



# Swarm

Taking the Erlang/OTP distro on Github to the next level: Continuous builds and tests for community patches

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# Agenda

- ✦ State of Erlang Development
- ✦ Features
- ✦ The Erlang/OTP Challenge
- ✦ Innovation Streams
- ✦ Outlook

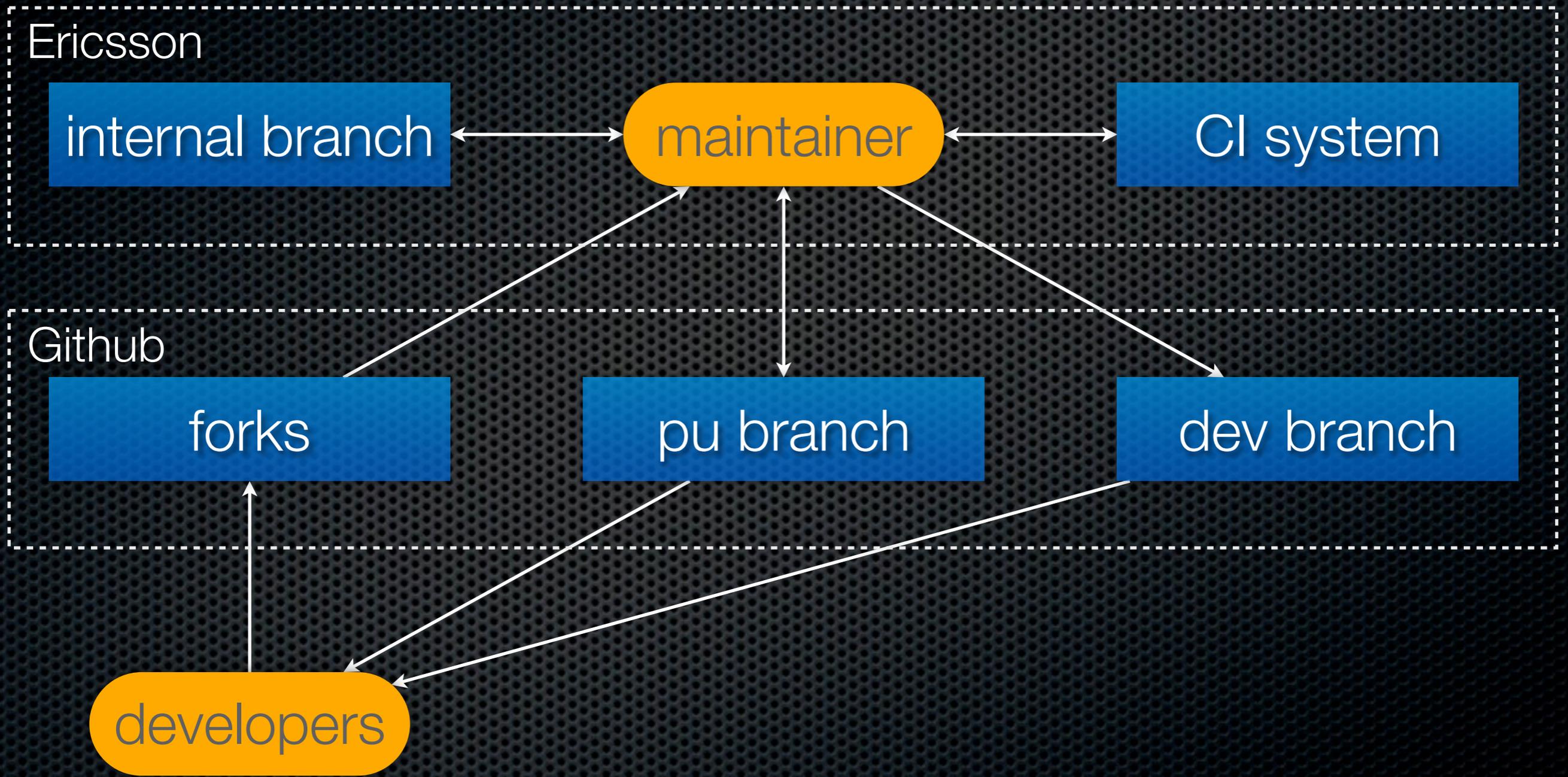


# State of Erlang Development

- ✦ Version Control [Git](#)
- ✦ Code Collaboration [Github](#)
- ✦ Patch Submission [Mailing List](#)
- ✦ Patch Admission [Maintainer](#)



# Erlang/OTP Workflow



# The Good

- ✦ Much more community patches than before
- ✦ Increased developer communication
- ✦ Easier patching through forks



# The Not Optimal

- ✦ Mailing list for patch submission
- ✦ Following process lacks transparency
- ✦ No good overview
- ✦ Single maintainer can be a bottleneck

