

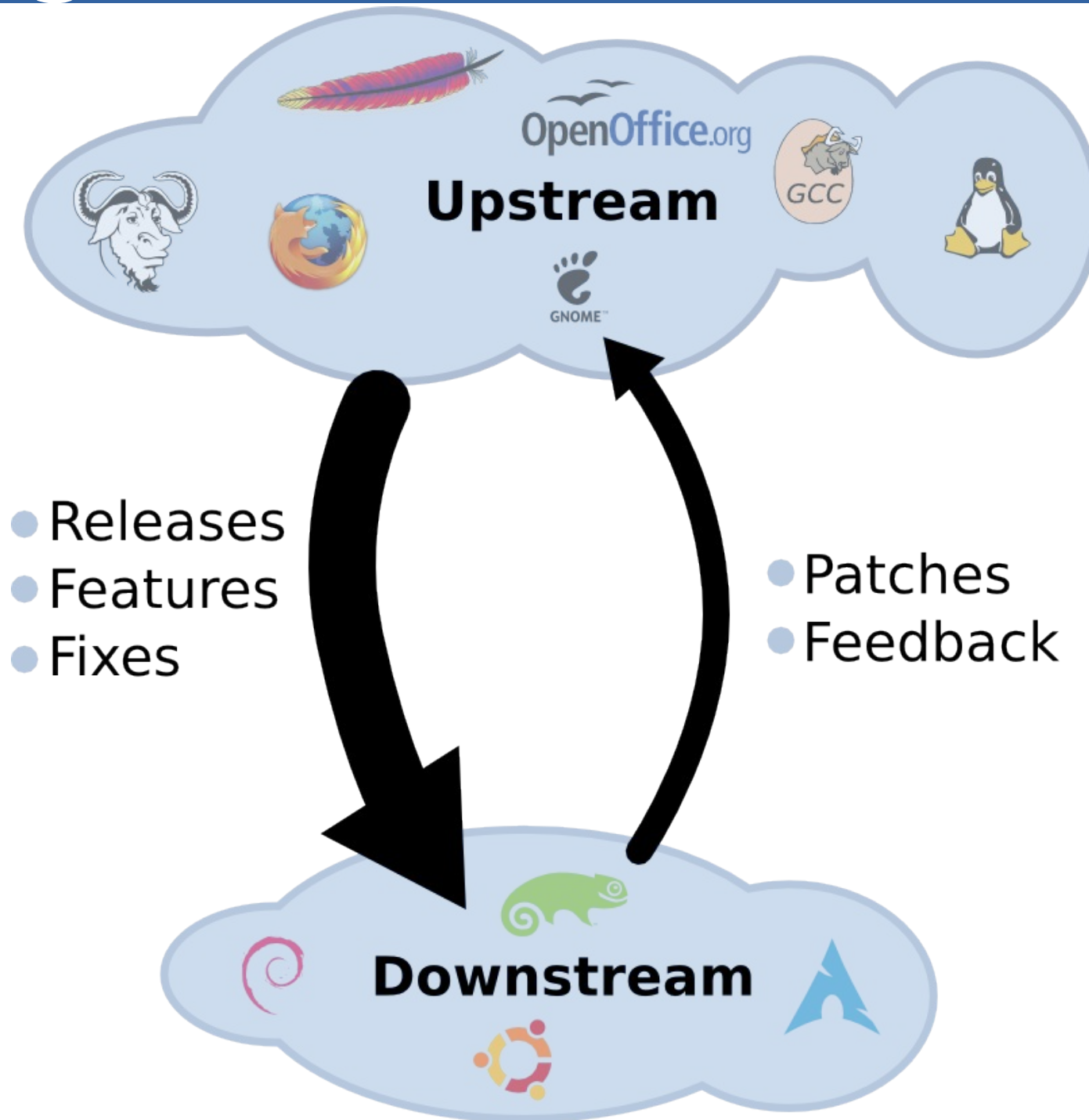
OpenSource**Watershed**

"watching software flow downstream"

