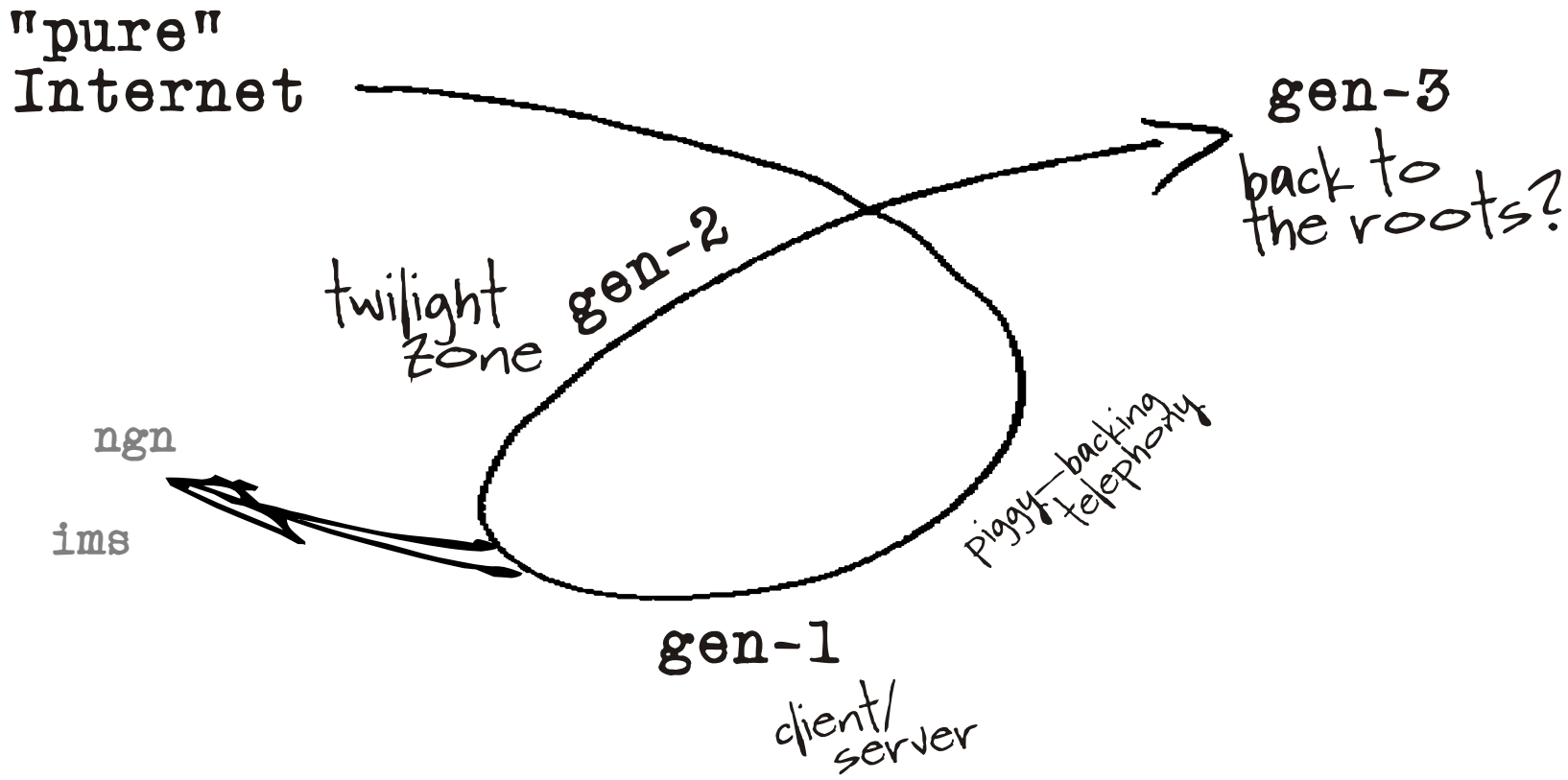


3:d generation
network residen

active

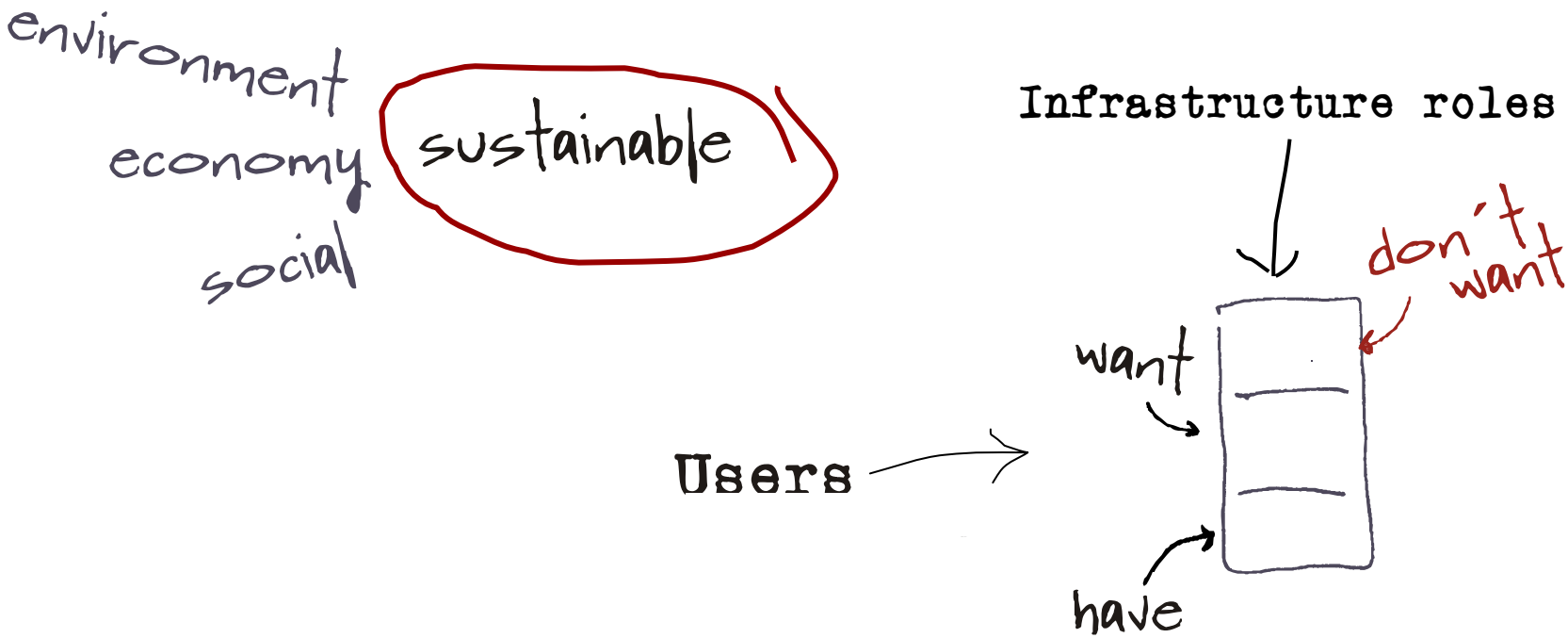
$\frac{d}{dt}$ usage

penetration
Internet_paradigm(t)
a penetration detour?



$\frac{d}{dt}$ usage

critical infrastructure
sustainability



fuelling the usage growth fire

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usage = scaling

$\frac{d}{dt}$ usage

fuelling the usage growth fire

Please send heaps more….

bandwidth
storage
switching
fibre routes
routing
addressing
delivering
silicon density
memory speed
power
heat dissipation
storage efficiency

usage = scaling

$\frac{d}{dt}$ usage

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But is **bigger** always **cheaper**?

