

## Software competition: Time to move from religious warfare to Darwinian evolution

*Linux-dagen  
Smuget, Oslo  
21 April 2005*



[www.espen.com](http://www.espen.com)

**Dr. Espen Andersen**  
Associate Professor  
BI Norwegian School of Management ([www.bi.no](http://www.bi.no))  
European Research Director  
The Concour's Group ([www.concoursgroup.com](http://www.concoursgroup.com))



### Do you know this person?



Characteristics of the religious ~~techie~~ zealot

- A desire to convert others to their cause
- A desire to actively distribute any publicized flaw in any of the main "enemy" protagonists
- A willingness to overlook the flaws in any of the systems or products to which they are emotionally attached.
- Enthusiasm about new releases of a product range (whether containing new functionality or not)
- A somewhat contradictory willingness to accept that previous versions of software were not completely satisfactory, but the latest version is, of course, nearly perfect

Source: Karl Bunyan  
(<http://blog.core10.co.uk/2005/01/religion-in-computing-macs-unix-and.html>)



Consider this...

**BI**

[...] a pattern had been established that endures to this day: people dislike Microsoft, which is okay; but they dislike it for reasons that are poorly considered, and in the end, self-defeating.

Hostility towards Microsoft [...] blends two strains: resentful people who feel Microsoft is too powerful, and disdainful people who think it's tacky. This is all strongly reminiscent of the heyday of Communism and Socialism, when the bourgeoisie were hated from both ends: by the proles, because they had all the money, and by the intelligentsia, because of their tendency to spend it on lawn ornaments.

[...] Linus Torvalds, Richard Stallman, and Bill Gates. Take away any of these three and Linux would not exist.

Neal Stephenson, 1999: *In the beginning was the command line*

EAL/sgw/Apr12/2005

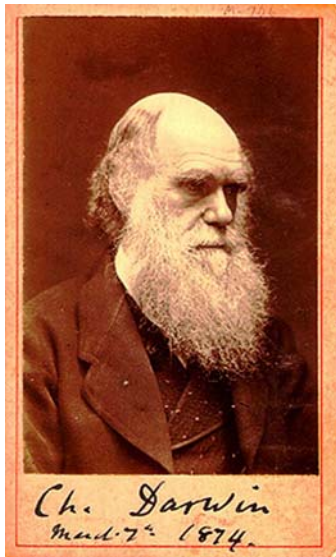
© 2005 Espen Andersen. All rights reserved.

1.2



It is time to replace religious warfare with Darwin's law of evolution

**BI**



"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."

EAL/sgw/Apr12/2005

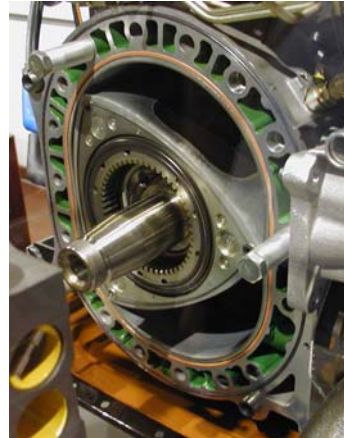
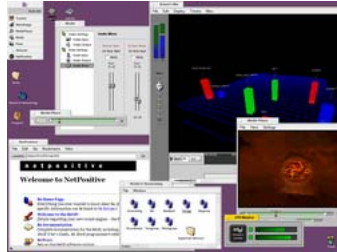
© 2005 Espen Andersen. All rights reserved.

1.3





## But...the best technology doesn't always win? **BI**



**B**etamax



How does evolution work, anyway?

EAL/Upo/Apr/2005

© 2005 Espen Andersen. All rights reserved.

1.6



## There has to be a way to get there from here... **BI**

Dawkins, R. (1996). Climbing Mount Improbable. New York, W. W. Norton.

- The mountain of evolution cannot be climbed fast - Darwinian evolution takes a long time and needs to proceed along ways that are beneficial to the organism at every stage of evolution
- However:
  - evolution is fast: A computer simulation of the evolution of eye from a few light-sensitive cells to fully formed ball and lens in 350,000 generations
  - evolution favors symmetry, because mutations happen to all areas of organism at same time
  - evolution favors repeatability (such as parts of insects or crustaceans' bodies)



EAL/Upo/Apr/2005

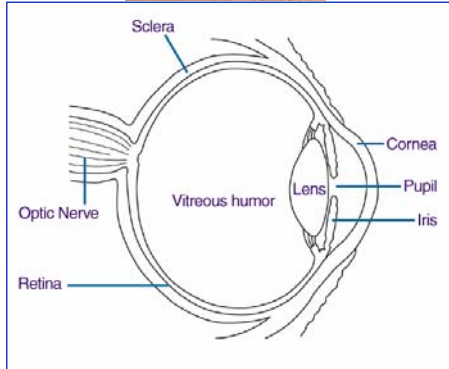
© 2005 Espen Andersen. All rights reserved.

