

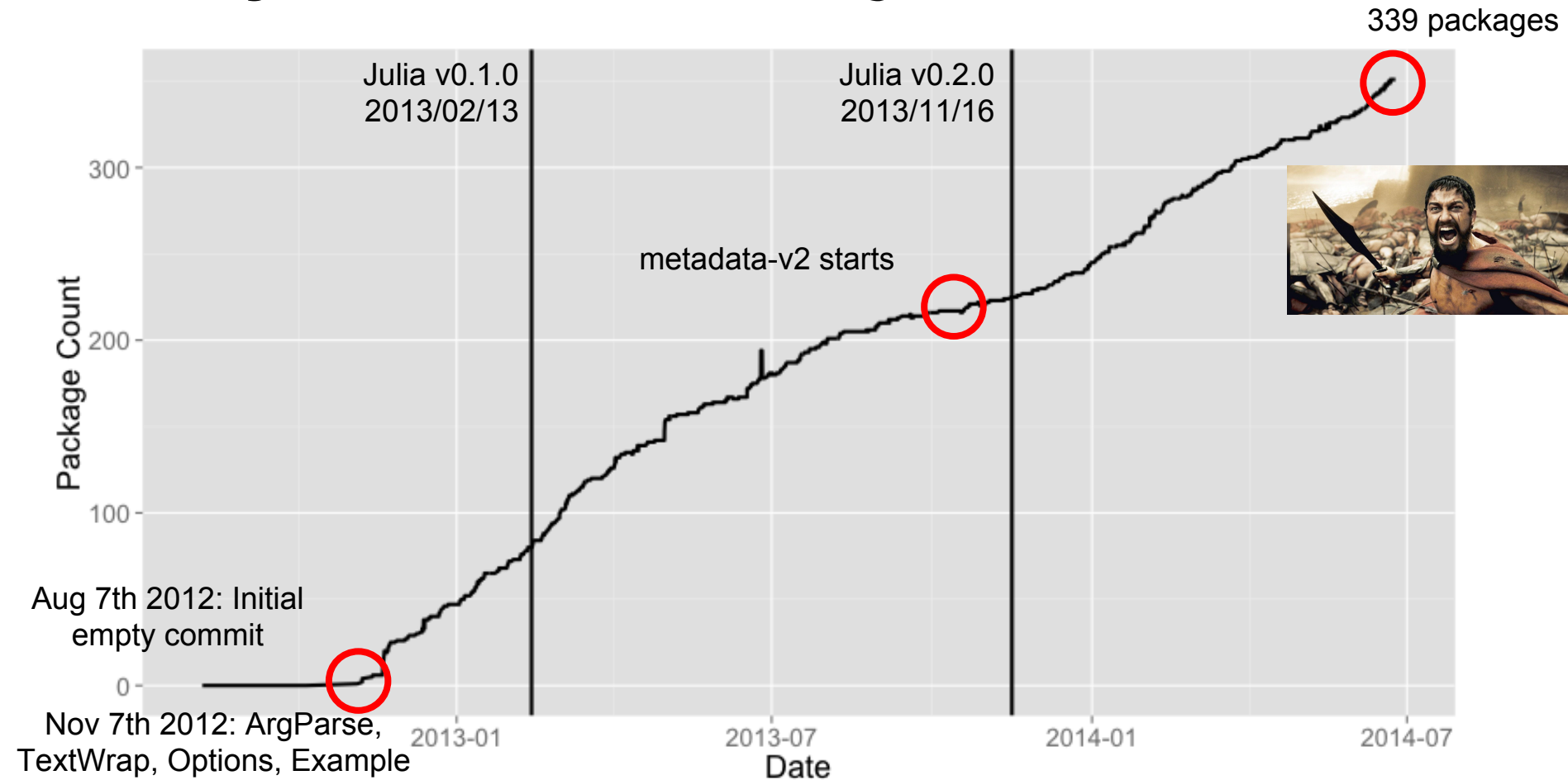


Package Ecosystem

Breakout Session
JuliaCon 2014

Slides: Iain Dunning, <http://iaindunning.com>

History of METADATA.jl



Most Starred Packages

