ABOUT
The African Institute for Mathematical Sciences
Quick Facts

South African Physicist

Director of Perimeter Institute

Family fled South Africa after standing against Apartheid regime in 1980's

Worked with Stephan Hawking on Hawking-Turok constant, among other scientific achievements

Founded AIMS in 2003
Our students come from 42 countries

- Sénégal
- Ghana
- Cameroon
- Tanzania
- South Africa

2015
5 centres of excellence

2023
15 centres of excellence planned

AIMS NEI
African Institute for Mathematical Sciences
NEXT EINSTEIN INITIATIVE
Linux from day 1

- Originally Debian testing
- Moved to Ubuntu in 2004
- Commonly used Software:
  - Python
  - Sagemath
  - R Studio
  - GNU Octave
  - Scipy
  - Spyder
  - TexMaker
- All current centres run the above
- Advocacy work remains an ongoing
The compilation of Sage 6.8 went very smoothly on every currently supported Debian and Ubuntu versions in both 32 and 64 bits (16 possible combinations), for the first time all ptestlong passed without having to re-test expect.py manually.”- Thierry, SageMath release manager
### Status of Sage 6.9.beta0 in Debian

75 out of 94 standard packages are up-to-date in testing
73 out of 94 standard packages are up-to-date in unstable

<table>
<thead>
<tr>
<th>Package</th>
<th>Sage</th>
<th>Debian</th>
<th>Archs</th>
</tr>
</thead>
<tbody>
<tr>
<td>atlas</td>
<td>PTS</td>
<td>3.10.2</td>
<td></td>
</tr>
<tr>
<td>boehm_gc</td>
<td>PTS</td>
<td>7.2d.p0</td>
<td>13/0</td>
</tr>
<tr>
<td>boost_cropped</td>
<td>PTS</td>
<td>1.52.0</td>
<td>all</td>
</tr>
<tr>
<td>bzip2</td>
<td>PTS</td>
<td>1.0.6-20140317</td>
<td>13/0</td>
</tr>
<tr>
<td>cddlib</td>
<td>PTS</td>
<td>0.94g.p0</td>
<td>13/0</td>
</tr>
<tr>
<td>cliquer</td>
<td>PTS</td>
<td>1.21.p2</td>
<td>1/0</td>
</tr>
<tr>
<td>combinatorial_designs</td>
<td>PTS</td>
<td>20140830</td>
<td>1/0</td>
</tr>
<tr>
<td>conway_polynomials</td>
<td>PTS</td>
<td>0.4.p0</td>
<td>13/0</td>
</tr>
<tr>
<td>cvxopt</td>
<td>PTS</td>
<td>1.1.7</td>
<td>13/0</td>
</tr>
<tr>
<td>cython</td>
<td>PTS</td>
<td>0.22.p5</td>
<td>10/0</td>
</tr>
<tr>
<td>dateutil</td>
<td>PTS</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>docutils</td>
<td>PTS</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>ecl</td>
<td>PTS</td>
<td>13.5.1.p0</td>
<td></td>
</tr>
<tr>
<td>eclib</td>
<td>PTS</td>
<td>20150510</td>
<td></td>
</tr>
<tr>
<td>ecm</td>
<td>PTS</td>
<td>6.4.4</td>
<td></td>
</tr>
<tr>
<td>elliptic_curves</td>
<td>PTS</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>fflas_ffpack</td>
<td>PTS</td>
<td>1.6.0.p1</td>
<td></td>
</tr>
<tr>
<td>flint</td>
<td>PTS</td>
<td>2.4.5</td>
<td></td>
</tr>
<tr>
<td>flintqs</td>
<td>PTS</td>
<td>20070817.p8</td>
<td></td>
</tr>
<tr>
<td>freetype</td>
<td>PTS</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>gap</td>
<td>PTS</td>
<td>4.7.8</td>
<td></td>
</tr>
<tr>
<td>gl2f2x</td>
<td>PTS</td>
<td>1.1.p1</td>
<td></td>
</tr>
<tr>
<td>gfan</td>
<td>PTS</td>
<td>0.5.p0</td>
<td></td>
</tr>
<tr>
<td>git</td>
<td>PTS</td>
<td>2.3.0</td>
<td></td>
</tr>
<tr>
<td>givaro</td>
<td>PTS</td>
<td>3.7.1</td>
<td></td>
</tr>
<tr>
<td>glpk</td>
<td>PTS</td>
<td>4.55.p0</td>
<td></td>
</tr>
<tr>
<td>graphs</td>
<td>PTS</td>
<td>20130920.p5</td>
<td></td>
</tr>
<tr>
<td>gsl</td>
<td>PTS</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>iml</td>
<td>PTS</td>
<td>1.0.4p1</td>
<td></td>
</tr>
</tbody>
</table>

“74 out of 94 standard packages are up-to-date in unstable”
So why the switch to Ubuntu?
Ubuntu 8.04: Legally free to copy, modify and redistribute

Windows XP: Do Not Make Illegal Copies of This Disc
"We’ve already seen that with Red Hat and Novell, which essentially offer free software on proprietary terms – their “really free” editions are not certified, carry no support and receive no systematic security patching. In other words – they’re beta or test versions. If you want the best that free software can deliver, a rock solid, widely certified, secure platform, from either of those companies then you have to pay, and you pay the same price whether you are Goldman Sachs or a startup in Rio de Janeiro.