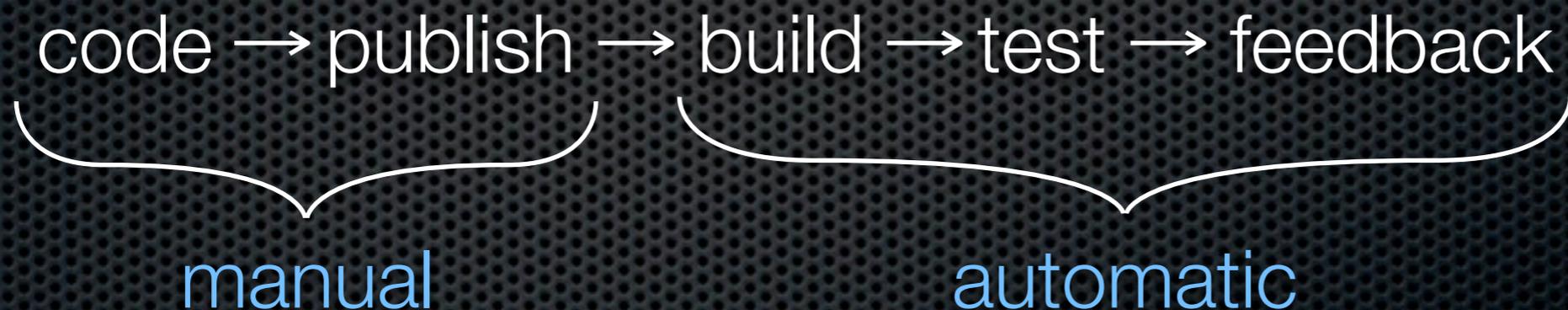


# New Features

system codename: Swarm

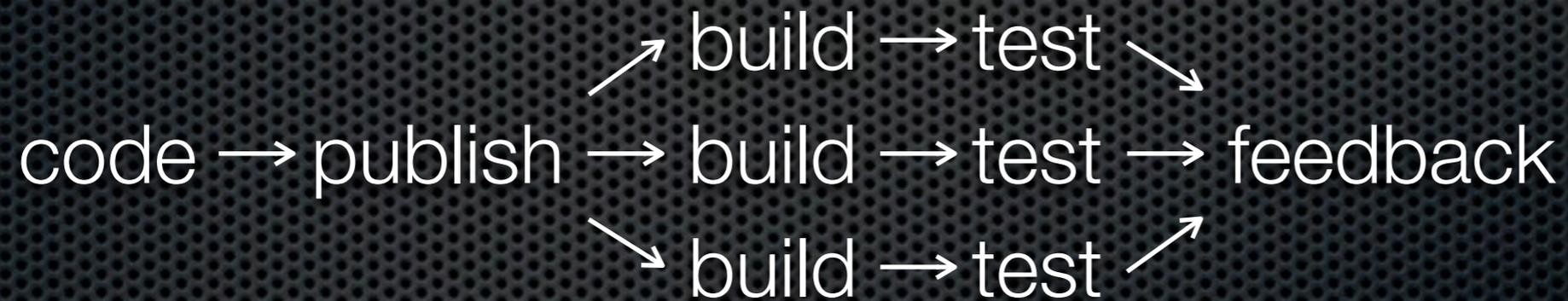
# Automatic Builds

- Build and test each patch

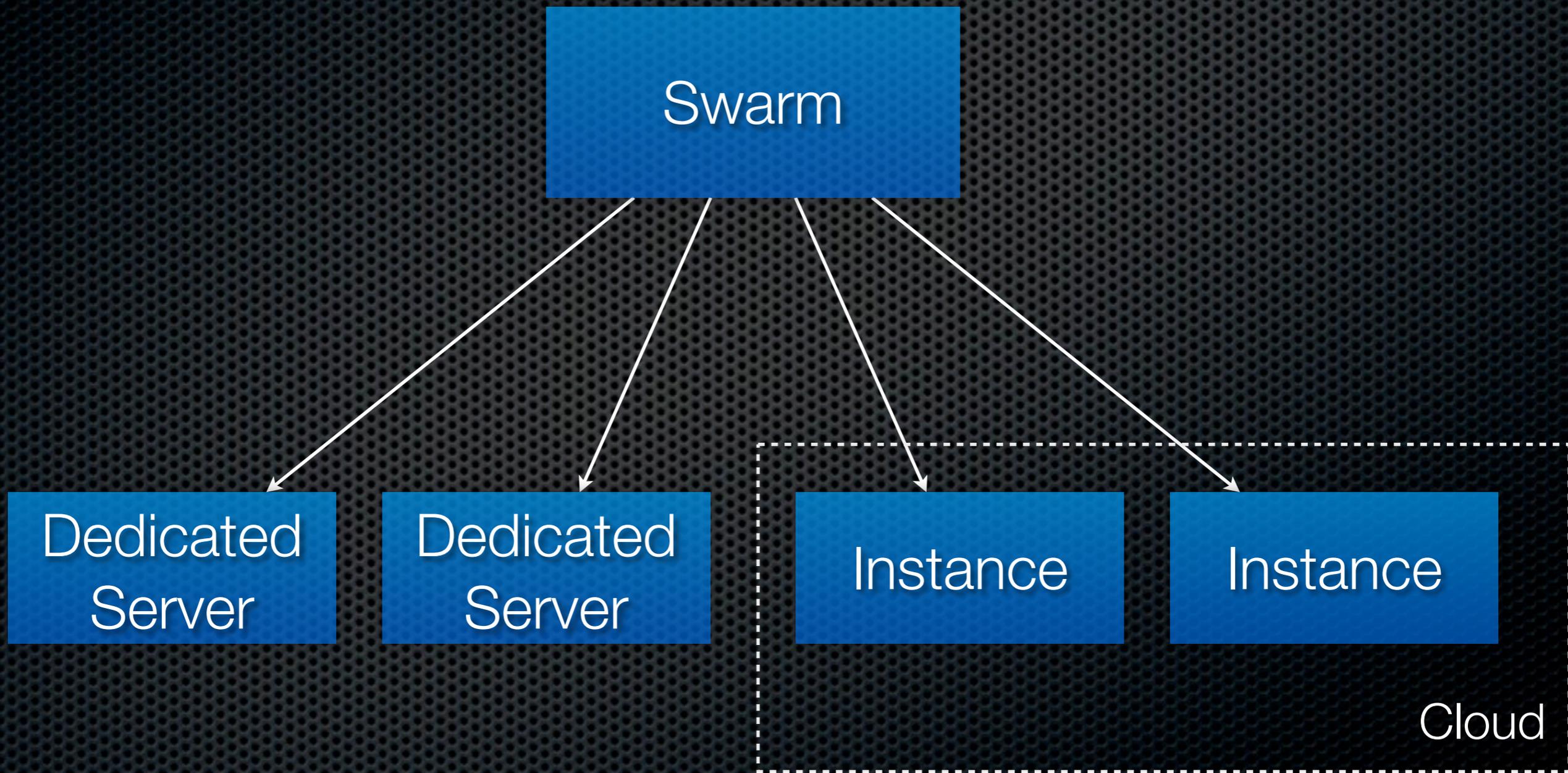


# Multi-platform Support

- Build and test each patch on multiple platforms