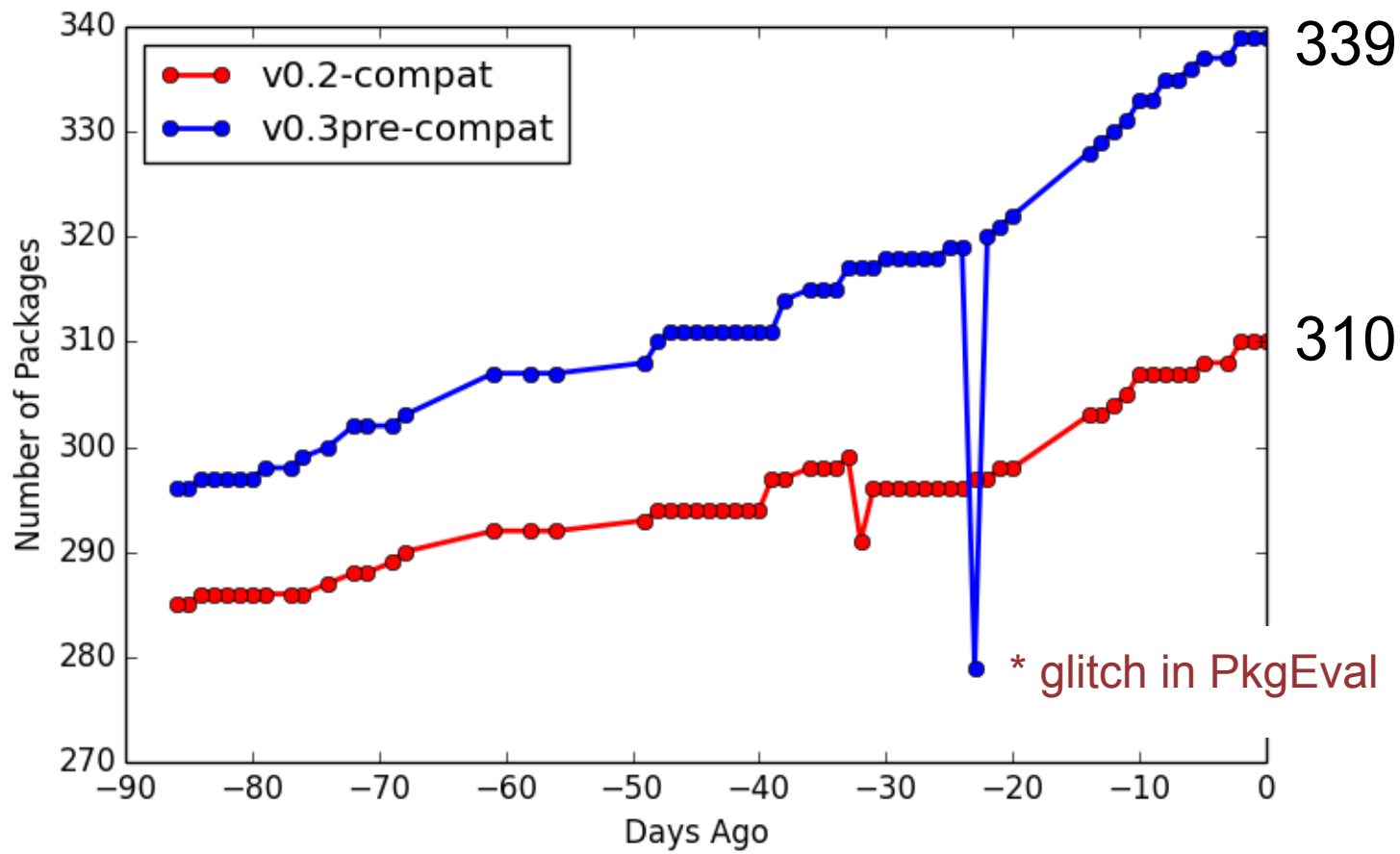
★ Star

375

1.	IJulia	375
2.	Gadfly	314
3.	DataFrames	132
4.	PyCall	99
5.	JuMP	70
6.	GeneticAlgorithms	67
7.	Optim	65
8.	Morsel	56
9.	GLM	54
10.	Winston	51