<http://oswatershed.org>

Scott Shawcroft
June 4, 2009

Background



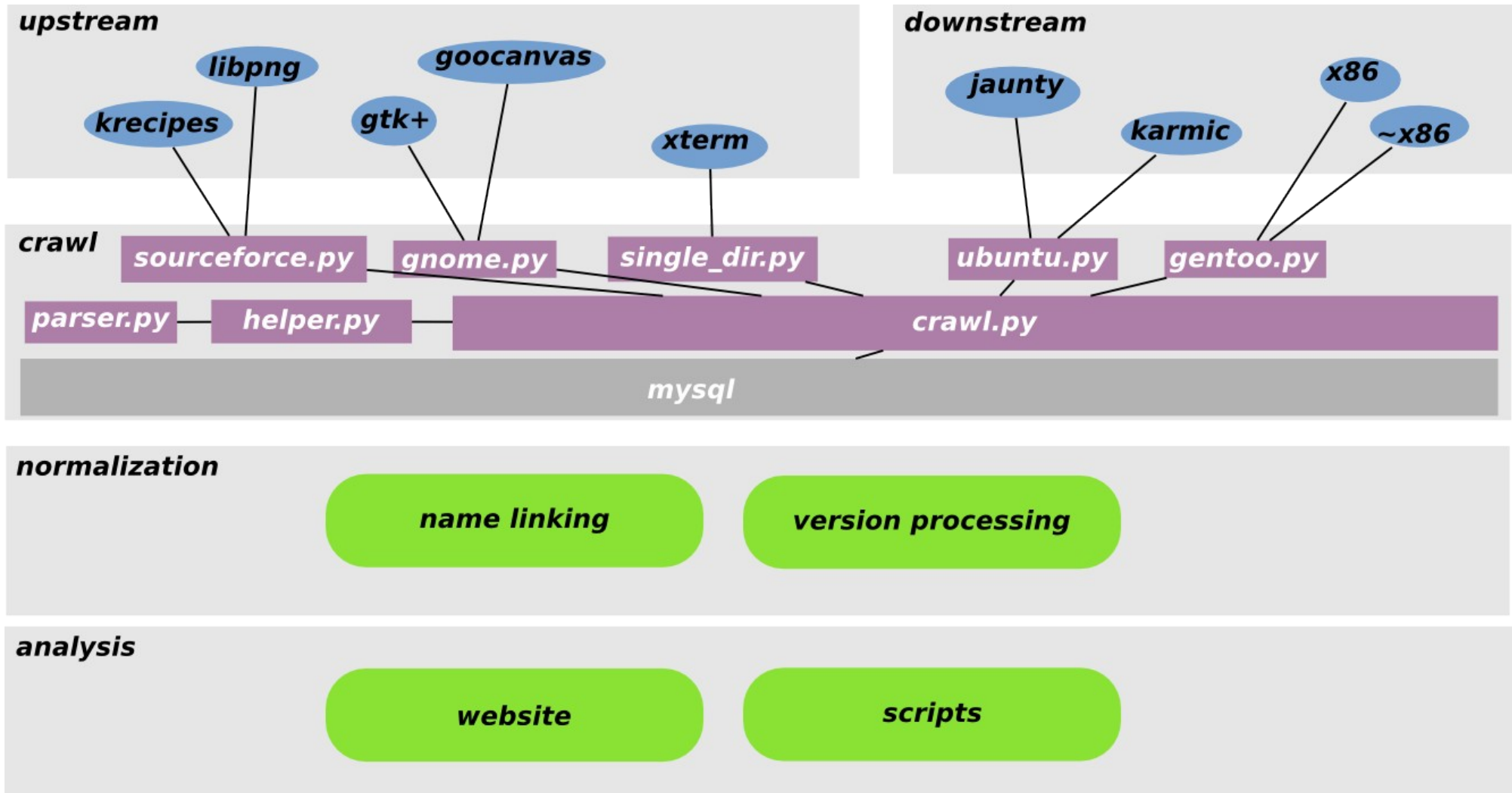
Idea

Upstream software is better.