$\frac{d}{dt}$ usage

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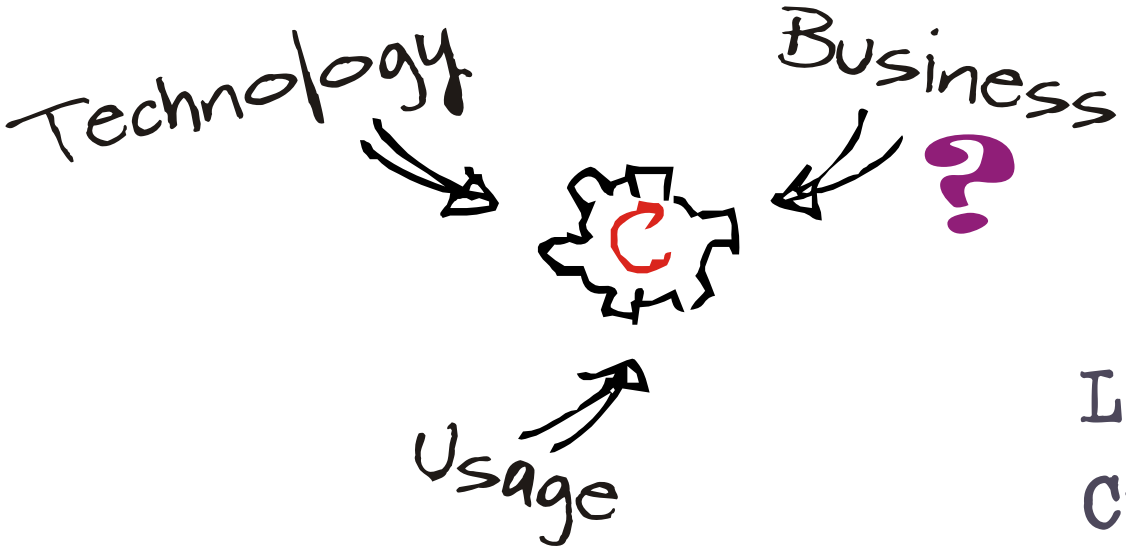
But is **bigger** always **cheaper**?

and what happens when its not?

Business modelling



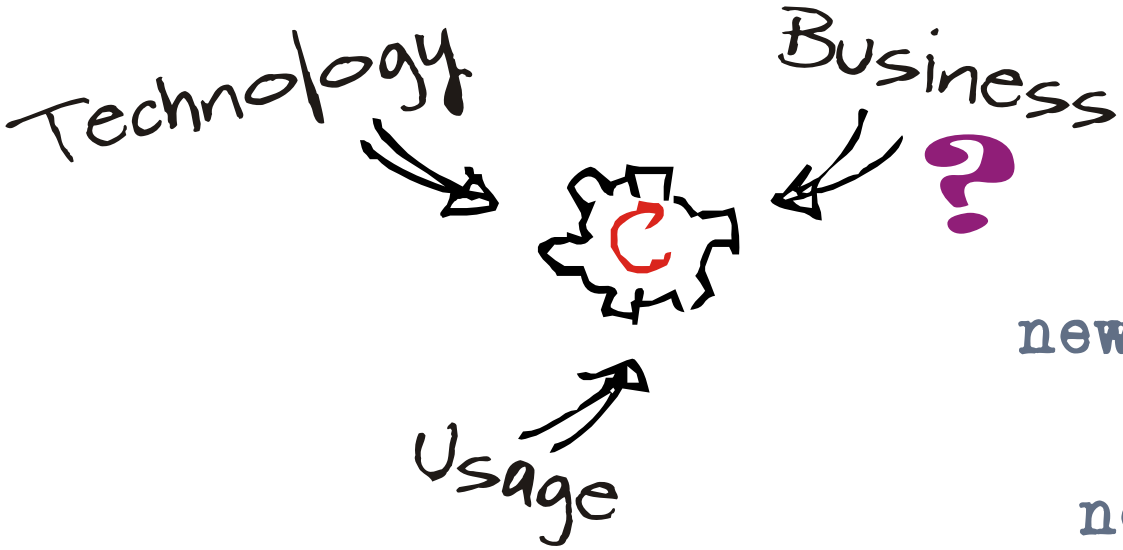
Legacy
Culture
Regulation

convergence
seemlessnet
NGN - . . .

..today operators tend to be very hype driven ..

- Everone is talking about it
- Few have actual experience
- .. and the actual experiences are mostly failures

Business modelling



new operator roles

new business logics

.. involving users and other stake-holders

Business modelling

- Packet pushing is a commodity utility activity

Low margins

Low barriers to entry

No product differentiation

Deregulation and competition

Valued services are overlays to the network

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Valued services are overlays to the network

- Traditional revenue streams are vaporizing

Wired telephony

Business data products

Local Access monopolies

Mobile telephony

Business

today's telco pressure points …

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Deregulation and competition

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Wired telephony

Business data products

Local Access monopolies

Mobile telephony

- Investors are getting very nervous about telcos

Cost of capital is rising

Consumers are fleeing legacy telcos in the face of price gouging

Shareholder returns need to stay high

No residual expertise left in-house

So where are we heading?

