



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

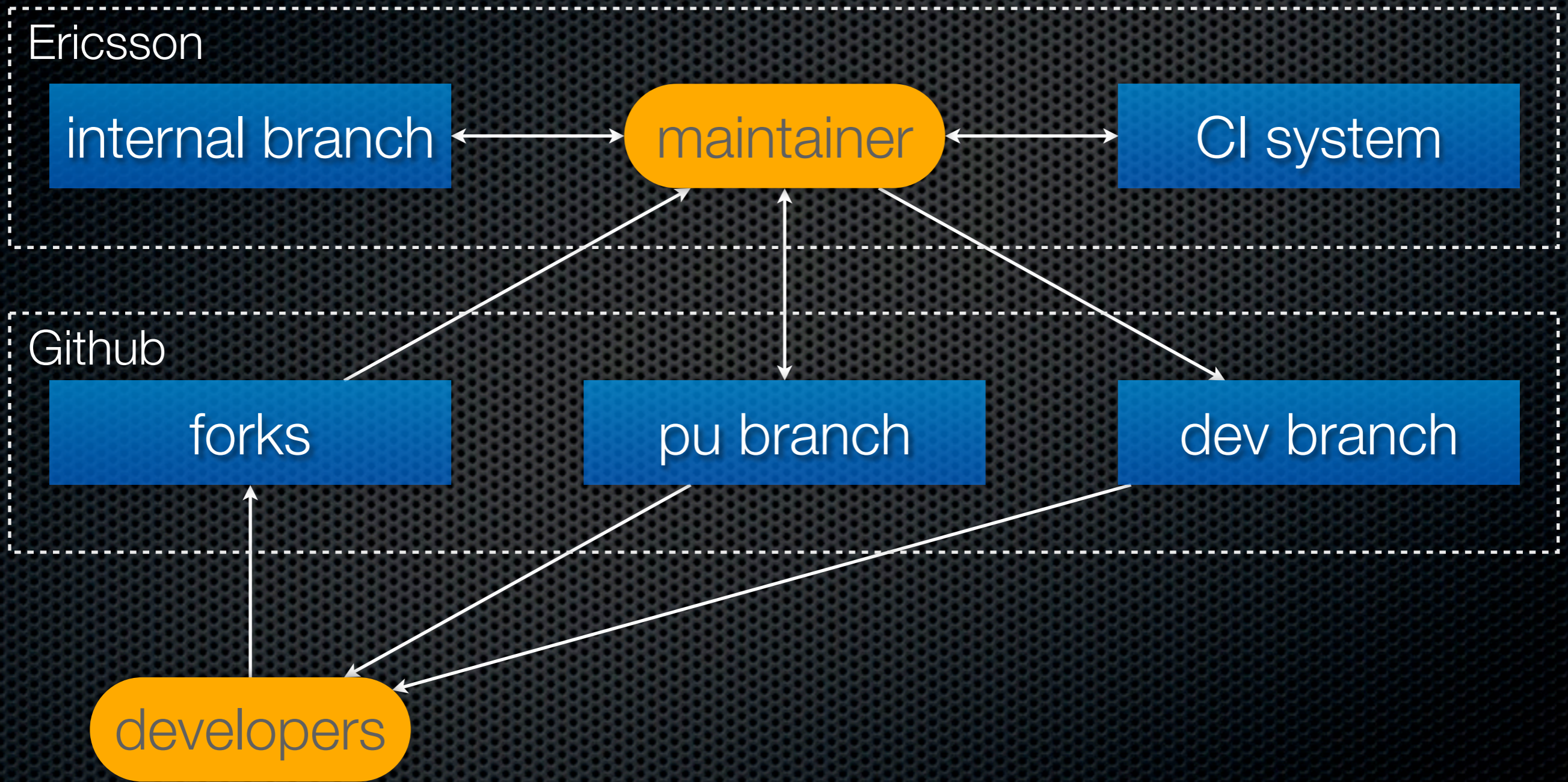


State of Erlang Development

- ✦ 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

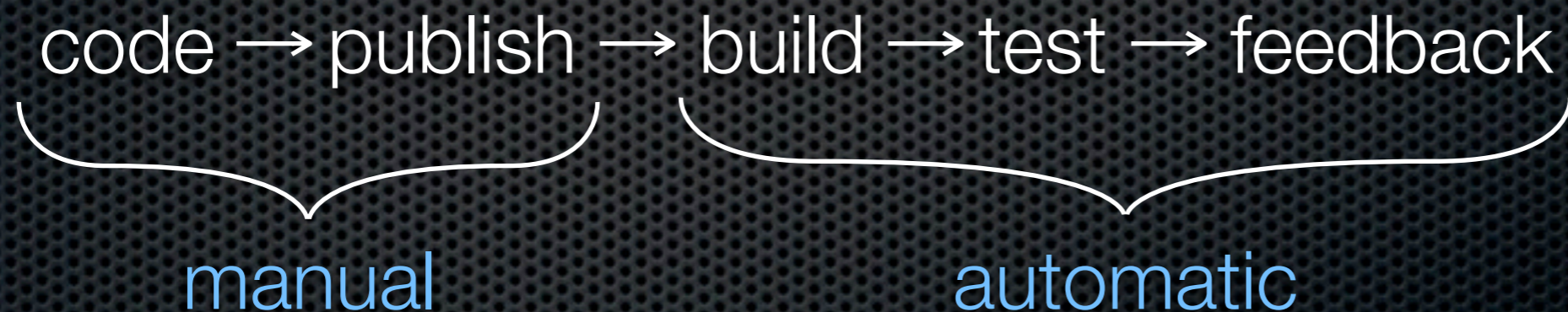


New Features

