



# AUUG Presentation to CEGACT

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## Linux and Open Source Software: Introduction

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- Australian UNIX<sup>®</sup> and Open Systems User Group.



- Australian UNIX<sup>®</sup> and Open Systems User Group.
- Unix.



- Australian UNIX<sup>®</sup> and Open Systems User Group.
- Unix.
- Open Systems.



- Australian UNIX<sup>®</sup> and Open Systems User Group.
- Unix.
- Open Systems.
- Open Standards.



- Australian UNIX<sup>®</sup> and Open Systems User Group.
- Unix.
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- Open Source Software.



- Australian UNIX<sup>®</sup> and Open Systems User Group.
- Unix.
- Open Systems.
- Open Standards.
- Open Source Software.
- Linux and \*BSD.



# Proprietary Software

- Non-trivial purchase cost.
- Restrictive license.



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# Proprietary Software



- Non-trivial purchase cost.
- Restrictive license.
- Executables only — difficult to modify (even if license permits):

```
.....
00000350: e8ab 7cfb f783 c410 c9c3 9090 5589 e583  ..|.....U...
00000360: ec08 83e4 f0b8 0000 0000 29c4 83ec 0c68  .....)....h
00000370: d483 0408 e813 ffff ff83 c410 83ec 0c6a  .....j
00000380: 00e8 16ff ffff 9090 5589 e553 52a1 bc94  .....U..SR...
00000390: 0408 83f8 ffbb bc94 0408 740c 83eb 04ff  .....t....
000003a0: d08b 0383 f8ff 75f4 585b c9c3 5589 e553  .....u.X[..U..S
000003b0: 83ec 04e8 0000 0000 5b81 c318 1100 00e8  .....[.....
000003c0: 30ff ffff 8b5d fcc9 c300 0000 0300 0000  0....].....
000003d0: 0100 0200 4865 6c6c 6f20 776f 726c 6421  ....Hello world!
000003e0: 0d00 0000 0000 0000 0000 0000 c894 0408  .....
.....
```



# Open Source Software/Free Software

- No required purchase cost.
- Licenses encourage sharing.



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# Open Source Software/Free Software



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- No required purchase cost.
- Licenses encourage sharing.
- Source code provided — ‘easy’ to modify (encouraged):

```
#include <stdio.h>
#include <stdlib.h>

int
main()
{
    printf("Hello world!\n");
    exit (0);
}
```



# GNU General Public License (GPL)



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- One of the more 'restrictive' licenses.



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- If you modify the source and distribute resulting executables, then you must distribute your modified source.



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- Redistribution is encouraged.



# GNU General Public License (GPL)



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- If you modify the source and distribute resulting executables, then you must distribute your modified source.
- Redistribution is encouraged.
- You can sell this Free Software — but the thing being sold tends to be a service. . .



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- If you modify the source and distribute resulting executables, then you must distribute your modified source.
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- You can sell this Free Software — but the thing being sold tends to be a service. . .
- <http://www.gnu.org/licenses/gpl.html>



# Linux

- Linux is an operating system kernel originally written by Linus Torvalds in 1991 and released under the GPL.



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- A Linux distribution is a Linux kernel bundled with other software.



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- Some software developed separately, sometimes predating the Linux kernel: GNU software, X Window System, BIND, Sendmail, . . .



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- A Linux distribution is a Linux kernel bundled with other software.
- Some software developed separately, sometimes predating the Linux kernel: GNU software, X Window System, BIND, Sendmail, . . .
- Estimated development cost of Red Hat Linux 7.1:
  - Total Physical Source Lines of Code (SLOC) = 30,152,114.
  - Estimated Development Effort in Person-Years = 7955.75.
  - Total Estimated Cost to Develop = USD 1,074,713,481.

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# Why tell educators about this?

- Choice.



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# Why tell educators about this?

- Choice.
- Cost-effective.



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- Choice.
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- Accessible.



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- Teach.



# Why tell educators about this?

- Choice.
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- Accessible.
- Teach.
- Contribute.



# Program

- |       |                                   |                                      |
|-------|-----------------------------------|--------------------------------------|
| 18:05 | Linux in Extremadura, Spain       | Rusty Russell (Linux hacker)         |
| 18:20 | Linux and Open Source Software    | Martin Schwenke (CAUUG)              |
| 18:45 | Sun's StarOffice education scheme | Laurie Wong (Sun)                    |
| 19:05 | Break                             |                                      |
| 19:30 | Teaching Linux at CIT             | Judy Adams,<br>James Hamilton (CIT)  |
| 19:50 | Linux/OSS at Hawker College       | Andrew Bartlett<br>(Hawker College)  |
| 20:05 | Open Source at DCS, ANU           | Chris Johnson (ANU)                  |
| 20:15 | About Linux Australia             | Andrew Tridgell<br>(Linux Australia) |
| 20:25 | Close                             |                                      |



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