Support for v0.2 vs v0.3-pre

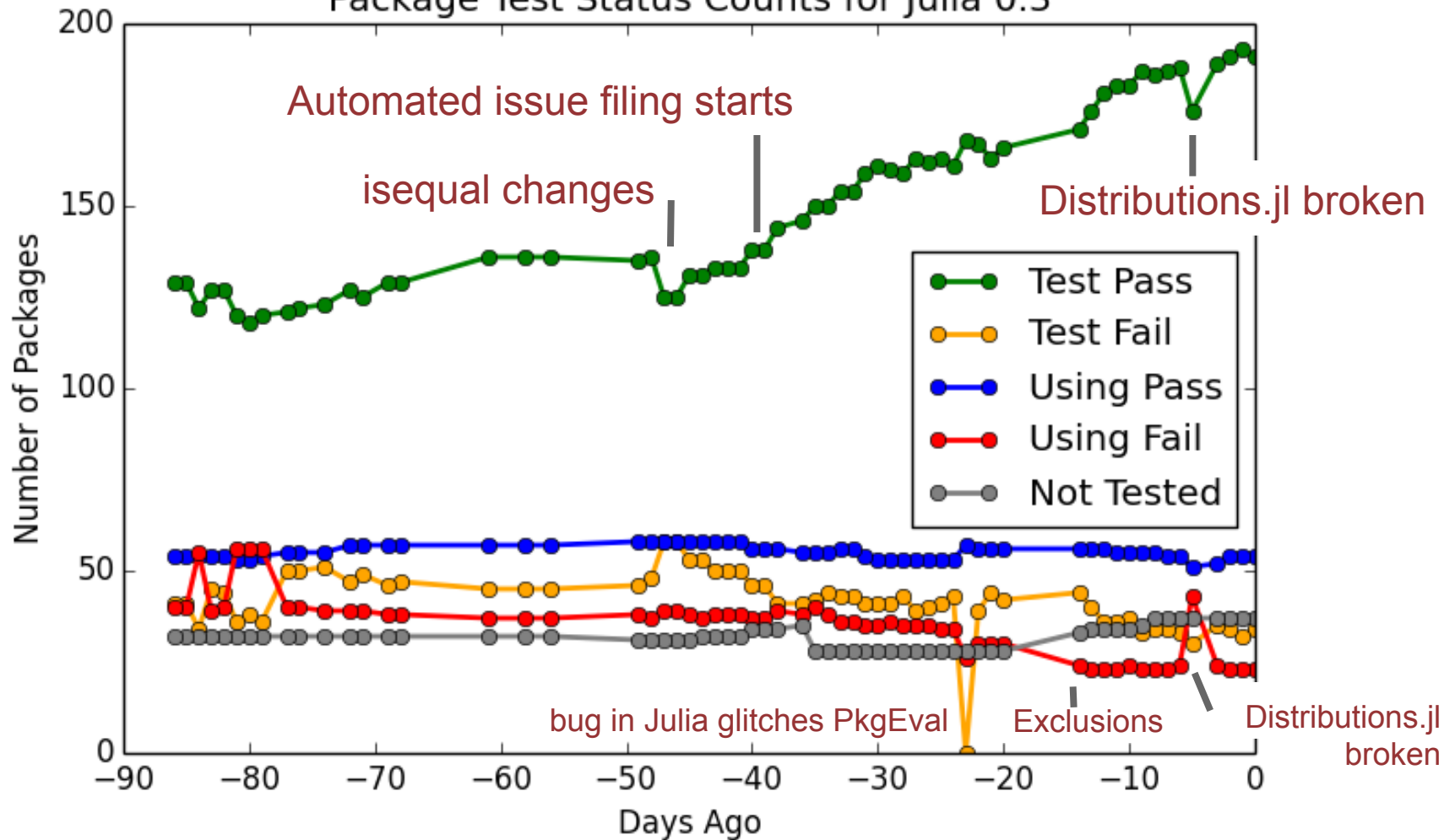


PackageEvaluator.jl

PkgEval.jl Passing

- Runs nightly on Julia v0.2 and v0.3pre
- Installs each package, guess license, guess tests (if any), runs them
- Key output is testing status:
 - tests exist + pass**, **tests exist + fail**,
 - tests not found + loads**,
 - tests not found + doesn't load**, **can't test**

Package Test Status Counts for Julia 0.3



Improved response to changes

- Semi-Automatic issues on status degradation
- Useful for finding regressions in Julia itself
 - bug in sum caused by #7061
 - bug in ctranspose caused by #6690
- Feeds into pkg.julialang.org, creates social pressure to make packages “green” (I hope)

Some Things to Consider

1. Managing METADATA
2. Package discoverability
3. Package quality

1. Managing METADATA.jl

- Barriers to new packages: spectrum is “Free-for-all” to “Walled Garden”
 - e.g. npm free-for-all, CRAN [lots of rules](#)
- Remove/deprecate packages...
 - With owner permission, e.g. Keno's, Monads.jl
 - Abandoned, no communication, e.g. OpenSSL.jl
- Related: versioning METADATA itself

2. Package Discoverability

- Package metadata like tags/keywords?
 - Maintaining said metadata in package and METADATA.jl itself - DRY?
 - Enables search tools in REPL, pkg.julialang.org
- Quality metrics to disambiguate (users, stars,...)
- Role of organizations (JuliaStats, JuliaOpt...)
- Meta-packages? Extended standard lib?

3. Package Quality

- Breaking compatibility with Julia release
- Package documentation still a mess
 - CRAN-style vignettes?
 - Encourage standardized style, e.g. readthedocs?
- Encourage testing, careful REQUIREs,
 - BinDeps, Travis, AppVeyor, Coveralls...
 - These ideas novel for many - guides, docs
 - BinDeps, proper Travis overwhelming for many

3. Package Quality - side notes

- Coveralls adoption via Coverage.jl at about 10% of METADATA
- Possibility of a JuliaBot to run diagnosis/offer suggestions on METADATA PRs/packages to boost average quality