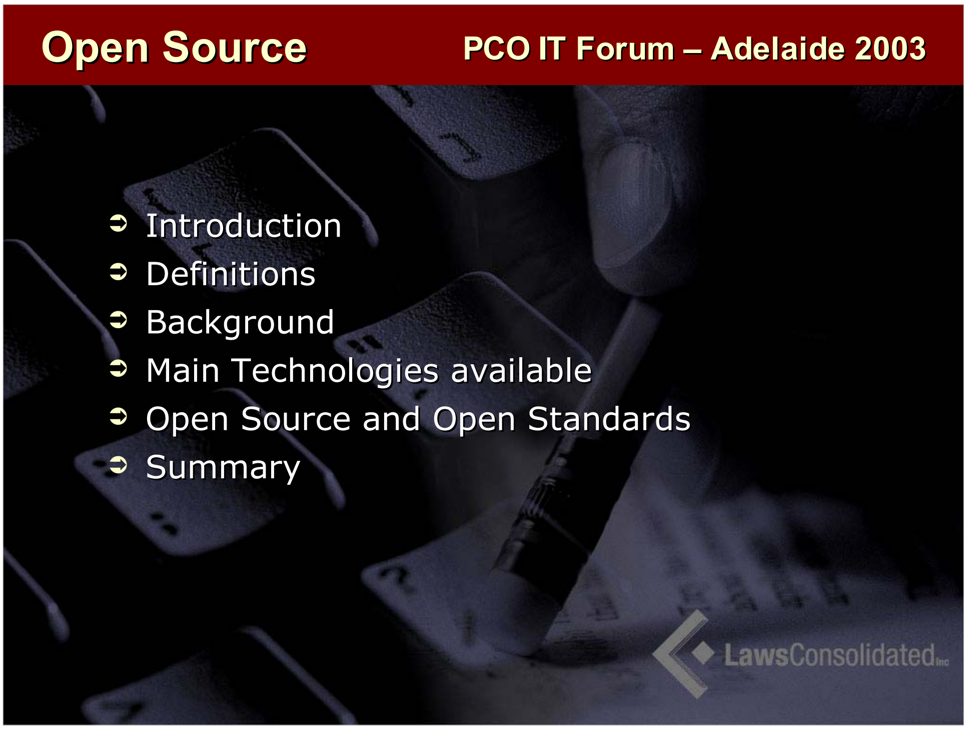

Open Source

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- Introduction
- Definitions
- Background
- Main Technologies available
- Open Source and Open Standards
- Summary

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BEFORE:

1. Overview of my job roles

2. Evangelist for Open Source

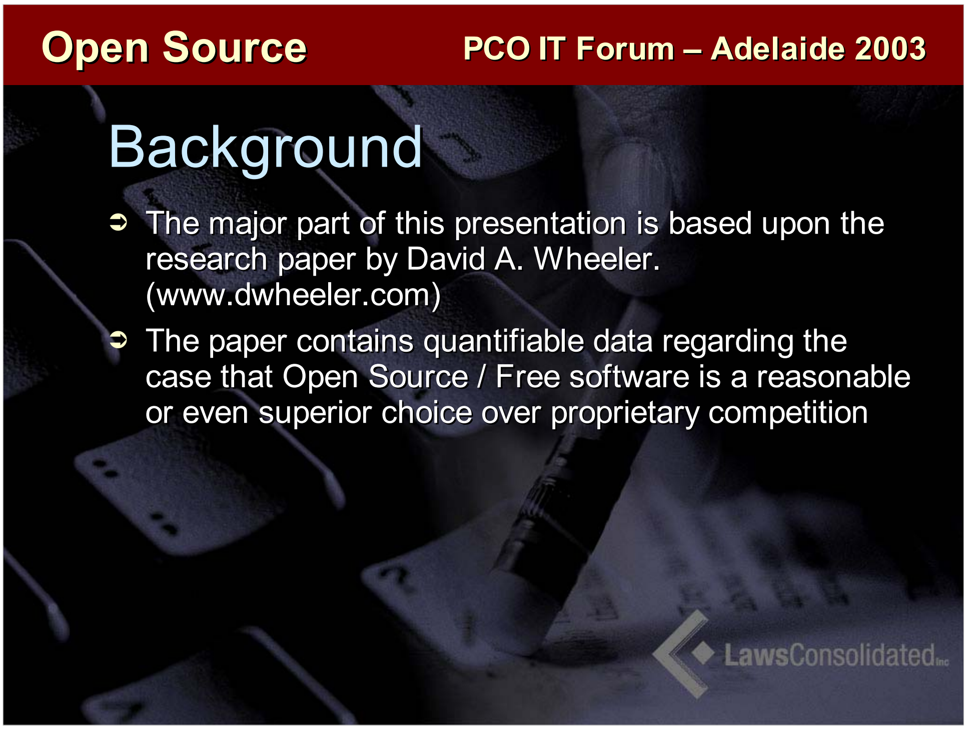
3. Presentation will sound like an attack on Microsoft (intended)

4. I still use Microsoft for programming as tools are still good but the company needs a giant wake-up call

5. Microsoft needs to open their products – refer recent press where EU is threatening to fine Microsoft 10% of their international sales

SLIDES:

Click each item with brief explanation



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Background

- The major part of this presentation is based upon the research paper by David A. Wheeler. (www.dwheeler.com)
- The paper contains quantifiable data regarding the case that Open Source / Free software is a reasonable or even superior choice over proprietary competition

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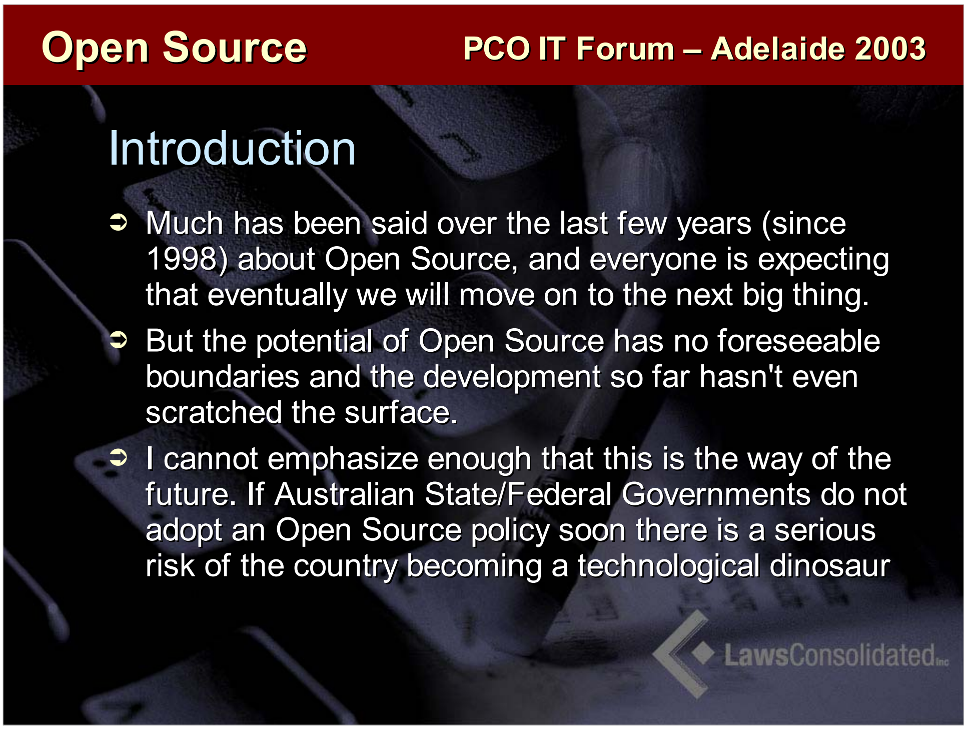
SLIDE SELF EXPLANATORY AND INCLUDED TO GIVE CREDIT TO AUTHOR



