



redhat.

Innovation in Software Development

- It's Not All About Patents

Why Does Innovation Occur?

- Because you need to sell more software?

Windows 3.1

Windows 95

Windows 98

Windows 2000

Windows XP

Shorthorn?

Why Does Innovation Occur?

- Because you need to sell more software?
- Because a problem needs to be solved or an itch scratched:

WWW

Linux

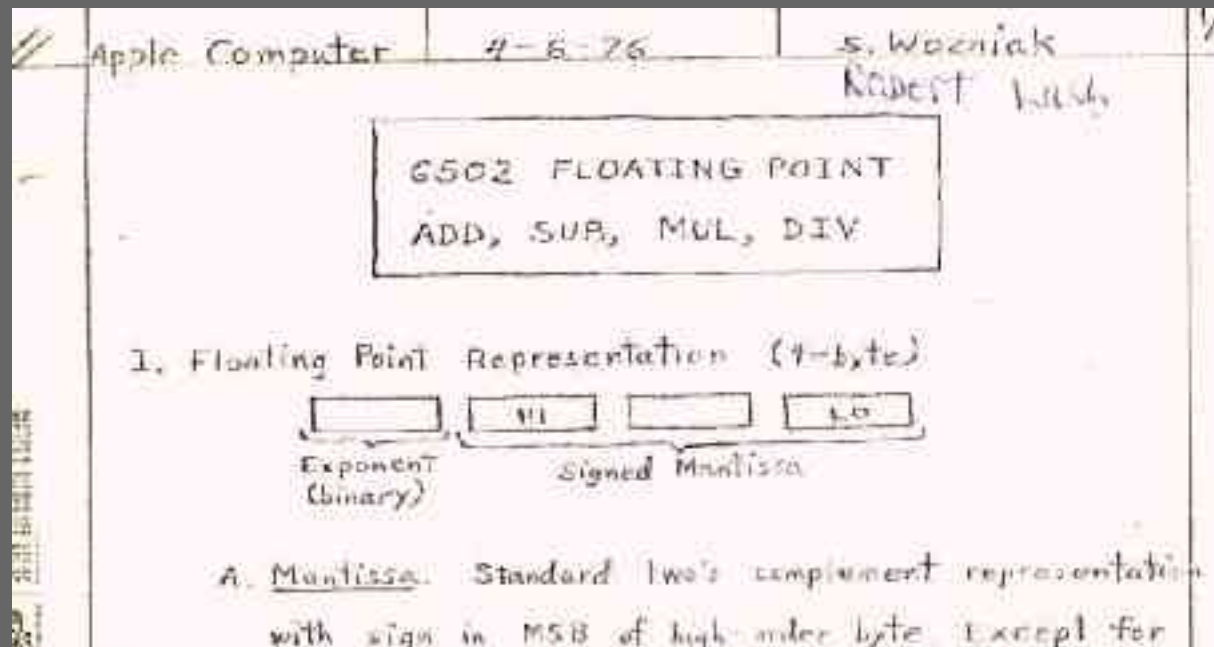
Sendmail

Bind

Apache

Innovation From Collaboration

The Homebrew Computer Club



Innovation From Collaboration

- A new opportunity opens from an invention, or the expiration of a patent.
- Then there may be a quiet period in which some interested parties are aware of the uncertain potential of the newly adaptable invention.
- Collective invention institutions form, creating a social network.
- A flow of adaptations (microinventions) follows, from hobbyists and firms.
- New firms appear, seizing opportunities to apply the new technology for profit.
- With the establishment of a profitable industry, technological uncertainty is reduced and the collective invention process evaporates. Surviving firms run private research and development. If that is expensive, few firms survive.