That’s not the vision we all share of what free software can achieve."
"Ubuntu" is an ancient African word, meaning "humanity to others". Ubuntu also means "I am what I am because of who we all are". The Ubuntu Linux distribution brings the spirit of Ubuntu to the software world.

Ubuntu is entirely committed to the principles of open source software development; we encourage people to use open source software, improve it and pass it on.

The Ubuntu Project is a community project with participation from many volunteers, sponsored by Canonical Ltd. Canonical will not charge licence fees for Ubuntu, now or at any stage in the future. Canonical's business model is to provide technical support and professional services related to Ubuntu. Please see Paid support for further information.
Foreword

about four key ideas, and it is those ideas that are central to the Ubuntu promise

- That our software should not come with a license fee. That we should be able to share our software, modify it, and then share our modifications, too.

- That this free software should be the best version available, including regular security updates, and not a tease for a better, commercial product.

- That full-scale, high-quality commercial support from local and global companies should be available for this free platform.

- That this software should be usable in as many languages as possible and usable by as many people as possible regardless of disability.

The seventeen of us who met in London two years ago come from a very
Ubuntu Desktop
Ubuntu Installer

Install Ubuntu alongside Windows 7

Select drive: SCSI1 (0,0,0) (sdb) - 250.1 GB ATA WDC WD2500BEVT-2 94.5 GB

Allocate drive space by dragging the divider below:

- Windows Recovery Environment
  /dev/sdb2 (ntfs)
  67.2 GB

- Ubuntu
  /dev/sdb3 (ext4)
  47.6 GB

6 smaller partitions are hidden, use the advanced partitioning tool for more control

Quit  Back  Install Now
AIMS Desktop Artwork

- LightDM (login screen)
- /etc/issue (text login)
- Plymouth (bootsplash)
- Ubiquity (installer slideshow)
- gfxboot
- Wallpapers
- Disable Apport
Canonical IP Policies

Ubuntu Licensing:
http://www.ubuntu.com/about/about-ubuntu/licensing

IPRights Policy:
3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use.

- You can make changes to Ubuntu for your own personal use or for your organisation's own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use.

- You can make changes to Ubuntu for your own personal use or for your organisation’s own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use

- You can make changes to Ubuntu for your own personal use or for your organisation's own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use

- You can make changes to Ubuntu for your own personal use or for your organisation’s own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use.

- You can make changes to Ubuntu for your own personal use or for your organisation's own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
# IPRights Policy

## Excerpts

### 3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use.

- You can make changes to Ubuntu for your own personal use or for your organisation’s own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
IPRights Policy

Excerpts

3. Your use of Ubuntu

- You can download, install and receive updates to Ubuntu for free.

- Ubuntu is freely available to all users for personal, or in the case of organisations, internal use. It is provided for this use without warranty. All implied warranties are disclaimed to the fullest extent permitted at law.

- You can modify Ubuntu for personal or internal use.

- You can make changes to Ubuntu for your own personal use or for your organisation’s own internal use.

- You can redistribute Ubuntu, but only where there has been no modification to it.

- You can redistribute Ubuntu in its unmodified form, complete with the installer images and packages provided by Canonical (this includes the publication or launch of virtual machine images).

- Any redistribution of modified versions of Ubuntu must be approved, certified or provided by Canonical if you are going to associate it with the Trademarks. Otherwise you must remove and replace the Trademarks and will need to recompile the source code to create your own binaries. This does not affect your rights under any open source licence applicable to any of the components of Ubuntu. If you need us to approve, certify or provide modified versions for redistribution you will require a licence agreement from Canonical, for which you may be required to pay. For further information, please contact us (as set out below).
Copyright

The disk, CD, installer and system images, together with Ubuntu packages and binary files, are in many cases copyright of Canonical (which copyright may be distinct from the copyright in the individual components therein) and can only be used in accordance with the copyright licences therein and this IPRights Policy.

7. Use of Canonical IP by the Ubuntu community

Ubuntu is built by Canonical and the Ubuntu community. We share access rights owned by Canonical with the Ubuntu community for the purposes of discussion, development and advocacy. We recognise that most of the open source discussion and development areas are for non-commercial purposes and we therefore allow the use of Canonical IP in this context, as long as there is no commercial use and that the Canonical IP is used in accordance with this IPRights Policy.
Commercial Definition

From license (sorry not sharing the whole thing publically), an interesting definition of commercial use:

3. **Commercial usage:** you distribute AIMS-desktop to anyone other than:
   (a) AIMS South Africa
   (b) AIMS centres globally
   (c) African universities whether or not affiliated with AIMS
   (d) Alumni of AIMS
   (e) Researchers for AIMS
A Question To You

Do you (still) consider an Ubuntu ISO Free Software?

Or even by any other definition?

Open Source? DFSG free?
Want to contribute to AIMS Desktop?

help@aims.ac.za