Open Source PCO IT Forum – Adelaide 2003

Introduction

- Much has been said over the last few years (since 1998) about Open Source, and everyone is expecting that eventually we will move on to the next big thing.
- But the potential of Open Source has no foreseeable boundaries and the development so far hasn't even scratched the surface.
- I cannot emphasize enough that this is the way of the future. If Australian State/Federal Governments do not adopt an Open Source policy soon there is a serious risk of the country becoming a technological dinosaur

BEFORE:

1. Goal of this presentation is to show why Open Source should be considered when looking at the next software/hardware upgrade.

2. The presentation is based on quantitative measures (experiments and market studies) not just anecdotes.

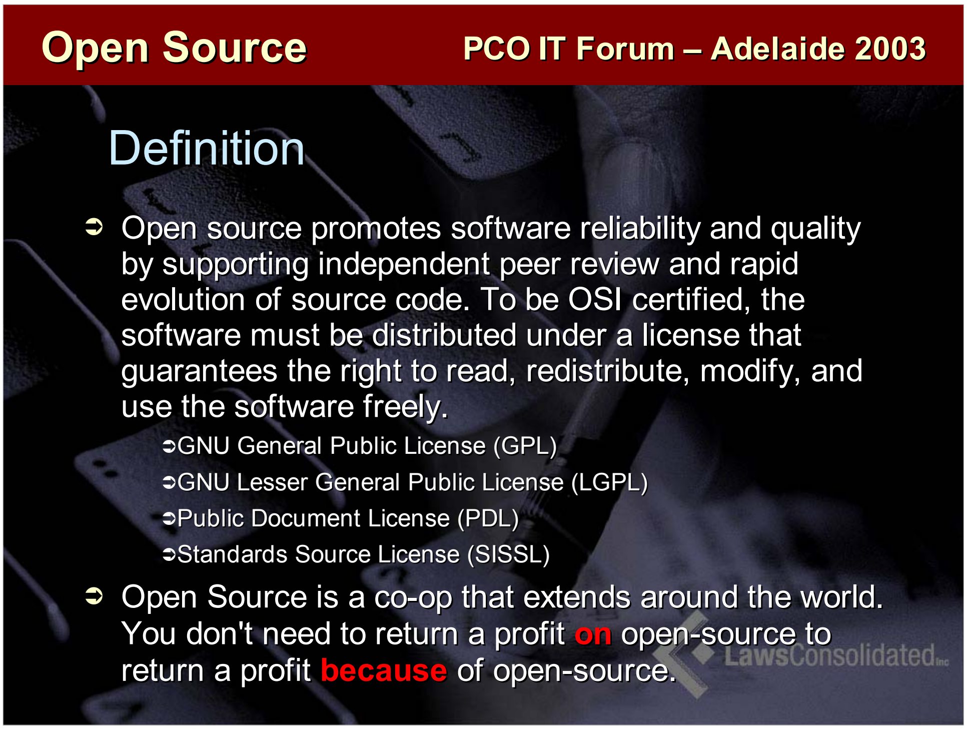
3. NOTE: Not all Open Source is better than Proprietary. (Desktop)

SLIDES:

1. Open Source has been around since 70s but only defined in 1998.

2. Software developed under Open Source since the mid-nineties has come a long way and it will only be a few more years before proprietary is under a real threat and will be forced to join or lose. As the evolution occurs the quality of all software will improve, in ways we cannot even visualize at this point.

3. Anyone not starting the move now will fall quickly behind in the technology race and even be forced to pay huge licensing costs as the large companies begin to be swamped.



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Definition

- Open source promotes software reliability and quality by supporting independent peer review and rapid evolution of source code. To be OSI certified, the software must be distributed under a license that guarantees the right to read, redistribute, modify, and use the software freely.
  - GNU General Public License (GPL)
  - GNU Lesser General Public License (LGPL)
  - Public Document License (PDL)
  - Standards Source License (SISSL)
- Open Source is a co-op that extends around the world. You don't need to return a profit **on** open-source to return a profit **because** of open-source.

BEFORE:

The full definition spans many pages and can get quite involved. The most important point is the words; read, redistribute, modify and use the software freely.

SLIDES:

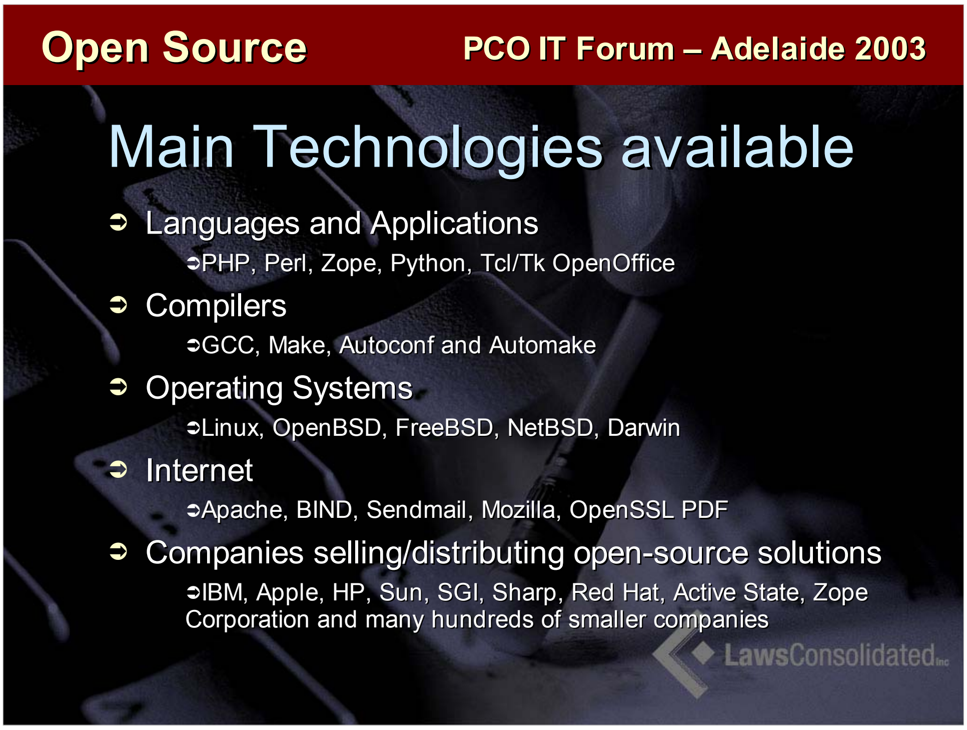
1 This ideal has been distorted to some degree by a number of licensing models that have sprung up. However the general theme is preserved. (Explain each license model as they come in and the props and cons)