1.7



Most mistakes are made in the beginning

BI



EAL/Ingo/April2005

© 2005 Espen Andersen. All rights reserved.

1.8



Everybody has to start somewhere....

BI

COMPUTERS/STRATFORD P. SHERMAN

# MICROSOFT'S DRIVE TO DOMINATE SOFTWARE

■ At the relatively ripe old age of nine years, privately held Microsoft Corp. of Bellevue, Washington, has emerged as the most powerful company in the fast-growing microcomputer software industry. With fiscal 1983 revenues of \$50 million, Microsoft dominates the markets for the software that runs the current generation of business microcomputers. Now its fiercely ambitious 28-year-old co-founder and chairman, William H. Gates III, wants to make Microsoft the General Motors of the industry by taking command of a much bigger and more promising market segment, the so-called applications software that consumers buy.

Source: *Fortune*, January 1984

Microsoft is fundamentally an operating system company --Neal Stephenson

EAL/Ingo/April2005

© 2005 Espen Andersen. All rights reserved.

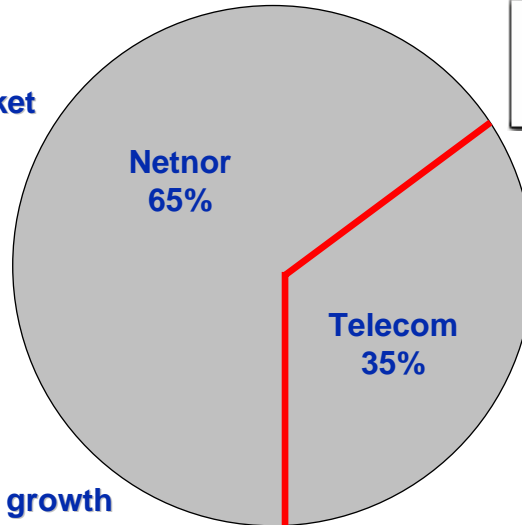
1.9



**Network externalities:  
What do you do when the cat is out of the bag?**

**BI**

**Elbonia  
mobile operator market  
ca. 1997**



**30% annual market growth  
Regulated interconnect charges**

EAL/Inge/April2005

© 2005 Espen Andersen. All rights reserved.

1.10



**Confusion in the market:  
Free as in beer, free as in speech?**

**BI**

	Commercial	Non-commercial
Open source	<b>Toolsmiths</b> MySQL Trolltech Red Hat Naked Objects	<b>Community providers</b> GNU MediaWiki Linux Mozilla
Closed source	<b>Standard commercial</b> MS Office MS Windows most software...	<b>Complementors and network creators</b> Adobe Acrobat Reader MS Powerpoint Reader Shareware, nagware Virus scanners

EAL/Inge/April2005

© 2005 Espen Andersen. All rights reserved.

1.11



## What can the open source model do?



- Eirik Chambe-Eng, Trolltech: good for fixes, not for features
  - It's a cultural thing
  - Closed in the Windows market
  - Open source version for programmer's own projects
  - Will not work in consumer or application market
- The Wikipedia experience:
  - Very fast for small errors and clearly defined areas
    - 4,500 word article on Pope Benedict XVI produced in two days, 2,000 edits
  - Deeper errors harder to get at
    - Dueling viewpoints and polarization
    - Systemic misunderstandings
  - A thousand eyeballs really work, when looking at threes

...but read the history of the Spanish civil war

EAL/Inpe/April2005

© 2005 Espen Andersen. All rights reserved.

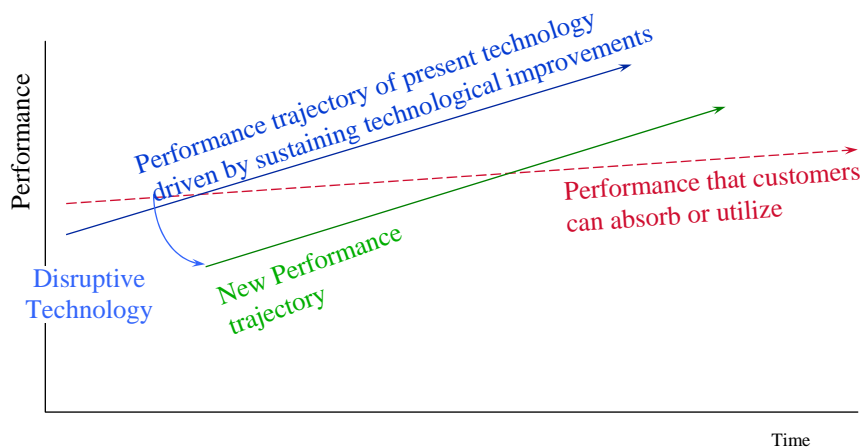
1.12



## Disruptive Technologies: A driver of leadership failure



Christensen, Clayton M. (1997). *The Innovator's Dilemma: Why New Technologies Cause Great Firms to Fail*. Boston: Harvard Business School Press.