# Multi-platform Support



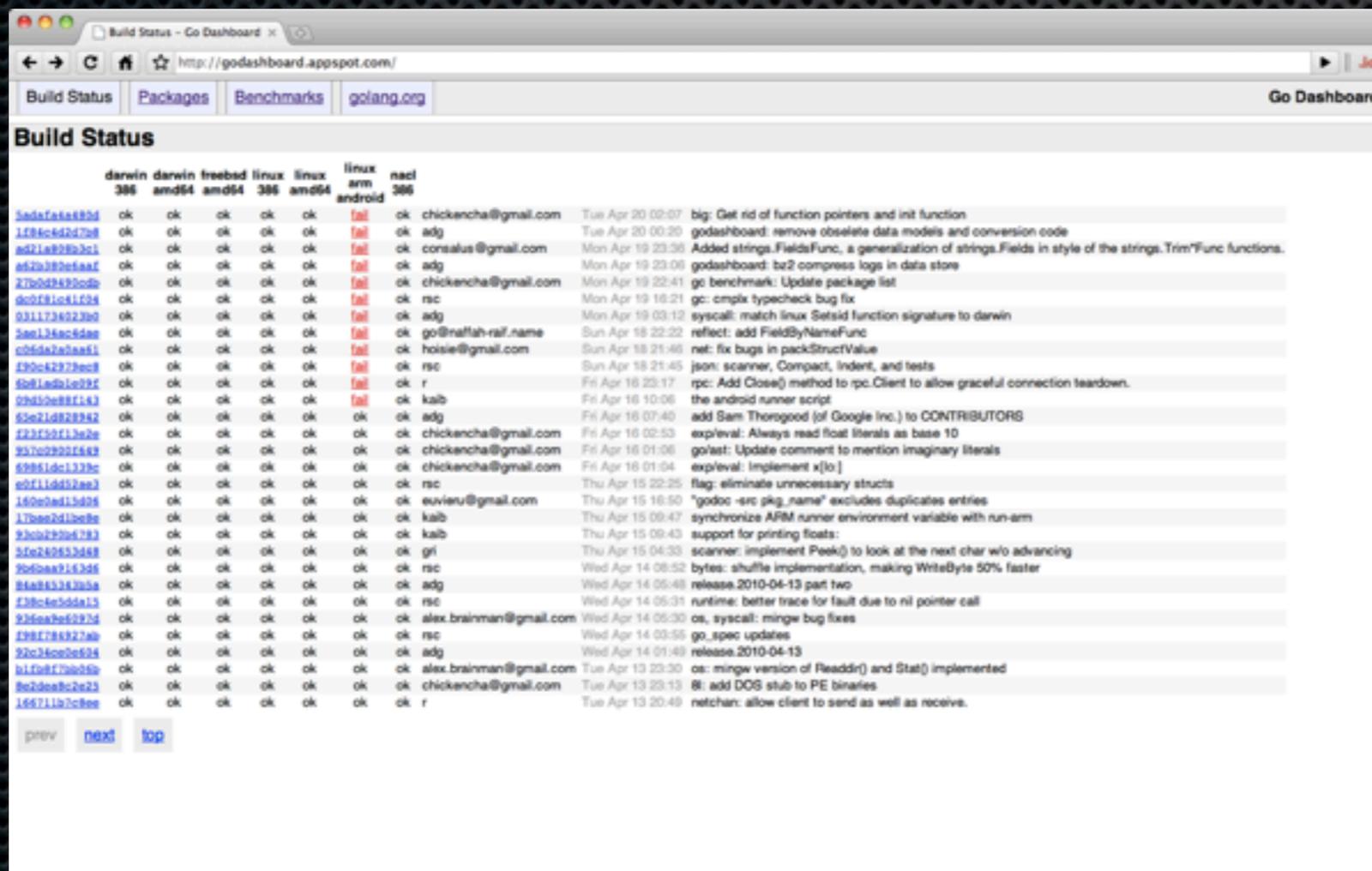
# Multi-platform Support

- Which platforms?
  - > any supported on EC2 (or Eucalyptus)
  - > any provided as dedicated server
  - > starting with OpenSuse, OpenSolaris, Mac OS X, Ubuntu, Debian, CentOS, Windows, ...