How can distribution developers work closer with upstream?

How can upstream developers work closer with downstream?

Overview



Data Gathered

Gather release information from upstream and downstream.

- **Name**
- **Version**
- **Date**
- Revision
- Extra

Results ~ Python

<http://oswatershed.org/pkg/python>

9 Distributions 73,634 Total Packages 766,604 Releases 2,294 Upstream Packages

Search

OSWatershed

"watching software flow downstream"

python

No description.

Now

Distro	Branch	Current	Lag	MinLag	MeanLag	MaxLag	TotalReleases	MeanRevision
arch	current	2.6.1	9w	1d	1w	3w	2	1.00
arch	future	2.6.2	✓	3d	3d	3d	1	1.00
debian	current	2.5.2	59w	33w	33w	33w	1	2.00
debian	future	2.5.4	9w	9w	21w	33w	2	1.50
fedora	current	2.5.1	85w	51w	51w	51w	1	1.00
fedora	future	2.6	24w	8w	19w	31w	2	3.00
gentoo	current	2.5.4	9w	17w	26w	35w	2	1.00
gentoo	future	2.6.2	✓	3d	8w	35w	5	1.80
opensuse	current	2.6.0	9w	15w	15w	15w	2	1.50
opensuse	future	2.6.0	-	-	-	-	1	0.00
opensuse	experimental	2.6.0	-	-	-	-	1	0.00
sabayon	current	2.5.2	59w	39w	64w	105w	4	1.00
sabayon	future	2.4.4-r15	59w	32w	69w	105w	3	1.33
slackware	current	2.5.2	59w	9w	9w	9w	1	3.00
slackware	future	2.5.2	59w	33w	33w	33w	1	1.00
ubuntu	current	2.6.2	✓	1w	15w	30w	2	1.50
ubuntu	future	2.6.2	✓	4d	13w	34w	4	3.25

History

2009-04-15 02:05:00 - 2.6.2
2009-04-08 04:48:00 - 2.6.2c1
2009-04-05 00:53:00 - 3.1a2
2009-03-07 19:27:00 - 3.1a1
2009-02-14 01:10:00 - 3.0.1