2. The biggest questions are “what's in it for me” or “how do you make money out of Open Source?

Developers work with Open Source to create products. Those products can be glued together using Open Source components or code, that can still belong to the Developer. Whenever functions/ classes are added to extend the functionality of the original source code then those items are returned to the community for ratification and inclusion in the project.

Therefore the Developer makes money on the product solution, just as they always have done. The only difference is some of the intellectual property is shared, and hence the core technology is constantly improved.

Use a history lesson on standards and computing to show how we are finally “getting it” when it comes to the future.



Open Source

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Main Technologies available

- Languages and Applications
  - PHP, Perl, Zope, Python, Tcl/Tk OpenOffice
- Compilers
  - GCC, Make, Autoconf and Automake
- Operating Systems
  - Linux, OpenBSD, FreeBSD, NetBSD, Darwin
- Internet
  - Apache, BIND, Sendmail, Mozilla, OpenSSL PDF
- Companies selling/distributing open-source solutions
  - IBM, Apple, HP, Sun, SGI, Sharp, Red Hat, Active State, Zope Corporation and many hundreds of smaller companies

BEFORE:

Open Source presents a myriad of software options. Here are just a few of the more mature technologies. Explain each one briefly.

Open Source

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Demonstration

- OpenOffice

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BEFORE:

Indicate that I have already done this as I am using OpenOffice Impress for this presentation.

DURING:

Give a brief history until now (1998) 16 million users (40 million if you count StarOffice).

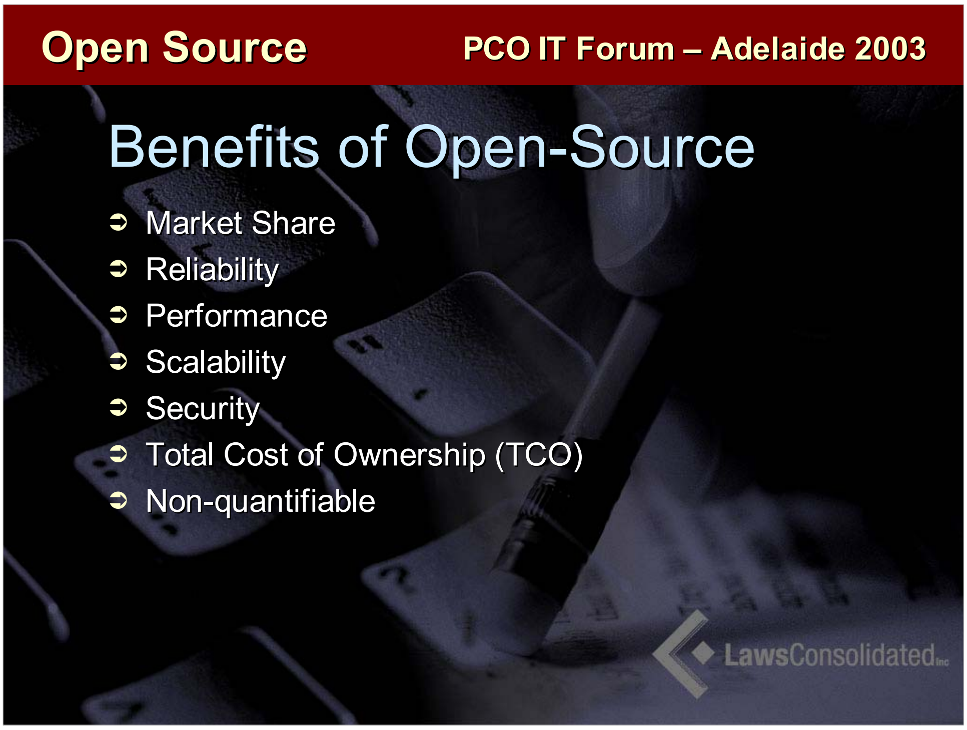
Give quick run through of main features.

Scripting has two options macros or UNO objects (Universal Network Objects)

Can use C++ or Java or anything with a UNO bridge (Python, Perl etc.)

Limitations – ready for Legislation – not yet but very close.

Stress XML is native format and then unpack the file to reveal the components.



Open Source

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Benefits of Open-Source

- Market Share
- Reliability
- Performance
- Scalability
- Security
- Total Cost of Ownership (TCO)
- Non-quantifiable

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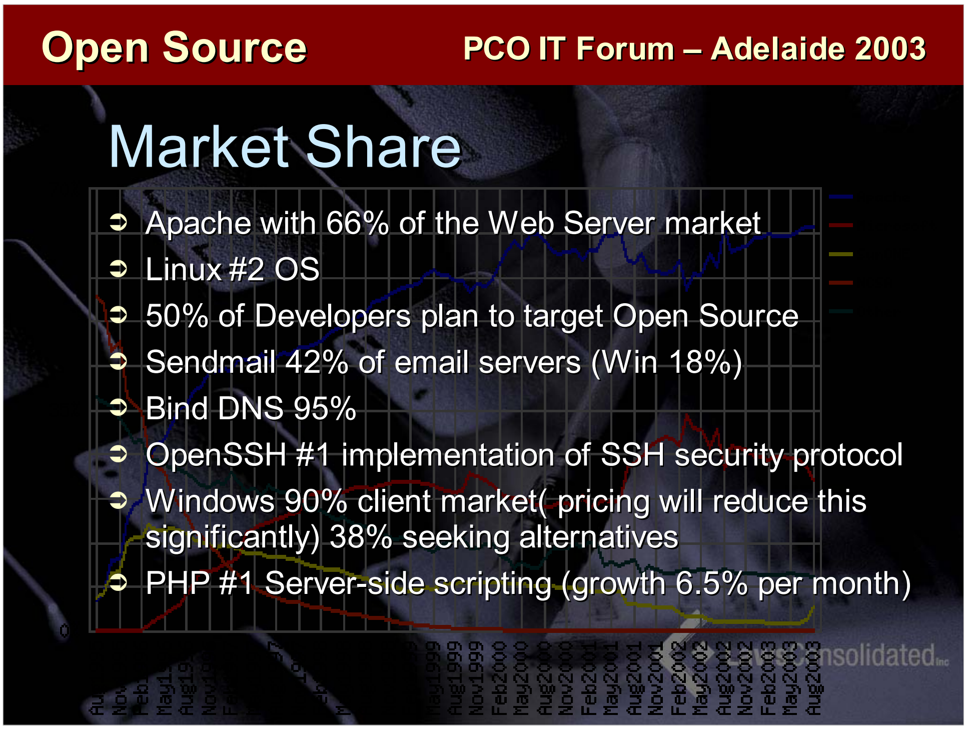
BEFORE:

Here are the facts the proprietary vendors don't want you to know. In fact they have gone to extraordinary efforts (similar to the tobacco companies) to try to derail the Open Source revolution. (Give $26 million advertising campaign by Microsoft and Unisys as an example)

SLIDES:

Flip through the sub-topics and briefly explain.



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Market Share

- ➲ Apache with 66% of the Web Server market
- ➲ Linux #2 OS
- ➲ 50% of Developers plan to target Open Source
- ➲ Sendmail 42% of email servers (Win 18%)
- ➲ Bind DNS 95%
- ➲ OpenSSH #1 implementation of SSH security protocol
- ➲ Windows 90% client market(pricing will reduce this significantly) 38% seeking alternatives
- ➲ PHP #1 Server-side scripting (growth 6.5% per month)

1. Everyone knows that Microsoft has 90% of the desktop market but will that continue? Apache has twice the share of Microsoft in Web Servers and increasing (refer to chart).

2. Linux #2 but mainly in sever market. Linux and MacOS have 4% each in the desktop market and slowly increasing.

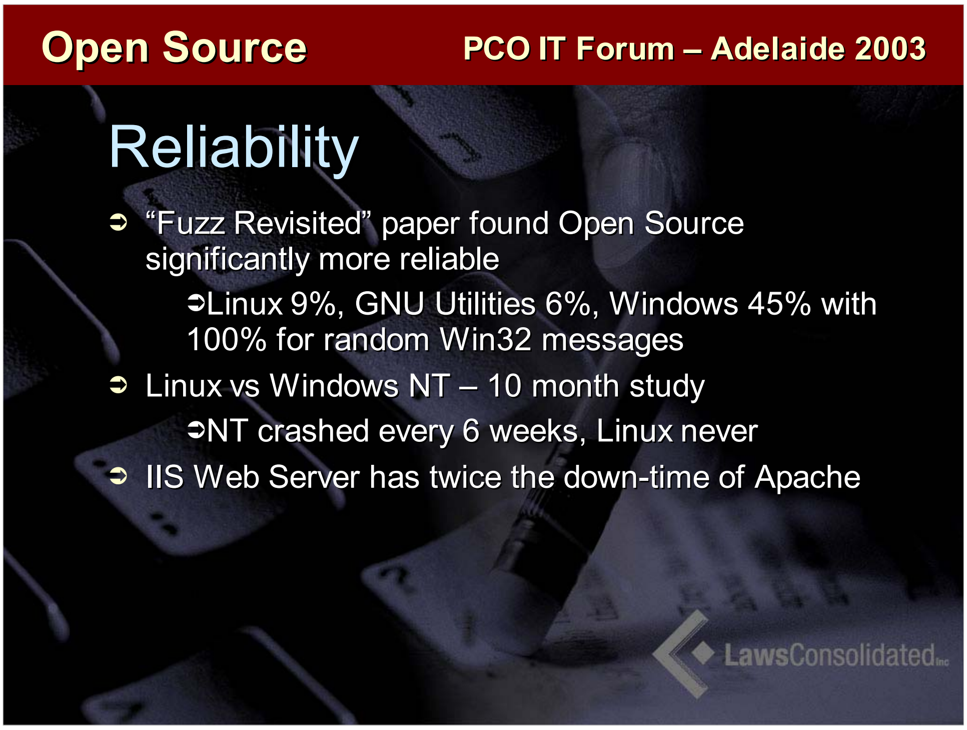
3. Recent survey showed 50% of international developers were using or planned to target Open Source.

4. Windows mail servers losing market share due to viruses and cost. Sendmail is a mature and stable alternative.

5. Reverse DNS look-up complete domination of web (all using Open Source)

6. Windows pricing rose 76% in a short period. 80% of users are dissatisfied with the new licensing structure.

7. PHP is a mature flexible server-side scripting language that has incredible growth since 1995. Has strong integration with Apache and DBMS.



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Reliability

- “Fuzz Revisited” paper found Open Source significantly more reliable
  - Linux 9%, GNU Utilities 6%, Windows 45% with 100% for random Win32 messages
- Linux vs Windows NT – 10 month study
  - NT crashed every 6 weeks, Linux never
- IIS Web Server has twice the down-time of Apache

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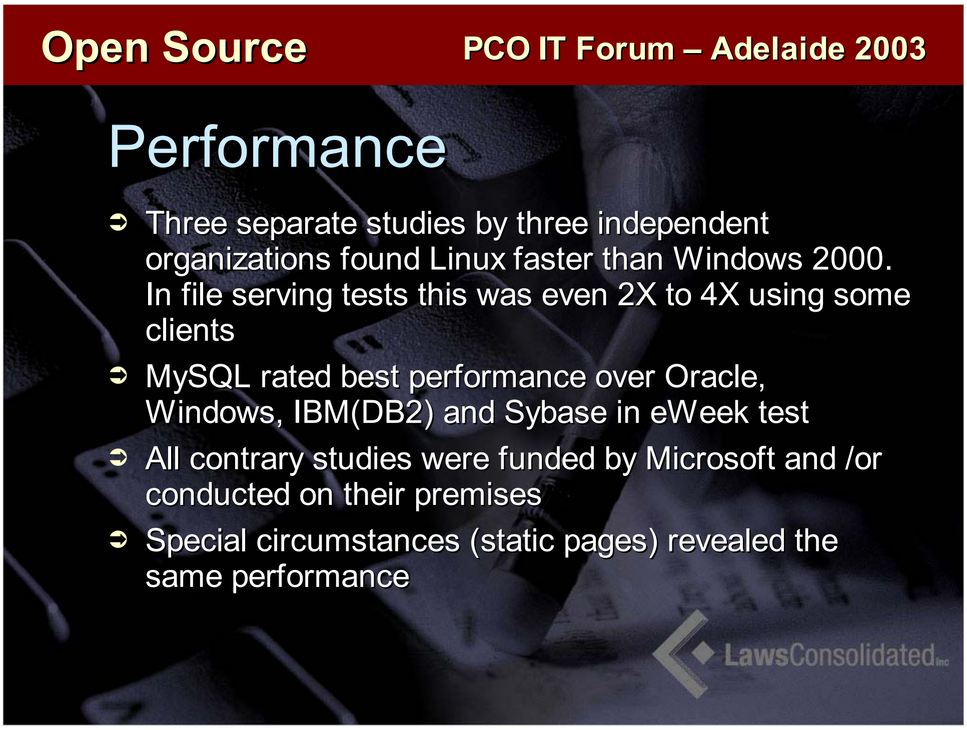
1. This programme fed applications random characters to determine resistance to freezing or crashing.