# Web UI

- Show patch status and metadata



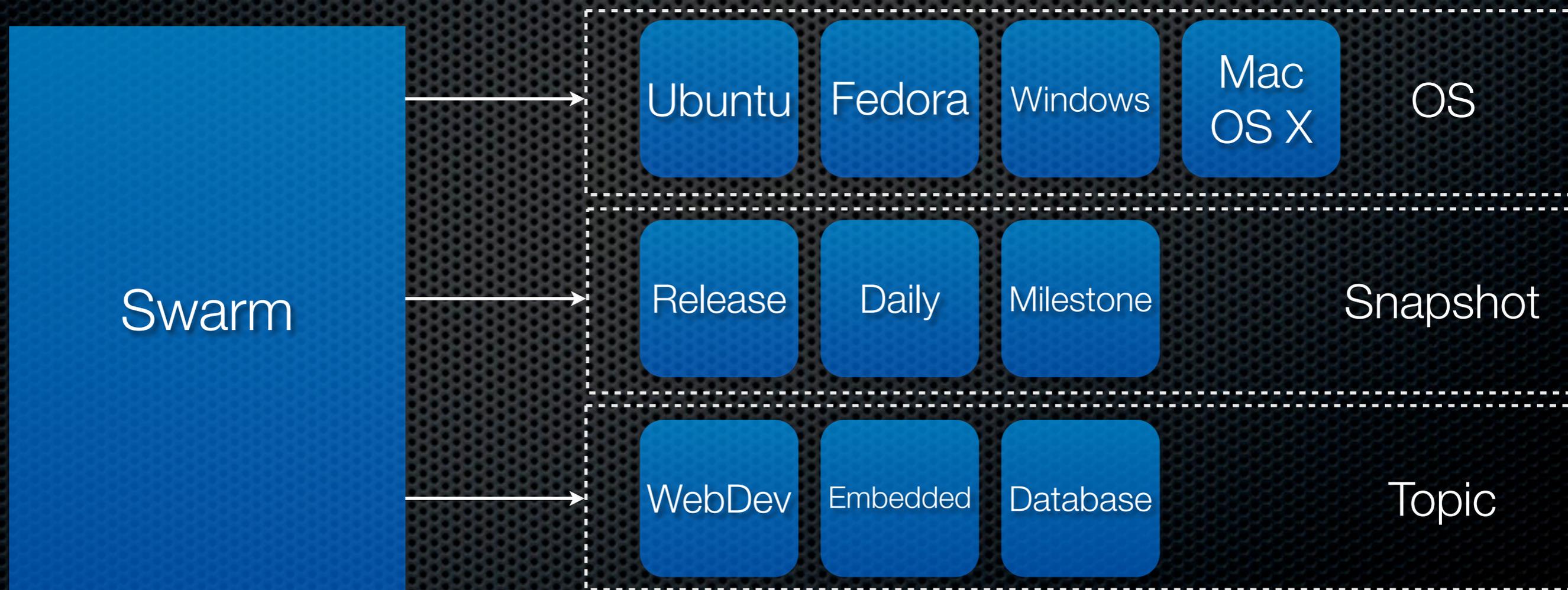
The screenshot shows a web browser window with the URL `http://godashboard.appspot.com/`. The page title is "Build Status - Go Dashboard". There are navigation tabs for "Build Status", "Packages", "Benchmarks", and "golang.org". The "Build Status" tab is active, displaying a table of build results.