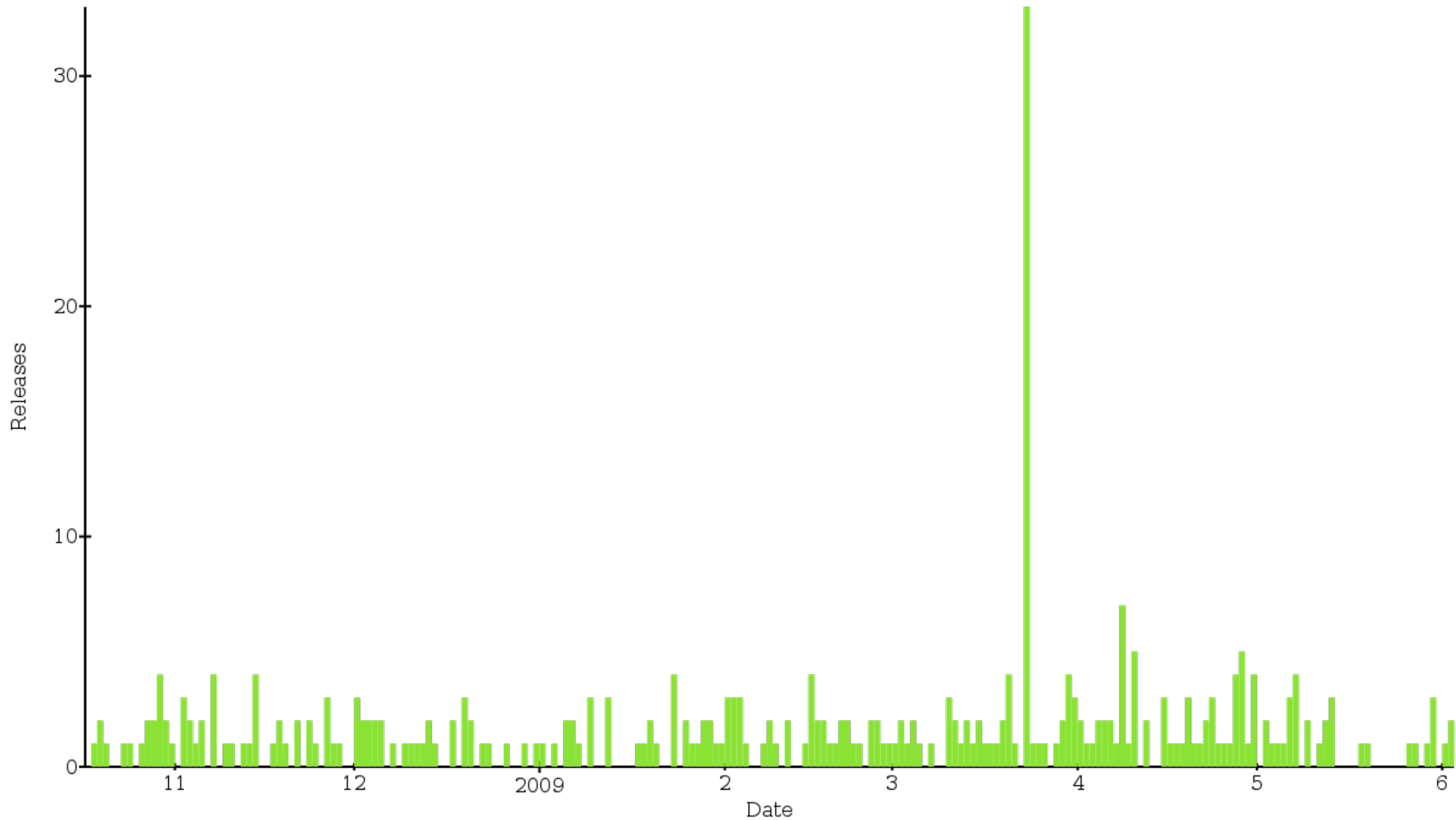
Picking Packages for Analysis

- Real complete upstream data
- Present in every distribution

* Analysis in this presentation done with 137 “good” packages unless otherwise stated.

