Internet Futures
Acknowledgement to Anders Rockstrom of Telia Sonera, whose presentation on this topic had a profound impact on me - he presented his arguments so clearly and simply it was just an irresistible message.

Thanks Anders!

Geoff
purpose:

share some thoughts about the Internet and its future

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

The mainstream telecommunications industry has a rich history

...of making very poor technology guesses

and regularly being taken by surprise!
why

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
What's Happening Today: User Preferences and the Market for Services

From telephony to chat to mashups to p2p to ?

From radio to tv to ?
Service Profile Choices

Open collaboration framework: open vs walled garden

Vertical integration:
- Open delivery infrastructure vs Service / content distribution networks

Role specialization:
- Active user networks user produced vs externally produced Passive users

Bundled services
What's Happening Today: User Preferences and the Market for Services

From telephony to chat to mashups to p2p to ?

From radio to tv to ?
What's Happening Today: Declining Revenue Profile for incumbent telcos

How to fill the gap of the Internet's revenue leak?
Whats Happening Today: Demand for Bandwidth

What mass market customers want for $25 per month!
driver dimensions

Technology
++

usage
\frac{du}{dt}

empowered users'
penetration

Business
technology
++

surplus
fast refill
enabling windows

see it ...
... seize it!

Moore's Law
technology pace
technology push and network architecture
technology
new production paradigms

"Over the top" applications

a 'network-service' produced outside of the 'network'
Content production is a commodity application that users sustain through sharing, rather than a valuable service that is produced externally through dedicated production channels.
technology surplus enables divergence for simplicity and performance no need for IP convergence Web enabled user generated content facebook doppler youtube wikipedia heterogeneity convergence complemented with divergence interoperability when there is a use for it
usage
\[ \frac{du}{dt} \]

fuelling the usage growth fire

Please send heaps more...

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

usage = scaling

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

and what happens when it's not?
Business modelling

Technology

Usage

Business

?
today operators tend to be very hype driven..

convergence

seamlessnet

NGN - . . .

triple play

Everyone is talking about it

Few have actual experience

.. and the actual experiences are mostly failures
Business modelling

Technology → Usage → Business

new operator roles being defined
shift to a new business structure

.. involving users and other stake-holders
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

Traditional revenue streams are vaporizing

- Wired telephony
- Local Access monopolies
- Mobile telephony
- Business data products

Investors remain nervous about telcos

- Cost of capital is high
- 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?

My personal view sees the following.

**User** - drive, production p2p, content, ..

User-centric applications, not network-centric services

Value shift up the protocol stack

Reinvention:

involving users

new partners

and different business models

network

commodity utility

network operation

high capacity

packet pushing
a closing thought

I’m probably going to be proved wrong as much as I may be right with these thoughts. There is no certain track of progress here.

Each shift of the Internet’s use paradigm through innovation is as much a surprise to the innovator as it is to everyone else.

which is probably a very good thing!