	darwin 386	darwin amd64	freebsd amd64	linux 386	linux amd64	linux arm android	nacl 386			
<a href="#">5ada7a8a88d</a>	ok	ok	ok	ok	ok	fail	ok	chickencha@gmail.com	Tue Apr 20 00:07	big: Get rid of function pointers and init function
<a href="#">1496c6d2d7b8</a>	ok	ok	ok	ok	ok	fail	ok	adg	Tue Apr 20 00:20	godashboard: remove obsolete data models and conversion code
<a href="#">ad21a828b3c1</a>	ok	ok	ok	ok	ok	fail	ok	consalus@gmail.com	Mon Apr 19 23:36	Added strings.FieldsFunc, a generalization of strings.Fields in style of the strings.TrimFunc functions.
<a href="#">a52a382e8aaf</a>	ok	ok	ok	ok	ok	fail	ok	adg	Mon Apr 19 23:06	godashboard: bz2 compress logs in data store
<a href="#">27b0d4292c0b</a>	ok	ok	ok	ok	ok	fail	ok	chickencha@gmail.com	Mon Apr 19 22:41	gc benchmark: Update package list
<a href="#">6c0f91c41f24</a>	ok	ok	ok	ok	ok	fail	ok	rsc	Mon Apr 19 18:21	gc: cmplx typecheck bug fix
<a href="#">0311736023b0</a>	ok	ok	ok	ok	ok	fail	ok	adg	Mon Apr 19 03:12	syscall: match linux Setsid function signature to darwin
<a href="#">2ae138c8dae</a>	ok	ok	ok	ok	ok	fail	ok	go@naffah-raif.name	Sun Apr 18 22:22	reflect: add FieldByNameFunc
<a href="#">c05da7a8a81</a>	ok	ok	ok	ok	ok	fail	ok	hoisie@gmail.com	Sun Apr 18 21:46	net: fix bugs in packStructValue
<a href="#">f90c4297bec8</a>	ok	ok	ok	ok	ok	fail	ok	rsc	Sun Apr 18 21:45	json: scanner, Compact, Indent, and tests
<a href="#">0d1ed91e99f</a>	ok	ok	ok	ok	ok	fail	ok	r	Fri Apr 16 23:17	rpc: Add Close() method to rpc.Client to allow graceful connection teardown.
<a href="#">09d50e881a3</a>	ok	ok	ok	ok	ok	fail	ok	kalb	Fri Apr 16 10:06	the android runner script
<a href="#">55e21d828942</a>	ok	ok	ok	ok	ok	ok	ok	adg	Fri Apr 16 07:40	add Sam Thorogood (of Google Inc.) to CONTRIBUTORS
<a href="#">f23f30f13e2e</a>	ok	ok	ok	ok	ok	ok	ok	chickencha@gmail.com	Fri Apr 16 02:53	exp/eval: Always read float literals as base 10
<a href="#">937c09201442</a>	ok	ok	ok	ok	ok	ok	ok	chickencha@gmail.com	Fri Apr 16 01:06	go/ast: Update comment to mention imaginary literals
<a href="#">69861dc1133c</a>	ok	ok	ok	ok	ok	ok	ok	chickencha@gmail.com	Fri Apr 16 01:04	exp/eval: Implement x[b]
<a href="#">e0f11d452ae7</a>	ok	ok	ok	ok	ok	ok	ok	rsc	Thu Apr 15 22:25	flag: eliminate unnecessary structs
<a href="#">160e0d13d26</a>	ok	ok	ok	ok	ok	ok	ok	euvienu@gmail.com	Thu Apr 15 16:50	"godoc -src pkg_name" excludes duplicates entries
<a href="#">179ae2d1be8e</a>	ok	ok	ok	ok	ok	ok	ok	kalb	Thu Apr 15 09:47	synchronize AFPM runner environment variable with run-arm
<a href="#">23c0292a781</a>	ok	ok	ok	ok	ok	ok	ok	kalb	Thu Apr 15 09:43	support for printing floats:
<a href="#">2fe280532d48</a>	ok	ok	ok	ok	ok	ok	ok	gri	Thu Apr 15 04:33	scanner: implement Peek() to look at the next char w/o advancing
<a href="#">20f0aa314346</a>	ok	ok	ok	ok	ok	ok	ok	rsc	Wed Apr 14 08:52	bytes: shuffle implementation, making WriteByte 50% faster
<a href="#">81a843242a5a</a>	ok	ok	ok	ok	ok	ok	ok	adg	Wed Apr 14 05:48	release.2010-04-13 part two
<a href="#">f38c4e3dda13</a>	ok	ok	ok	ok	ok	ok	ok	rsc	Wed Apr 14 05:31	runtime: better trace for fault due to nil pointer call
<a href="#">236ea7e69f7d</a>	ok	ok	ok	ok	ok	ok	ok	alex.brainman@gmail.com	Wed Apr 14 05:30	os, syscall: mingw bug fixes
<a href="#">f98f788927ab</a>	ok	ok	ok	ok	ok	ok	ok	rsc	Wed Apr 14 03:55	go_spec updates
<a href="#">22c24c0e624</a>	ok	ok	ok	ok	ok	ok	ok	adg	Wed Apr 14 01:49	release.2010-04-13
<a href="#">417d8f73e03a</a>	ok	ok	ok	ok	ok	ok	ok	alex.brainman@gmail.com	Tue Apr 13 23:30	os: mingw version of Readdir() and Stat() implemented
<a href="#">8e28ea8c2e23</a>	ok	ok	ok	ok	ok	ok	ok	chickencha@gmail.com	Tue Apr 13 23:13	8i: add DOG stub to PE binaries
<a href="#">166711b7c8ee</a>	ok	ok	ok	ok	ok	ok	ok	r	Tue Apr 13 20:49	netchar: allow client to send as well as receive.