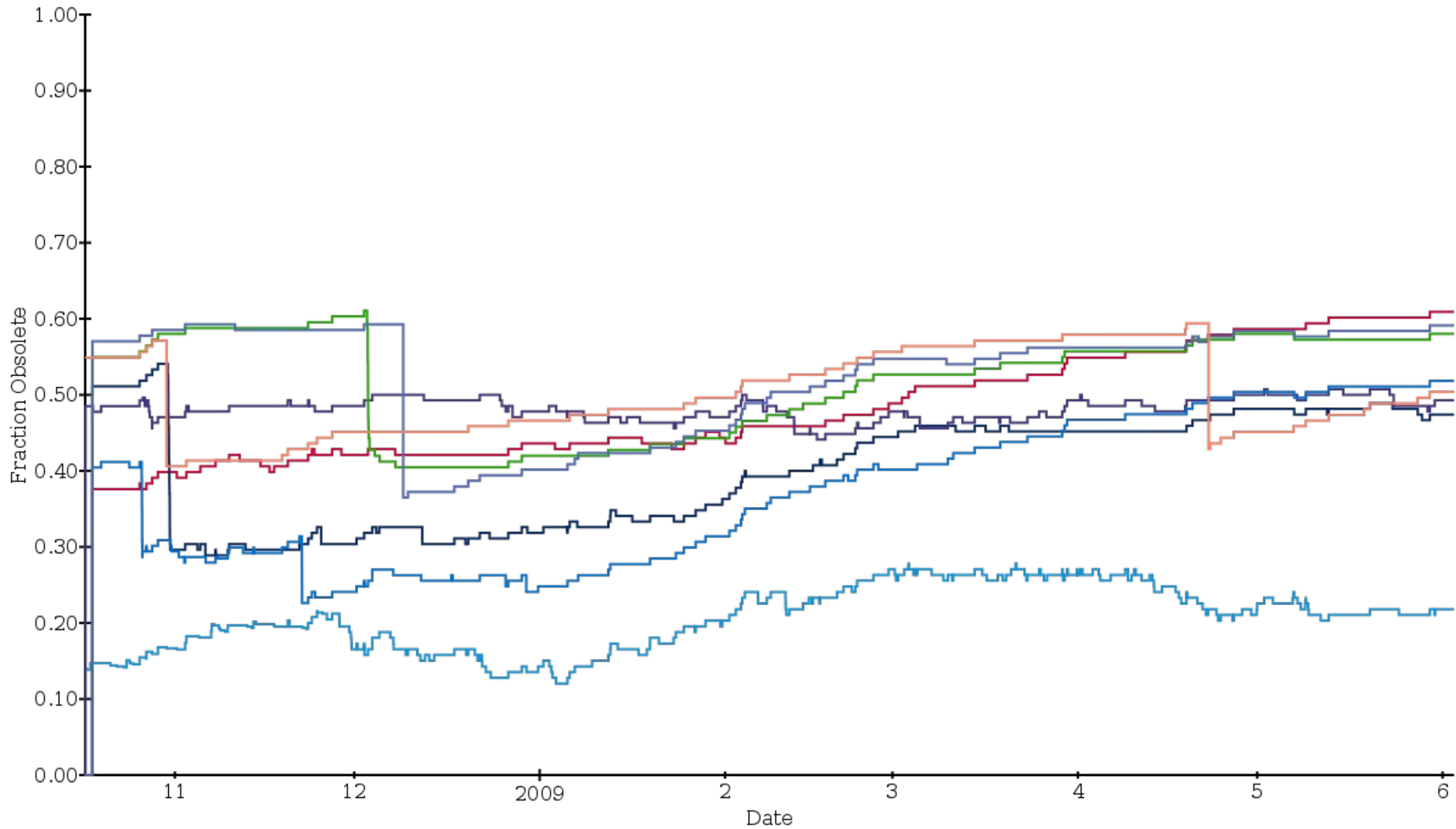
Upstream Release Trends

- Histogram of upstream releases per day.