EAL/Inpe/April2005

© 2005 Espen Andersen. All rights reserved.

1.13



## What is a disruptive technology?



Christensen, Clayton M. (1997). *The Innovator's Dilemma: Why New Technologies Cause Great Firms to Fail*. Boston: Harvard Business School Press.

- Your best customers don't want it  
and
- It gives poorer performance  
and
- If you did it, you would lose money

**...but it will kill your business**

EAL/Inpe/April2005

© 2005 Espen Andersen. All rights reserved.

1.14



## Fighting back through disruption: What is the jobs to be done?



- Ask not what products your product is competing against, for that leads to product obsession
  - IBM, record companies, etc.
- Ask not what segment you are targeting, because that misses customer behavior
  - Kanal 24, Norwegian mobile teenagers
- Ask what job your (prospective) customers are hiring your product to do for them

EAL/Inpe/April2005

© 2005 Espen Andersen. All rights reserved.

1.15



## How do you make a technology disruptive?

BI

- Figure out what its **unique** features are...
  - Good ones
  - Bad ones
- Find markets where the bad features are good features
- Find markets that are overserved by current technology
- Find markets that do not consume what is provided by the technology

**How do you sell a slow car that can't go far and has no passenger space?**

EAL/Ingo/April2005

© 2005 Espen Andersen. All rights reserved.

1.16



## Now for Tux...

BI

- Lacks familiar interface
- Lacks drivers, especially for end user gadgets
- Few end users know much about it
- Is lean and modular in a world with abundant end user computing power
- Thin on games, personal utility software and commercial applications
- Configuration is complicated but can be done centrally



**How do you sell something that people can get for free, anyway?**

EAL/Ingo/April2005

© 2005 Espen Andersen. All rights reserved.

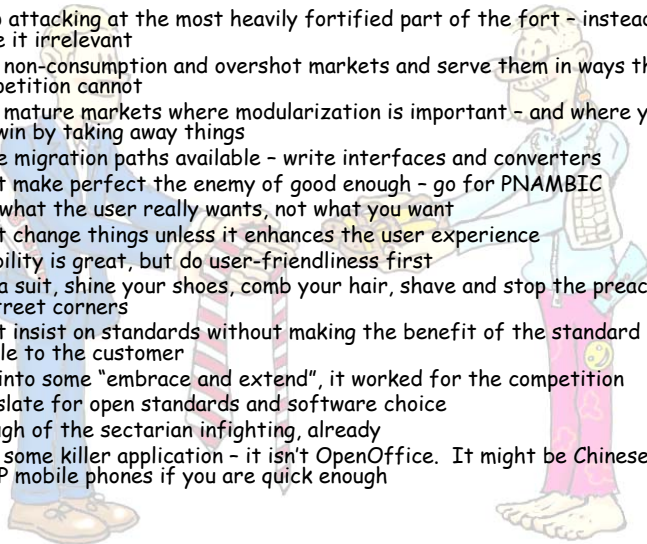
1.17



## Source code for a twelve-step program

BI

- Stop attacking at the most heavily fortified part of the fort - instead, make it irrelevant
- Find non-consumption and overshot markets and serve them in ways the competition cannot
- Find mature markets where modularization is important - and where you can win by taking away things
- Make migration paths available - write interfaces and converters
- Don't make perfect the enemy of good enough - go for PNAMBIC
- Ask what the user really wants, not what you want
- Don't change things unless it enhances the user experience
- Usability is great, but do user-friendliness first
- Get a suit, shine your shoes, comb your hair, shave and stop the preaching at street corners
- Don't insist on standards without making the benefit of the standard visible to the customer
- Get into some "embrace and extend", it worked for the competition
- Legislate for open standards and software choice
- Enough of the sectarian infighting, already
- Find some killer application - it isn't OpenOffice. It might be Chinese VOIP mobile phones if you are quick enough





....don't plan -- learn!

**BI**



[www.espen.com](http://www.espen.com)

EAL/Up/04/12/2005

© 2005 Espen Andersen. All rights reserved.

1.20