# Package Support

- fully automated



# Graceful Integration

- ✦ Publishing results on mailing list
- ✦ Use mailing list discussion as metadata
- ✦ Grab patches from mailing list

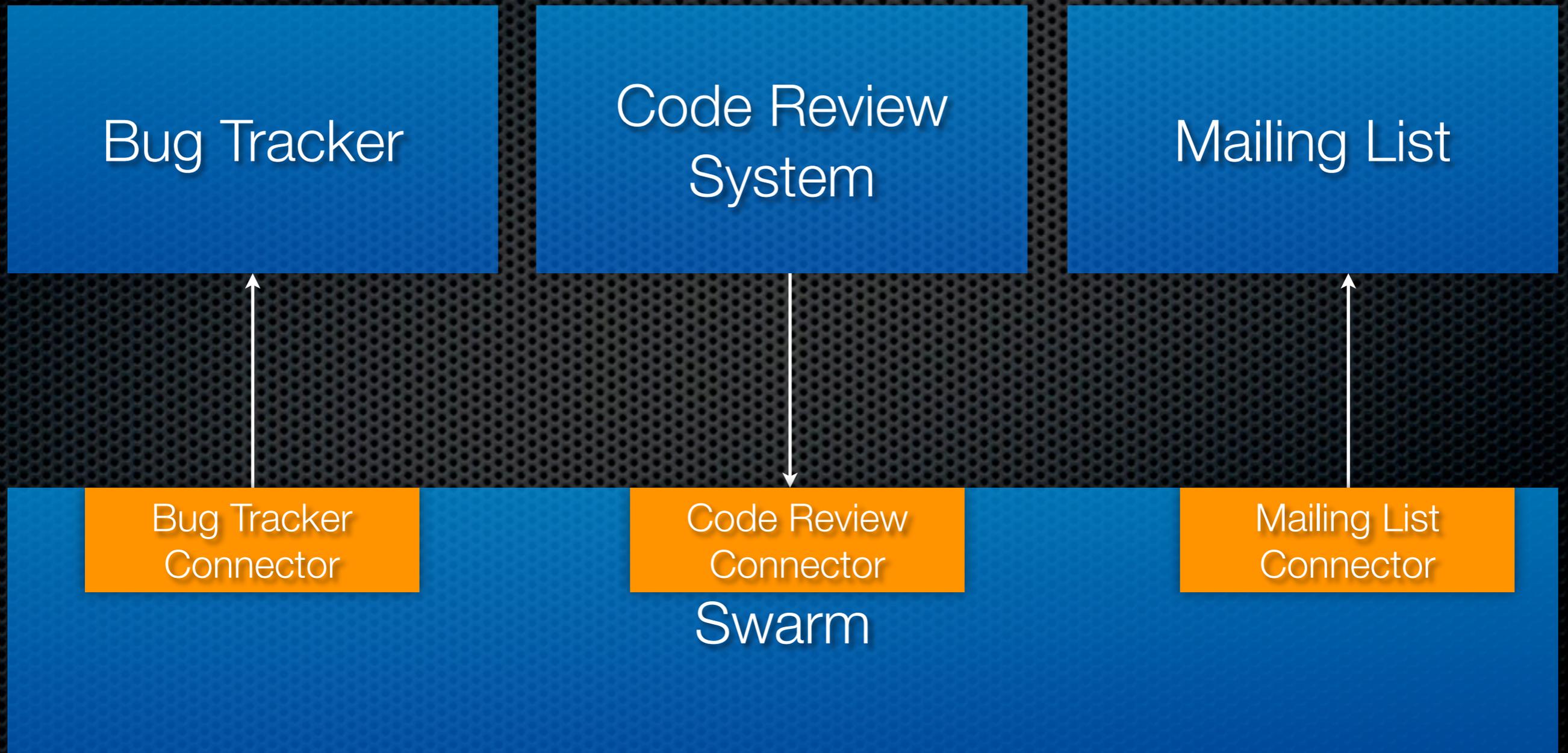


# External Systems Support

- ✦ easy integration with other systems
- ✦ plugin-based
  
- ✦ e.g. bug trackers, code review systems, more mailing lists