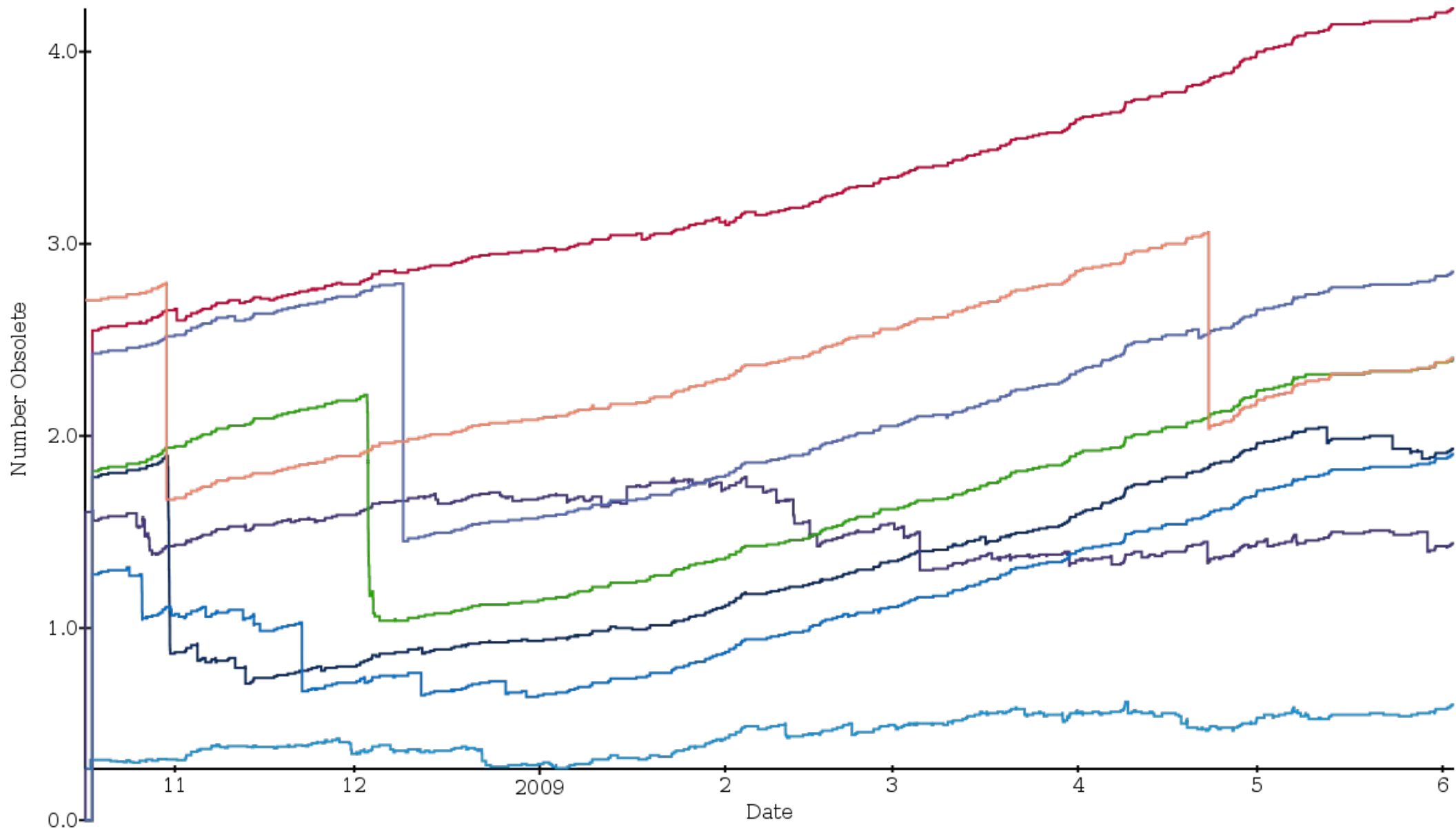
Downstream Obsolescence

- Fraction of obsolete downstream versions.



