

# The API Contract is Dead

## LONG LIVE THE API CONTRACT

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# Things move fast today!

- API's Used to be Stable
- Dependencies were few and loosely coupled



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# How do we keep our sanity?

- Test Coverage – Continuous Integration
- Automatic Dependency Resolution

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DEPARTMENT	COURSE	DESCRIPTION	PREREQS
COMPUTER SCIENCE	CPSC 432	INTERMEDIATE COMPILER DESIGN, WITH A FOCUS ON DEPENDENCY RESOLUTION.	CPSC 432
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# Reality CHECK

- Test coverage is not automatic – Unless it is part of your culture
- The consumers of a library tend to over-trust the upstream's tests to ensure things are working.
- On the fly dependency resolution often makes for an unrepeatable build (YO, Maven, this means you!)

# GOOD things about FAST change

- Newer versions often add stability AND performance
- Progress – Without constraints, developers are able to add features and refactor at will
- v\*.0 is bad, but v0.\* is t3h awesome!



# BAD things about FAST change



- Stuff breaks
- Repeated Integration Cost
- Encourages bad behavior like embedding specific versions
- Kills kittens

# Case Study: libmemcached

- 0.31 released almost 1 year ago
- 0.40 current release
- Somewhere between 0.31 and 0.40, the API changed enough to break everything, requiring porting of most apps.
- 1 year of development added features like SASL support and 'memcapable' test tool

# MongoDB

- v1.2.3 released Feb 23 2010
- Ubuntu 10.04 Lucid ships with v1.2.2 Apr 29 2010.
- v1.4.3 released May 24 2010



# Cassandra

- Very new, gaining traction quickly
- So far, releasing about 4 times per year
- Huge number of dependencies, all ship embedded at specific working versions
- Old releases are deprecated very quickly

# So why do we bother packaging?

- Stability? NO
- Predictibility, “Stasis”
- Uniformity – Easier to support just one version



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# What can authors do?

- Think twice about breaking an API that has been published for a while
- Consider that just because it is v0.x doesn't mean only power users will end up using it.
- Use bold and `<blink>` for the “THIS IS GOING TO CHANGE” link on the download page..



# What can distributors do?

- Cry
- Refuse to move forward at the pace of these projects
- Refuse to support old library versions
- Try to support all versions
- All of the above get done in Ubuntu regularly

# How about a better idea?

Something sysadmins already do...



# NO not more hand waving!



<http://www.flickr.com/photos/igalko/4690480668/>

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# Leverage YOUR Core Competencies

- Python people don't want distro python
- Perl people don't want distro perl
- And MySQL in the distro is ok, but I need percona!
- Most sysadmins just install with the OS, then build everything important from source and drop it in /usr/local

# Rather than build..

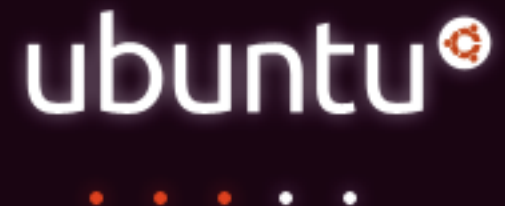
- PPA or “Personal Package Archive”
- Launchpad service to easily build packages then make the built packages available in a special apt repository.
- Easy to add on ubuntu: 'add-apt-repository ppa:user\_or\_team/ppaname





# PPA details

- Once a PPA is established, Server Team would upload packages into it for an upstream
- Allows upgrades to be made available to Ubuntu users very quickly.
- Users who utilize it can upgrade instantly with 'apt-get upgrade'



# Author Participation

- Upstream can be granted upload access very easily.
- Our first “blessed” team with a PPA:  
<https://launchpad.net/~cassandra-ubuntu>



# Derivatives Made Easy?

- Kubuntu is Ubuntu w/ KDE as the default
- How about “Yubuntu” which has your packages added on top of the distro.
- What if we made this easy?



# Got any good ideas about this?

I want to hear what you think!

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<http://fewbar.com>