Red Hat Contributions

Global File System

Directory Server Project

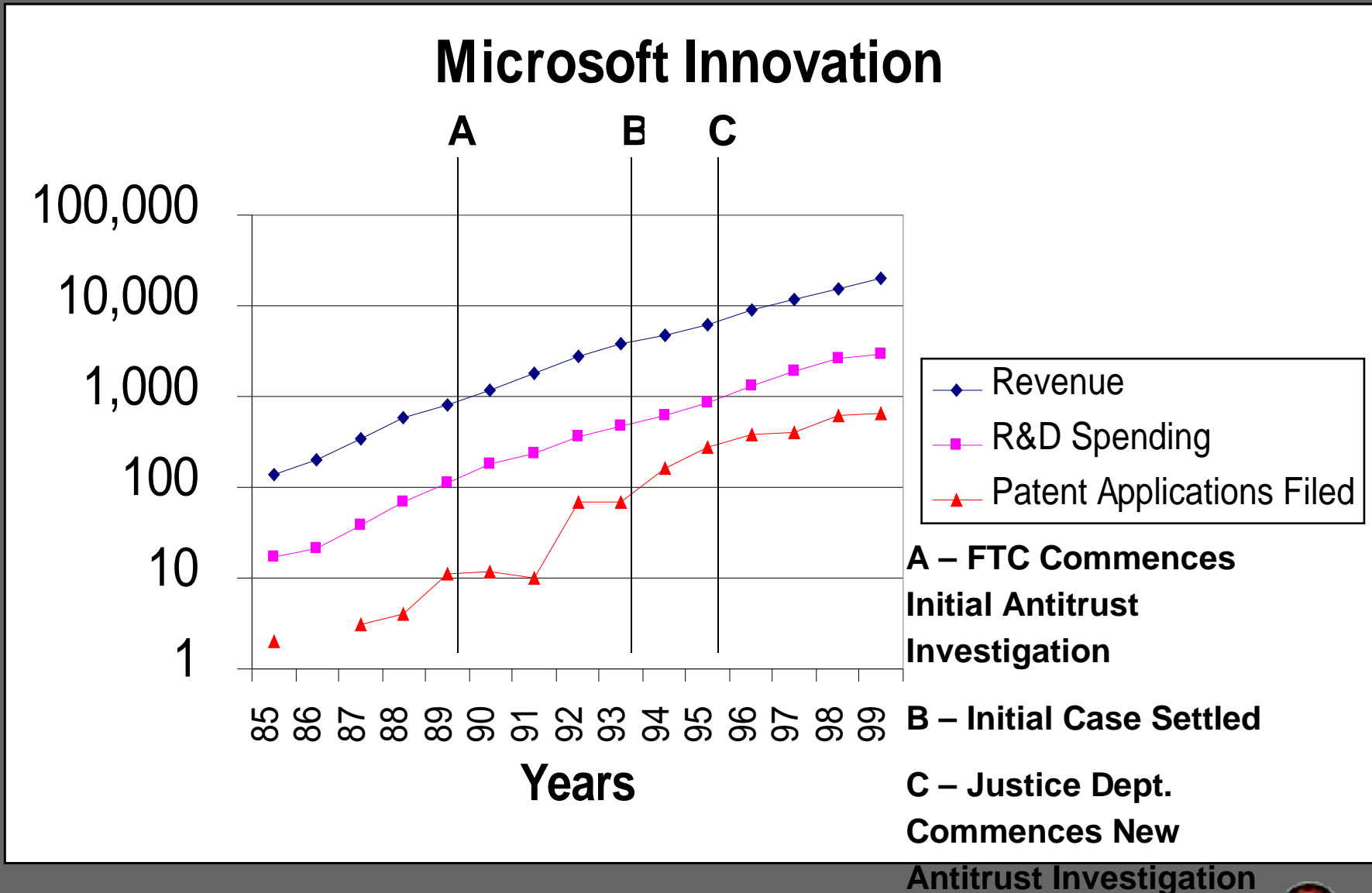
Fedora Foundation

What About Patents and Innovation?

“[S]tronger IP protection is not always better. Chances are that patents on software, common practice in the US and on the brink of being legalised in Europe, in fact stifle innovation.”

- Deutsche Bank Research, 2004

Patents Are Not Necessary to a Dominant Position



Inventions That Would Have Just Come Off Patent In The Year 2000 Had Software Patents Been Available In 1978

WordStar (1979) – the first PC-based word processor

VisiCalc (1979) – the first PC-based spreadsheet

Harvard Graphics (1983) – the first PC-based presentation graphics

How Positions Have Changed

"If people had understood how patents would be granted when most of today's ideas were invented and had taken out patents, the industry would be at a complete standstill today."

"I feel certain that some large company will patent some obvious thing related to interface, object orientation, algorithm, application extension or other crucial technique."

Bill Gates, 1991

Patents – A Means to Tax

“[Where companies are assembling large portfolios of software patents, such] firms may compete to tax each others' inventions and in the process reduce their competitors' incentive to engage in R&D.”

James Bessen and Robert M. Hunt,
2004

The Software Patent Experiment

Software Patents – Other Concerns

- Lack of correlation between useful life of software inventions (3-6 years) and the patent term (20 years)
- Lack of correlation between cost of obtaining the patent protection and the invention protected
 - Pharmaceutical Industry vs. Software Industry
- Lack of incentive to share
 - Telecom Industry vs. Software Industry

What Needs to be Done

- Patent Reform in Europe –
Computer-Implemented Inventions Directive
 - Assure Interoperability
 - Software code alone is not patentable
- Patent Reform in the U.S.
 - Assure higher standards of non-obviousness
 - Publication of all patent applications at 18 months
 - Remember the Constitutional bargain: A Limited Monopoly vs. Disclosure
- Create a patent commons for open source

Microsoft – Respecting Open Source

- Promise not to sue independent developers
- Stop approaching end users – work with commercial open source vendors