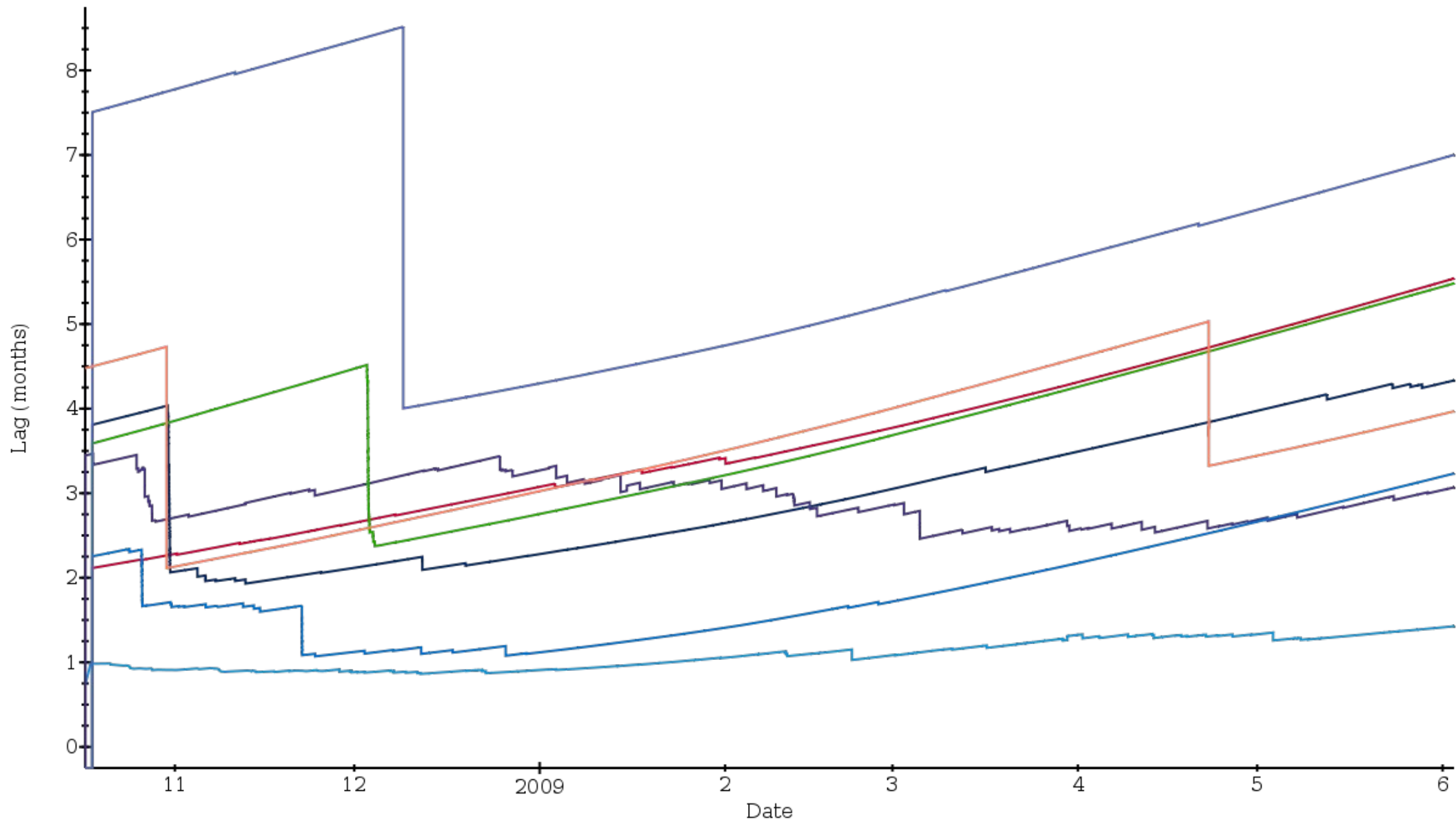
Downstream Newer Versions

- Average number of newer versions per distro pkg.