But how can software developed by a scattered group of programmers be more reliable than proprietary code.

The answer lies in the fact that every flaw in Open Source detected in this study was fixed (not by the original developer). Microsoft instead beefed up its license to prevent litigation that could result from the problems detected and left the “repair” to the next release (never entirely fixed).

2. In this test two Linux variants and NT servers were tested over a period of time.

3. Swiss evaluation checked a 100 popular web sites every 5 minutes from 4 different locations.



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Performance

- Three separate studies by three independent organizations found Linux faster than Windows 2000. In file serving tests this was even 2X to 4X using some clients
- MySQL rated best performance over Oracle, Windows, IBM(DB2) and Sybase in eWeek test
- All contrary studies were funded by Microsoft and /or conducted on their premises
- Special circumstances (static pages) revealed the same performance

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BEFORE:

Measuring performance is like statistics... its all in the process. Therefore only accept independent studies that have no axe to grind or conflict of interest.

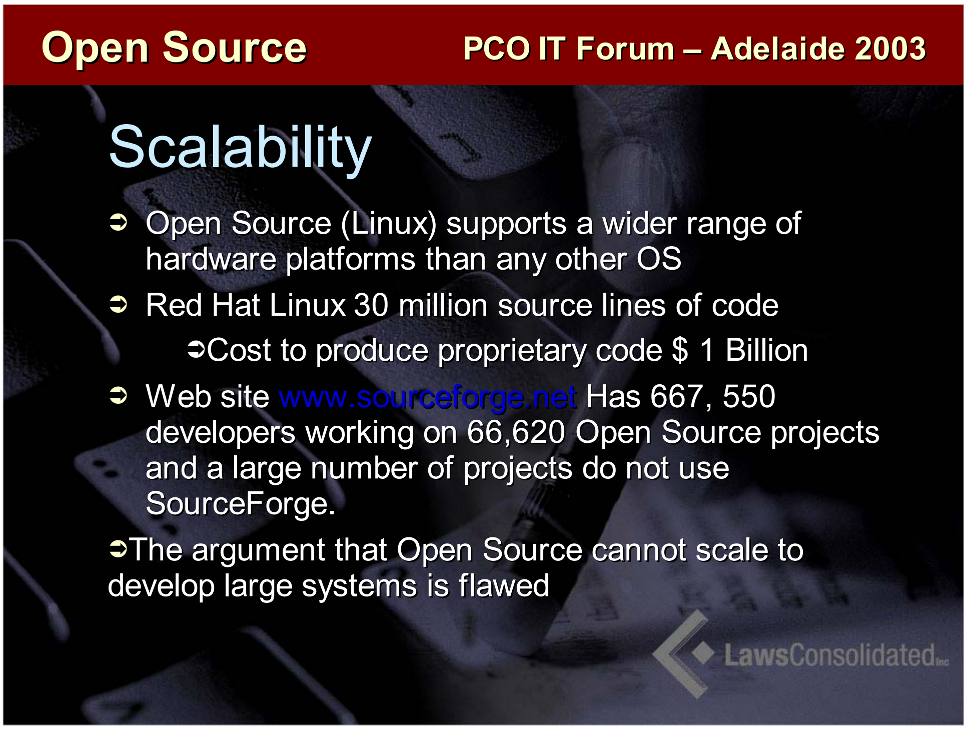
1. PC Magazine produces some of the best comparisons as they must be factual. NOV 2001 Linux 78% faster. APR 2002 Linux 100% faster with 4 times the number of clients.

2. MySQL and Oracle rated very close (marginal) but both easily outperformed all the other – stress cost between MySQL and Oracle. MySQL owes its speed to query caching

3. Many examples of Microsoft being caught out trying to taint the statistics.

4. Ziff Davis Linux/Apache 16 to 50% faster than Microsoft Windows / IIS.

However IIS was better with delivery of static content (non ASP)



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Scalability

- ➲ Open Source (Linux) supports a wider range of hardware platforms than any other OS
- ➲ Red Hat Linux 30 million source lines of code
  - ➲Cost to produce proprietary code $ 1 Billion
- ➲ Web site www.sourceforge.net Has 667, 550 developers working on 66,620 Open Source projects and a large number of projects do not use SourceForge.

➲The argument that Open Source cannot scale to develop large systems is flawed

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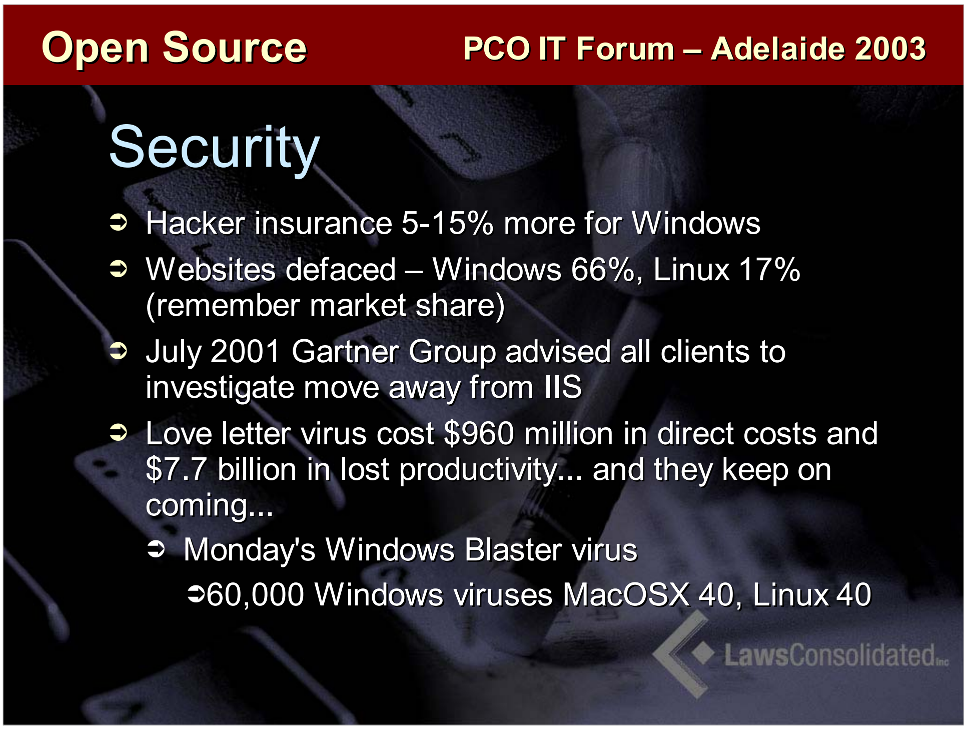
1. Linux supports PDA's obsolete hardware, mainframes, clusters and super computers. (IBM Blue Gene – 200 trillion calculations per second).