network

commodity utility
network operation

high capacity
packet pushing

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network

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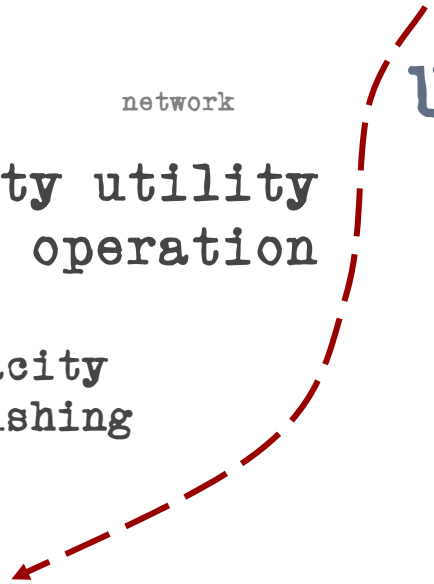
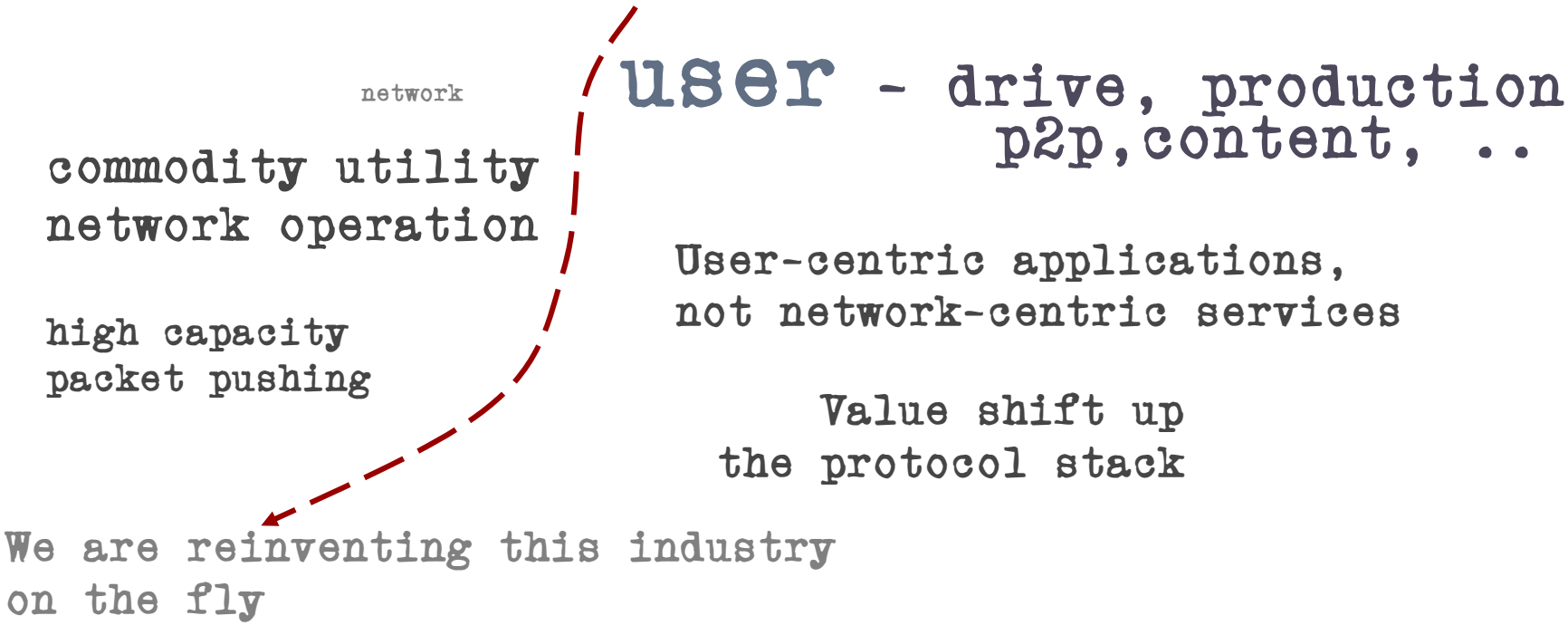


user - drive, production
p2p, content, ..

User-centric applications,
not network-centric services

Value shift up
the protocol stack

So where are we heading?



Reinvention:

involving users

new partners

and different business models

thank you