Downstream Lag

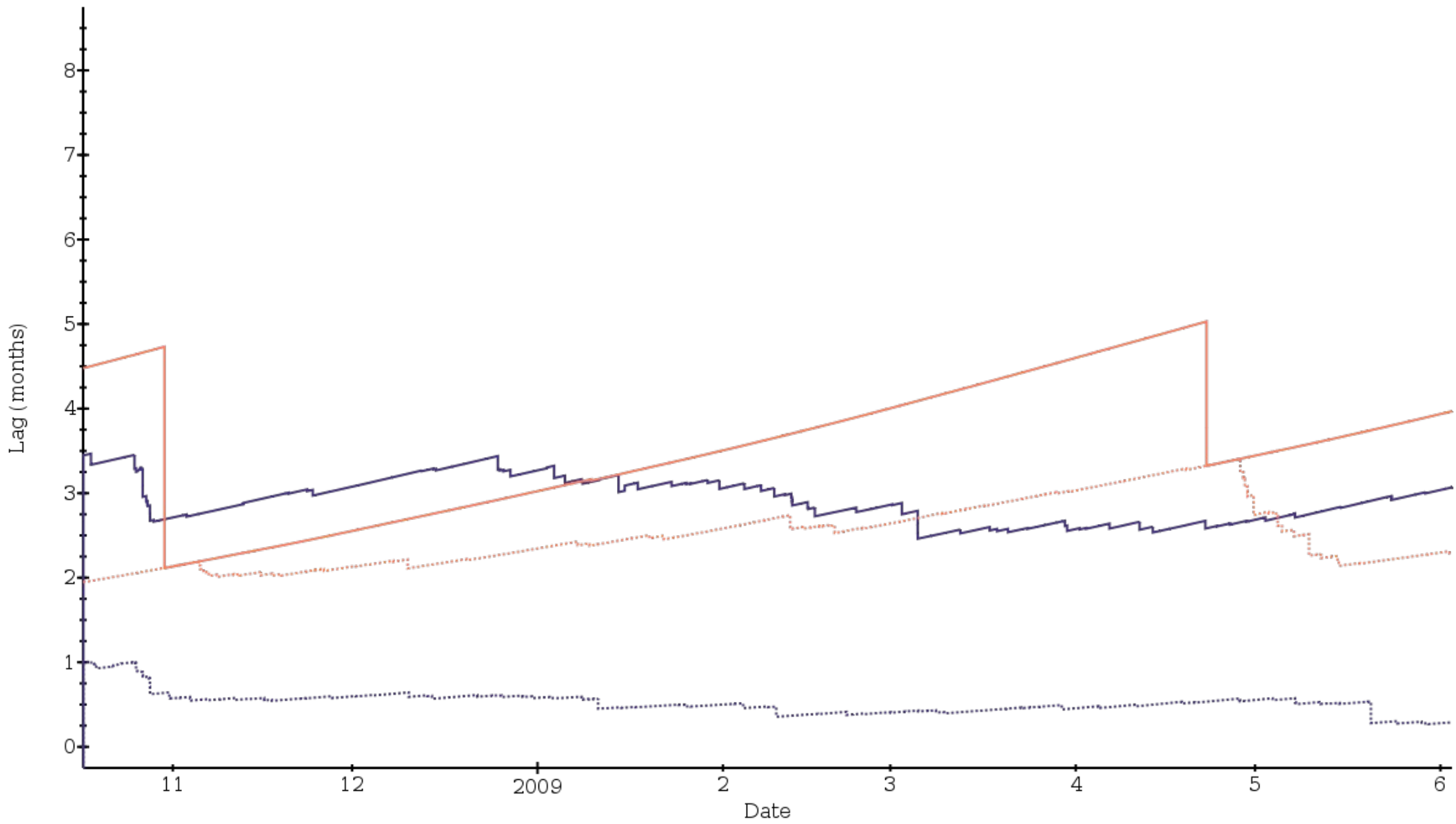
- Average lag, “time since oldest new release”.



Ubuntu vs. Gentoo

- Debian based
- Binary Distribution
- dpkg
- 6 Month Release Cycle
- Started October 20, 2004
- Source Distribution
- Portage
- Continuous Release Cycle
- Started March 31, 2002

Ubuntu vs. Gentoo



Future Work

More of the same.

Increase the pool of “good” packages.

Create more methods of analysis.

Gather more data.

Gather data from more sources.

Goals

- Find and establish best packaging practices, upstream and downstream.
- Central source for distro package status.
- Aid in distro selection.
- Reduce lag, focus development upstream.

Keep distros fresh,
with newer features
and greater security.

Links

- [scott.shawcroft @ gmail.com](mailto:scott.shawcroft@gmail.com)
- oswatershed.org
- trac.oswatershed.org
- github.com/tannevt/open-source-watershed

 **OpenSourceWatershed**

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