2. Open Source can produce a product that is stable and nearly as many SLOC as Windows. A one billion project for next to nothing.

3. Army of developers into open source. Real numbers unknown.

4. To argue that Open Source cannot scale is not only correct but the opposite applies. The Microsoft Exchange issues with large multi-nationals years ago is a case in point.



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Security

- Hacker insurance 5-15% more for Windows
- Websites defaced – Windows 66%, Linux 17% (remember market share)
- July 2001 Gartner Group advised all clients to investigate move away from IIS
- Love letter virus cost $960 million in direct costs and $7.7 billion in lost productivity... and they keep on coming...
  - Monday's Windows Blaster virus
    - 60,000 Windows viruses MacOSX 40, Linux 40

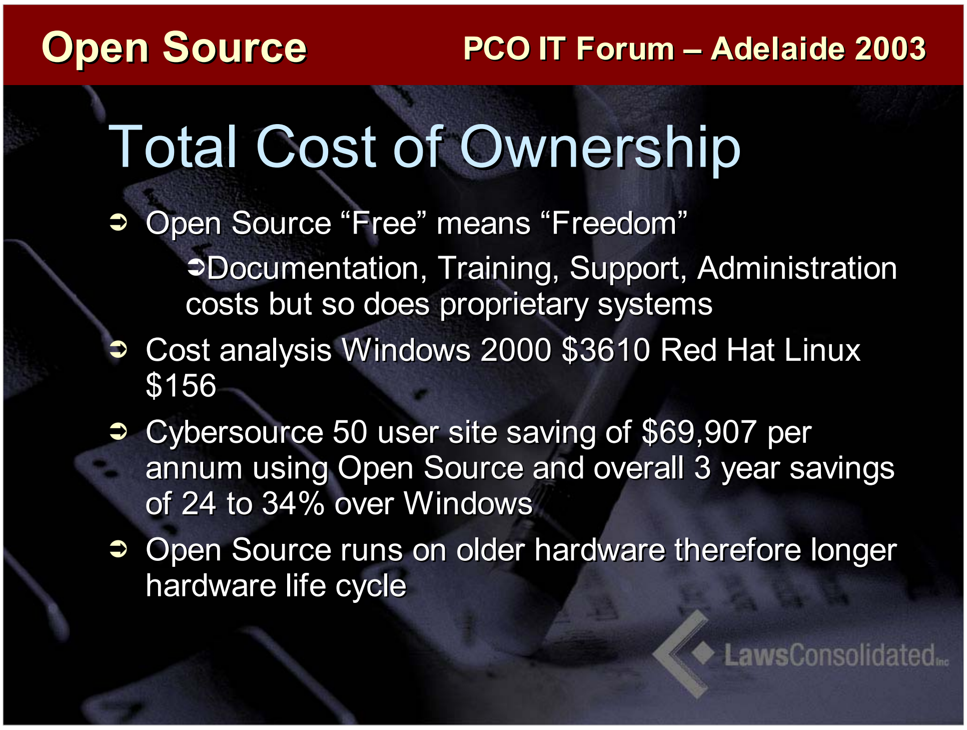
1. Figures derived from hundreds of security assessments and claims.

2. An important point with this is the time to produce a patch to prevent the attack; Red Hat 11.23 days, Microsoft 16.10 days and Sun 89.50 days.

3. Using CERT advisories Microsoft IIS was attacked 1400 times more than Apache in 2001 (remember market share).

4. Best scanner to detect vulnerabilities was Nessus (Open Source)

NOTE: The more people that review a project the less chance of a security problem.



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Total Cost of Ownership

- Open Source "Free" means "Freedom"
  - Documentation, Training, Support, Administration costs but so does proprietary systems
- Cost analysis Windows 2000 $3610 Red Hat Linux $156
- Cybersource 50 user site saving of $69,907 per annum using Open Source and overall 3 year savings of 24 to 34% over Windows
- Open Source runs on older hardware therefore longer hardware life cycle

BEFORE:

With TCO it doesn't matter the starting cost, it is the overall cost.

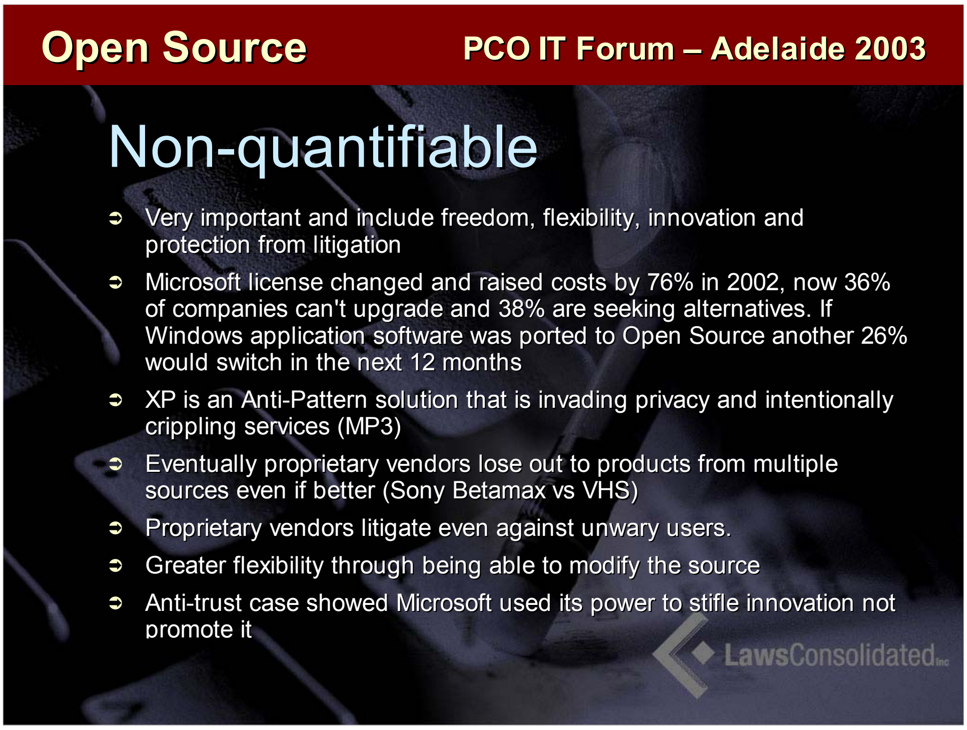
1. TCO relies on; purchase cost, administration, upgrade, technical support, and end user costs (documentation and training).