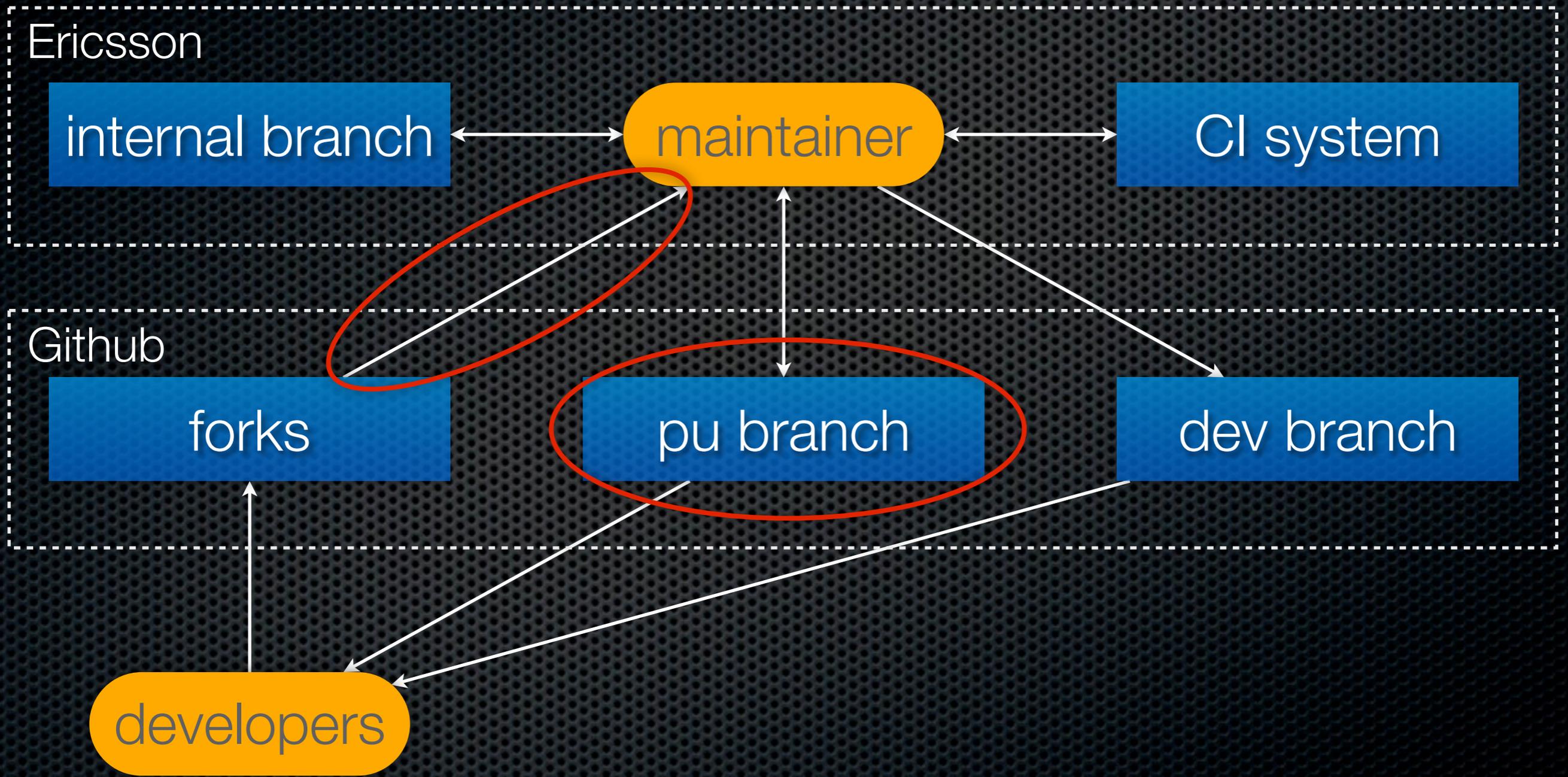


# External Systems Support

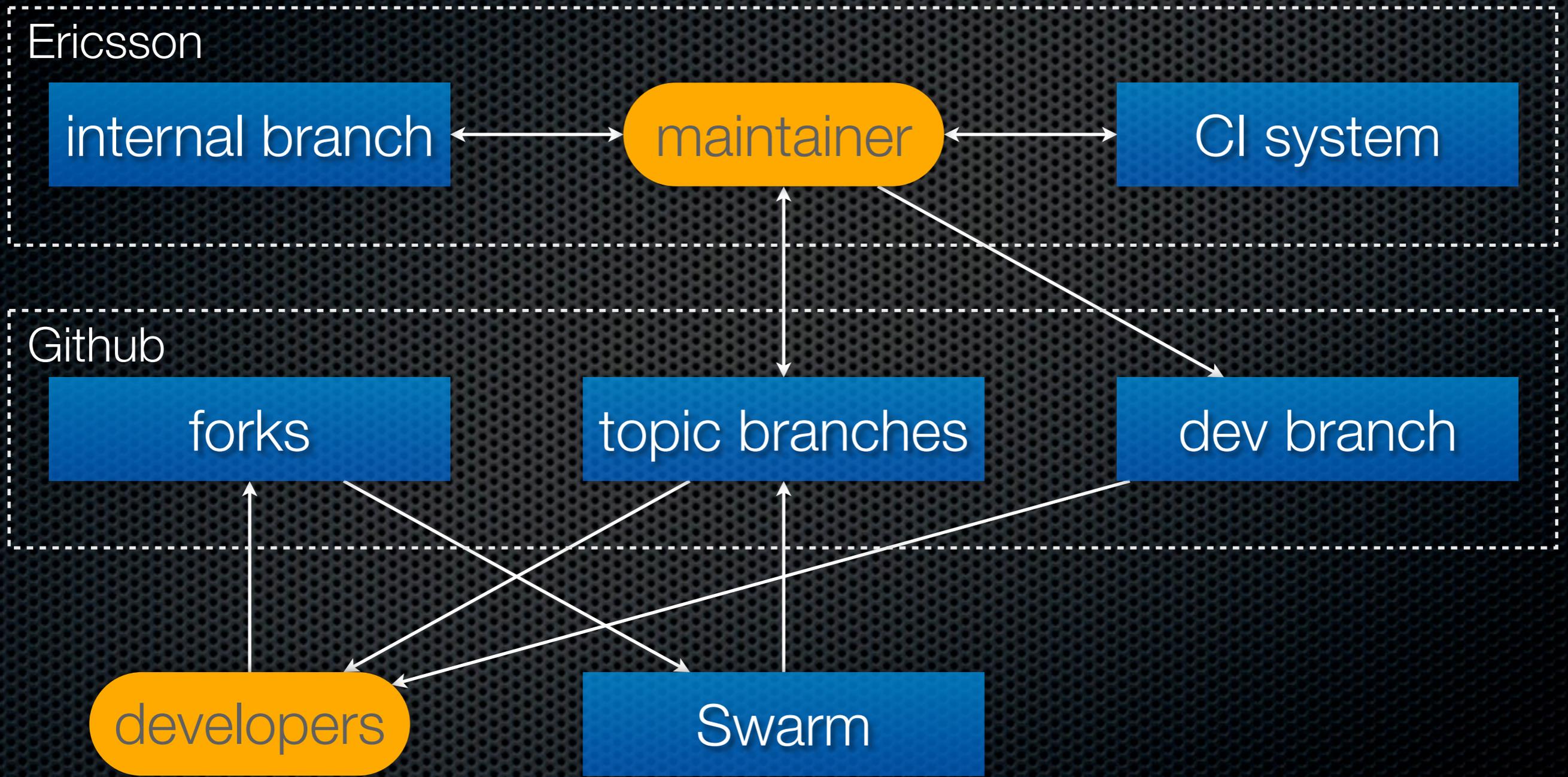


# The Erlang/OTP Challenge

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# Innovation Streams

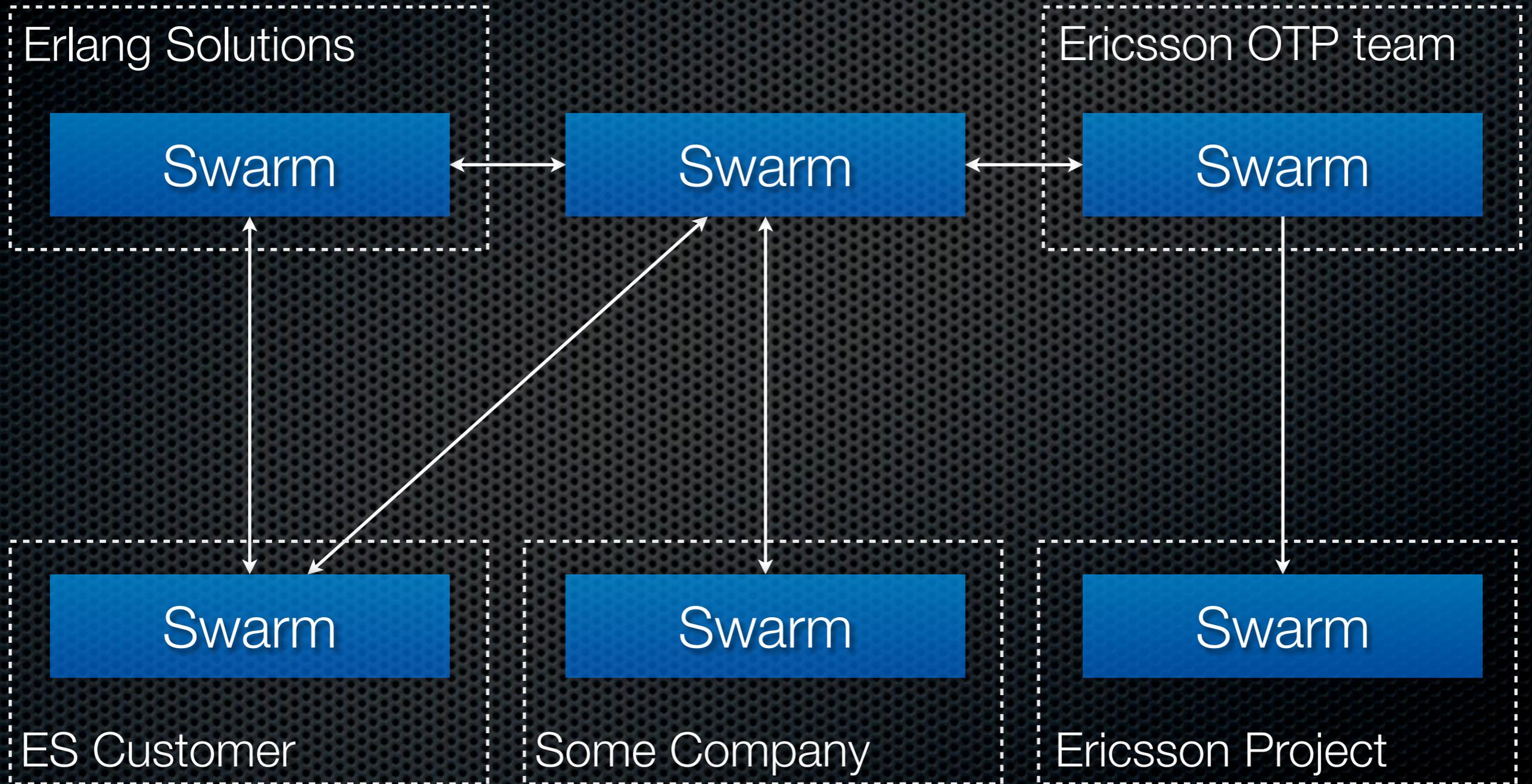
# Innovation Streams

- ✦ Developers follow different goals
  - ✦ 120 forks on Github
- ✦ Companies keep internal forks
  - ✦ hard to integrate with main distribution
  - ✦ enhancements are not published

Goal: help share patches



# Inter-Instance Sharing



# Outlook

- ✦ Private shadow testing (no authentication support)
- ✦ Shadow testing
- ✦ Rollout for Erlang/OTP
- ✦ Testing of inter-instance support with customers



# Questions?

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