

Commercialising Free and Open Source Software

My experiences building and selling the
Nereus and JPC products as OSS....



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This Talk is about a journey

- Think of an idea, which has immense commercial potential
- Develop novel software to address this
- Research various routes to market
- Determine that open source is best
- Convince the University
- Make a sale....



Who and What?

- Me....
 - 20 years' software development about 50/50 academic/commercial
 - Joined Oxford Physics department in 2004 to look at novel computer Grid Technologies
 - Conceived, designed and built award winning software at Oxford.... "*Nereus*" and "*JPC*"



What = JPC

- Pure java x86 PC emulator, released 2007
- Runs unmodified DOS and Linux inside a pure JVM, e.g. a standard browser



What = Nereus

- Pure Java network proxy technology and remote execution model
- Enables secure and transparent means for a computer owner (donor) to donate idle CPU time by a simple click in a browser



The screenshot shows a Windows Internet Explorer browser window displaying the Nereus website. The address bar shows the URL <http://www.nereusgrid.com/>. The page features a "POWERED BY Nereus" logo in the top right corner. A dark blue banner below the logo reads "Welcome To Nereus @ gdg-nereuscpu4.physics.ox.ac.uk".

On the left side of the page, there is a box containing the following statistics:

- Server IP 163.1.136.63
- Active Client Count 8
- HTTP Server Bound To: 2009 80
- Client HTTP Outbound on: 2008
- Client HTTP Inbound on: 2007
- SOCKS Proxy Bound To: 1080

On the right side, there is a paragraph of text: "Nereus is an easy to deploy and use massively parallel computing infrastructure." Below this text are two links: [Contribute to the Nereus system.](#) and [View system status](#).



What is Nereus/JPC for?

- *\$100 billion* of idle CPU time going to waste every year
- Massive global need for computing
- Most computer owners might like to get some benefit from idle time
- JPC/Nereus provides a secure framework for brokering CPU time from donors to users
- Business opportunity at a similar scale to Google



Wow - \$100 billion!

- Surely you would not *give* this away?
- Problem – Chicken and the Egg
 - Without a large installed base of Nereus/JPC the users won't be convinced it will provide added value
 - Without users vying for CPU time on machines with Nereus/JPC installed, donors will not be convinced its worth joining



Solution: Open Source

- Open source is more than just available source code for software:
 - OSS links you to a global group of technically aware and innovative people
 - OSS means you don't worry about people copying the software – in fact this is what you want!
 - The software could just be free, but releasing the source code too is a market positioning issue
- Open Source is a great means to get a presence in the software market – viral distribution!



For an Internet Concept

- With increasing use of the internet and more dynamic web technology
 - Lots of software (HTML, Javascript, CSS, Flash, Java) is effectively Open Source
 - Business models focussing on the size of a user group
 - Advertising opportunities
 - Referral traffic
- Simply charging for a copy of a piece of software is a dying model
 - The largest opportunity is for the largest user group (i.e. the internet) and people are increasingly unwilling to pay up front...



Our Business Strategy

- Use open source distribution to
 - Build the network of users
 - Let other people confirm key technology claims
 - Ease of use
 - Suitability of purpose
 - Elegance of implementation
 - Provide key references for investors
- Seek investment on the above to further service the growing community
- All the above makes companies finally become comfortable to try it out
- Ultimately the revenue stream will come with a vibrant user base, both individual and corporate



So now....

- The route is planned.....



Academic Software → Open Source?

- Not true. All universities are now *very* motivated to generate revenue.....
- Ever since 2004 the business model for Nereus and JPC has been refined
- Started with traditional closed source ideas (e.g. seat based licensing)
- Requires a leap of faith from the University to believe “giving it away” will eventually bring *something* back
- It’s really the converse argument which works:
 - NOT releasing open source → NO money will ever come in
- ISIS were very flexible in understanding this concept



Which Licence?

- Given the technology will be OS, which licence to use?
 - Oxford initially wanted its own commercial, and then Open Source version
- Mainstream OSS licences, particularly GPL, are *much* better
 - Avoid copyright issues of the licence text
 - Is immediately well understood by all key people worldwide – both commercial and academic
 - Offers substantial protection – the FSS will defend you against an infringement at their expense



So Eventually....

- JPC Launched at JavaOne 2007, open source GPLv2
- Nereus Launched at JavaOne 2008, open source GPLv2
- Growing use and technical acclaim
 - No investor has yet criticised the move
- The technology was licensed commercially in December 2008



Why pay for Free Software?

- GPL requires additional development to be released GPL too
 - May be a concern to some commercial work
- A commercial license offers protection from being sued
 - A reseller also benefits from being able to sub-license
- Paying for a licence can mean technical support
 - The traditional argument – not very convincing
 - “Technical Support” → “We’re confident we know the code backwards – pay us for bespoke development”



Summary – For Developers

- Get hooked into a global movement
- Get viral distribution of your code – build a network of users/references
- Get independent validation of quality
- Focus on technology – revenue will come
 - Network size investments
 - Consultancy opportunities



Summary – For Users

- Try software for free to see whether it suits
- Try software for free for as long as you need to become comfortable
 - Developers – a sales call will come *in from an already committed potential customer!*
- Change whenever.... Focus on your business needs rather than working with buggy bloatware
 - Pay for what you need – and only that!
- Get independent views on the software quality
 - Other users – market size
 - Other engineers – what's the code like?



Software: The Future

- The internet makes policing digital copying impractical
- Charging \$\$ per copy provides major incentives for pirates - digital copies are perfect and the value therein remains
- Charging downstream is more reliable, enforceable and facilitates a direct relationship with customers
- Customers come to you *wanting* to pay for value they already see



Free ≠ Open Source

- Could achieve a lot by giving software binaries away only.....
- Misses the massive OSS community, but can work:
 - Skype
 - Adobe PDF
 - Flash
- However the instant credibility and network OSS software brings to new entrants are powerful aspects.



Conclusion

- Ask not whether to Open Source, ask whether NOT to Open Source
- With growing use of the “Cloud” free-distribution will become the standard
- It's good for users and developers – all except those with outdated business models relying on vendor lock-in!