Upgrades are roughly ½ the purchase price.

2. This analysis includes programming set-up costs.

3. Not only does Open Source present large savings but you don't need to worry about license litigation over complicated licensing structures. NOTE: XP cannot be copied to a home and work computer. Even Steve Ballmer admitted they cannot match price (2002)

4. Linux will run on i486 but Pentium recommended. Also Open Source is better suited to Application Server deployment so hardware can be DUMB.



Open Source

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Non-quantifiable

- Very important and include freedom, flexibility, innovation and protection from litigation
- Microsoft license changed and raised costs by 76% in 2002, now 36% of companies can't upgrade and 38% are seeking alternatives. If Windows application software was ported to Open Source another 26% would switch in the next 12 months
- XP is an Anti-Pattern solution that is invading privacy and intentionally crippling services (MP3)
- Eventually proprietary vendors lose out to products from multiple sources even if better (Sony Betamax vs VHS)
- Proprietary vendors litigate even against unwary users.
- Greater flexibility through being able to modify the source
- Anti-trust case showed Microsoft used its power to stifle innovation not promote it

BEFORE:

Not all claims can be measured but if it squeals like a pig and smells like a pig then it probably is.... (sorry John)

1. Have already covered slightly.

2. Single source... high risk, high prices, quality low. Multiple sources... don't like one then vote with your feet. With a monopoly you get continuous price hikes and limit its uses to those that benefit the monopolist. 90% of Microsoft customers say their cost will increase 20 to 300% with XP.

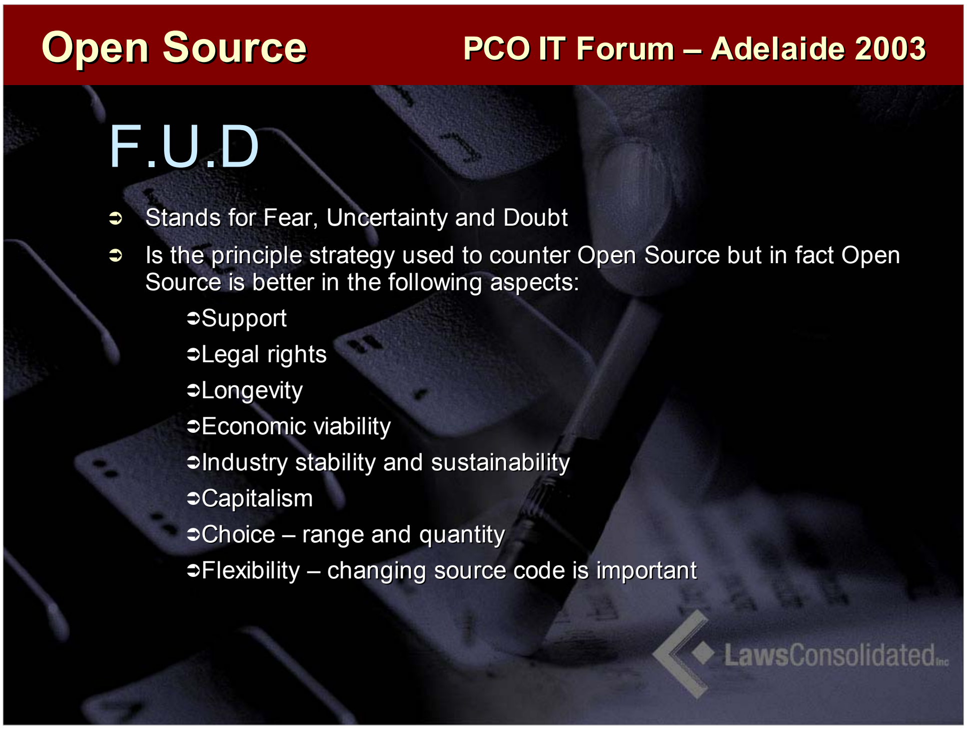
3. Anti-Pattern creates more problems than it solves and MP3 down-sampled to make Windows format better so they can lock customers in. They claimed that they were good corporate citizens protecting rights of artists by encrypting the data. Patch to break the encryption available in one day.

4. Explain BETA (Sony) vs VHS (Pioneer, JVC, SHARP etc.)

5. Organizations shut down by Microsoft audit and had to pay fines even though they had probably paid the license but couldn't find the paper-work. License constantly changing and confusing. Can't part sell a company.

6. Example is Iceland where was not cost effective for Microsoft to produce a version of Windows 95 for them. Open Source no problem.

7. Used its monopoly to bully suppliers to not distribute innovative products.



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F.U.D

- Stands for Fear, Uncertainty and Doubt
- Is the principle strategy used to counter Open Source but in fact Open Source is better in the following aspects:
  - Support
  - Legal rights
  - Longevity
  - Economic viability
  - Industry stability and sustainability
  - Capitalism
  - Choice – range and quantity
  - Flexibility – changing source code is important

1. Is the strategy used by proprietary vendors to try and stop you buying a rival's product. Has been perfected by Microsoft.

2. Used (at great expense) against Open Source to try and slow or even halt the revolution but they are swimming up-stream,

Best Support 1997 Linus support group. Newsgroups, mail lists, websites and forums all better with Open Source.

Proprietary software you do not own it and can even lose the right to use the software if you start any litigation.

Businesses fail, developers lose interest in both proprietary and Open Source. However in Open Source many developers are involved in a project and if one loses interest another will pick it up. (GIMP is a case in point)

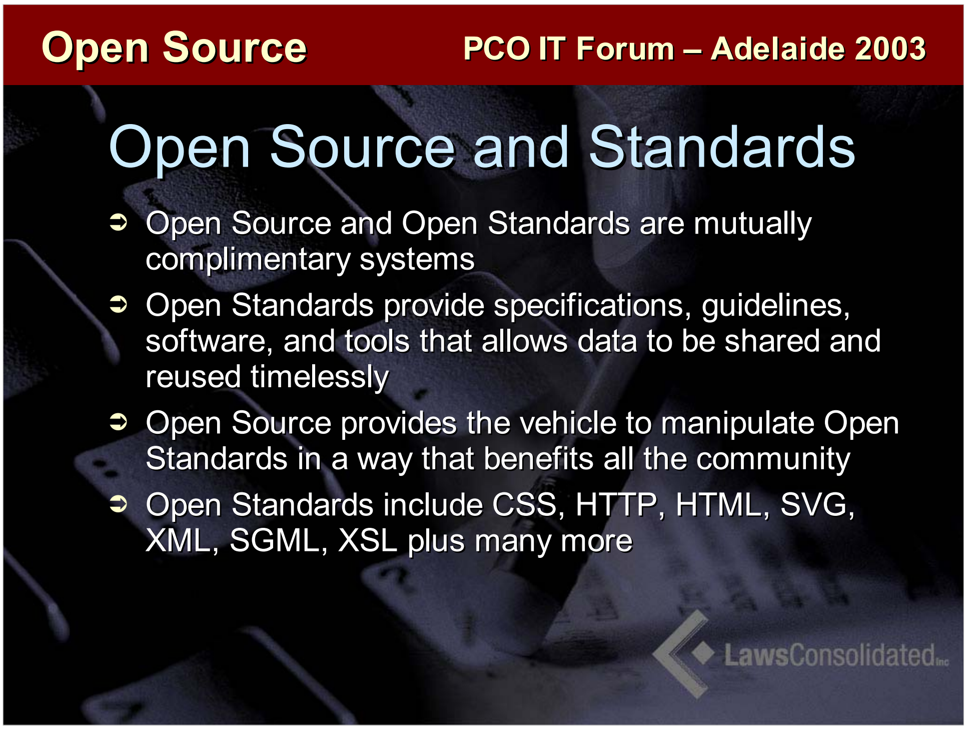
I am using Open Source to support my business.

95% of all software is not developed for sale. Therefore even if proprietary systems fail completely only a small percentage of programmers will be affected.

Capitalist – increases wealth without violating principles of property ownership or free will... not a definition of Microsoft.

Many Open Source projects even compete with each other so there is plenty of choice. Single Source – no choice

Single source no flexibility. Modify code gives great flexibility.



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Open Source and Standards

- Open Source and Open Standards are mutually complimentary systems
- Open Standards provide specifications, guidelines, software, and tools that allows data to be shared and reused timelessly
- Open Source provides the vehicle to manipulate Open Standards in a way that benefits all the community
- Open Standards include CSS, HTTP, HTML, SVG, XML, SGML, XSL plus many more

AFTER:

With Open Source and Open Standards we are finally building a global community that will be free to innovate and develop. There are 6 billion people in the world and only 500 million computers. By adopting Open Source many less fortunate countries will now have the tools to legally develop.

However to be a technology leader governments need to be adopting an open policy and not a closed proprietary system, that will only delay joining the revolution early enough to be a leader. If they join early benefits that will flow on from that decision.

The German government already has 43% of agencies using Open Source, UK has approximately 30%, Sweden 17%... and in Australia well we have a Standard Operating Environment (SOE) that we are paying hundreds of millions of dollars to an overseas company for... and this will only get worse.

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Demonstration

- ➲ PHP, MySQL and Apache

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Demonstrate a Legislation Web site constructed using all Open Source tools. Explain development time and the simplicity of adding a Forum to the site.

Show the dynamic data

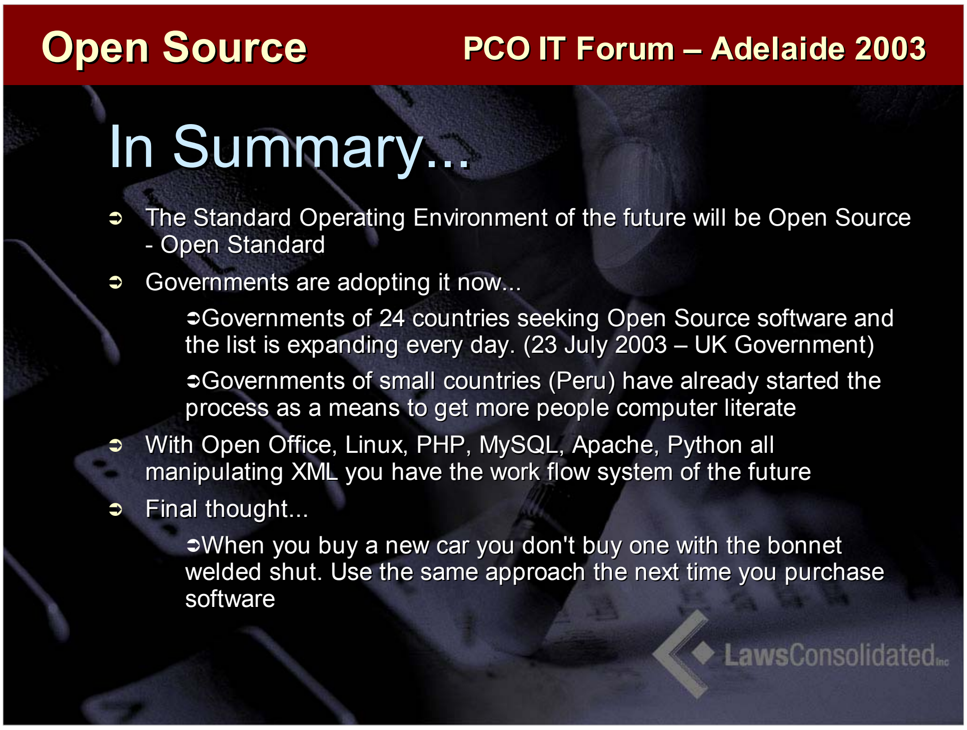
Show the administration log -in and explain the five levels of security

Make a reprint

Show point-in-time

Show update documents

Show preferences and change site.



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In Summary...

➲ The Standard Operating Environment of the future will be Open Source - Open Standard

➲ Governments are adopting it now...

➲Governments of 24 countries seeking Open Source software and the list is expanding every day. (23 July 2003 – UK Government)

➲Governments of small countries (Peru) have already started the process as a means to get more people computer literate

➲ With Open Office, Linux, PHP, MySQL, Apache, Python all manipulating XML you have the work flow system of the future

➲ Final thought...

➲When you buy a new car you don't buy one with the bonnet welded shut. Use the same approach the next time you purchase software

AFTER:

Having worked in the Military I understand that there was a great value in being able to create specifications. For example... milspec integrated circuits were well above the specifications of commercial equivalents (-55degC to +125degC as opposed to 0 to +70degC). Such Integrated Circuits were reliable and robust.

The military would post a specification and all manufacturers would compete to offer that product. However with the monopoly in the computer industry we are all being dictated to by a very unscrupulous juggernaut.

Open Source gives back to governments the ability to create specifications and rapidly acquire extremely stable and secure systems from any number of vendors. With flexibility comes efficiency and eventually competitiveness with our trading partners, and then wealth and prosperity for the country is the logical result.

Finally we will be able to communicate, not only business to business using Open Source and Open Standards, but globally using non-proprietary (standard) formats.

The world will finally get it.