system codename: Swarm

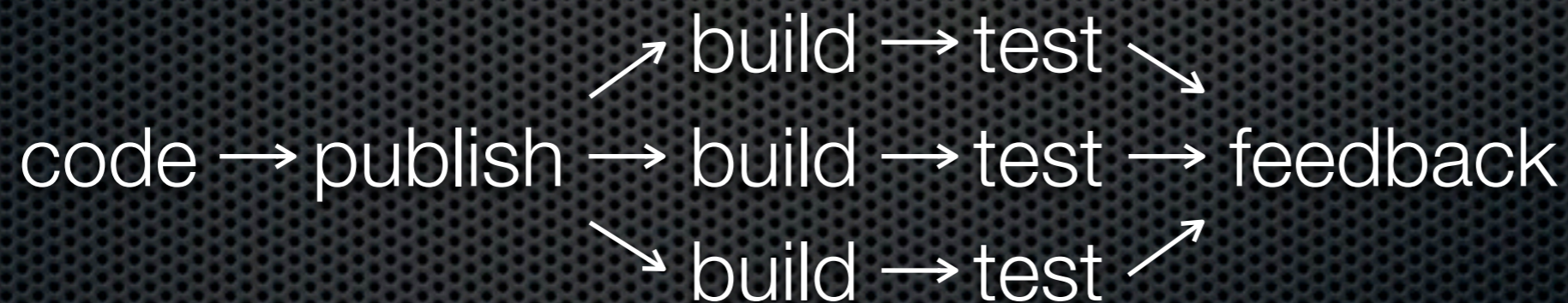
Automatic Builds

- Build and test each patch

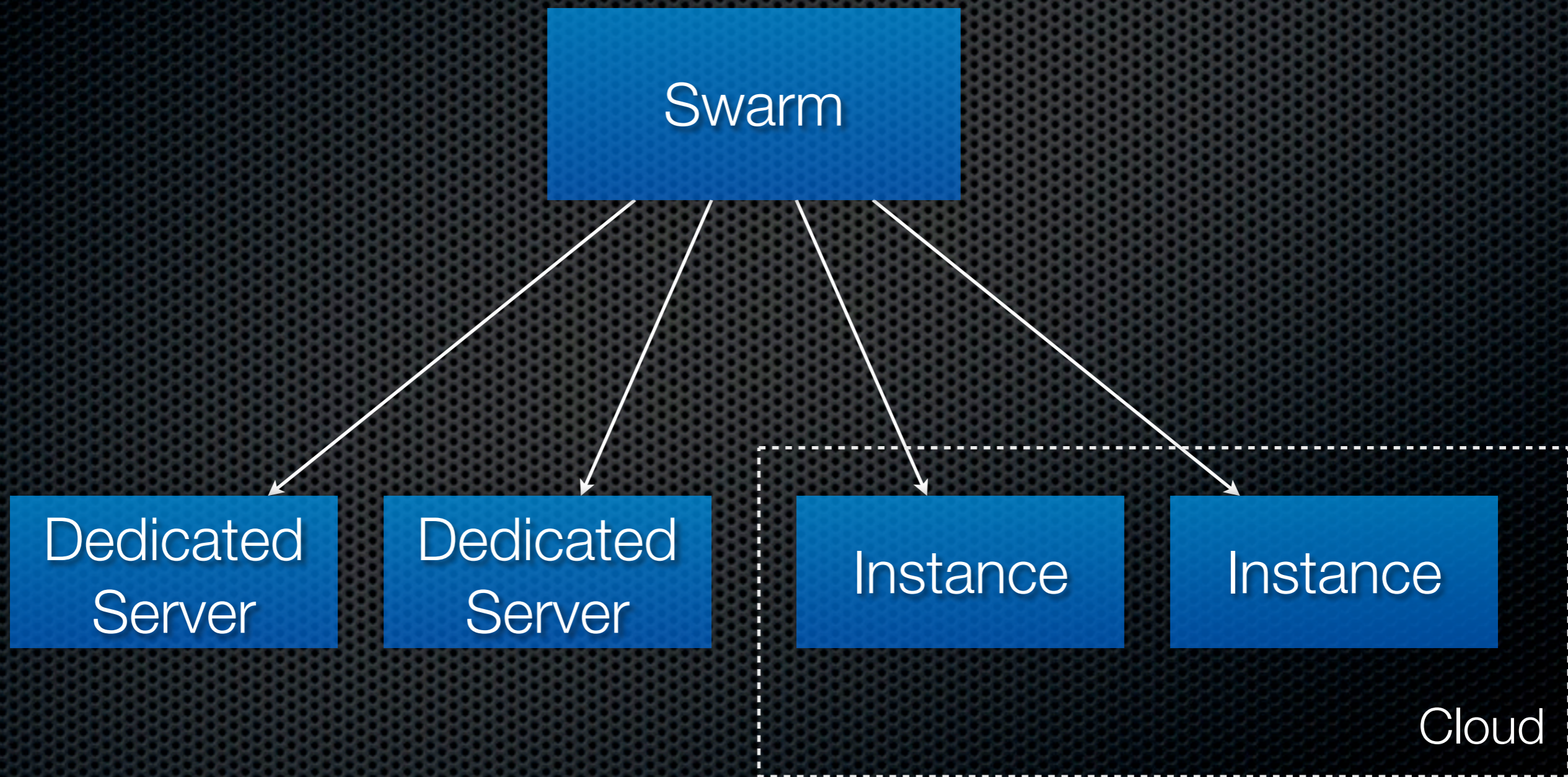


Multi-platform Support

- Build and test each patch on multiple platforms



Multi-platform Support



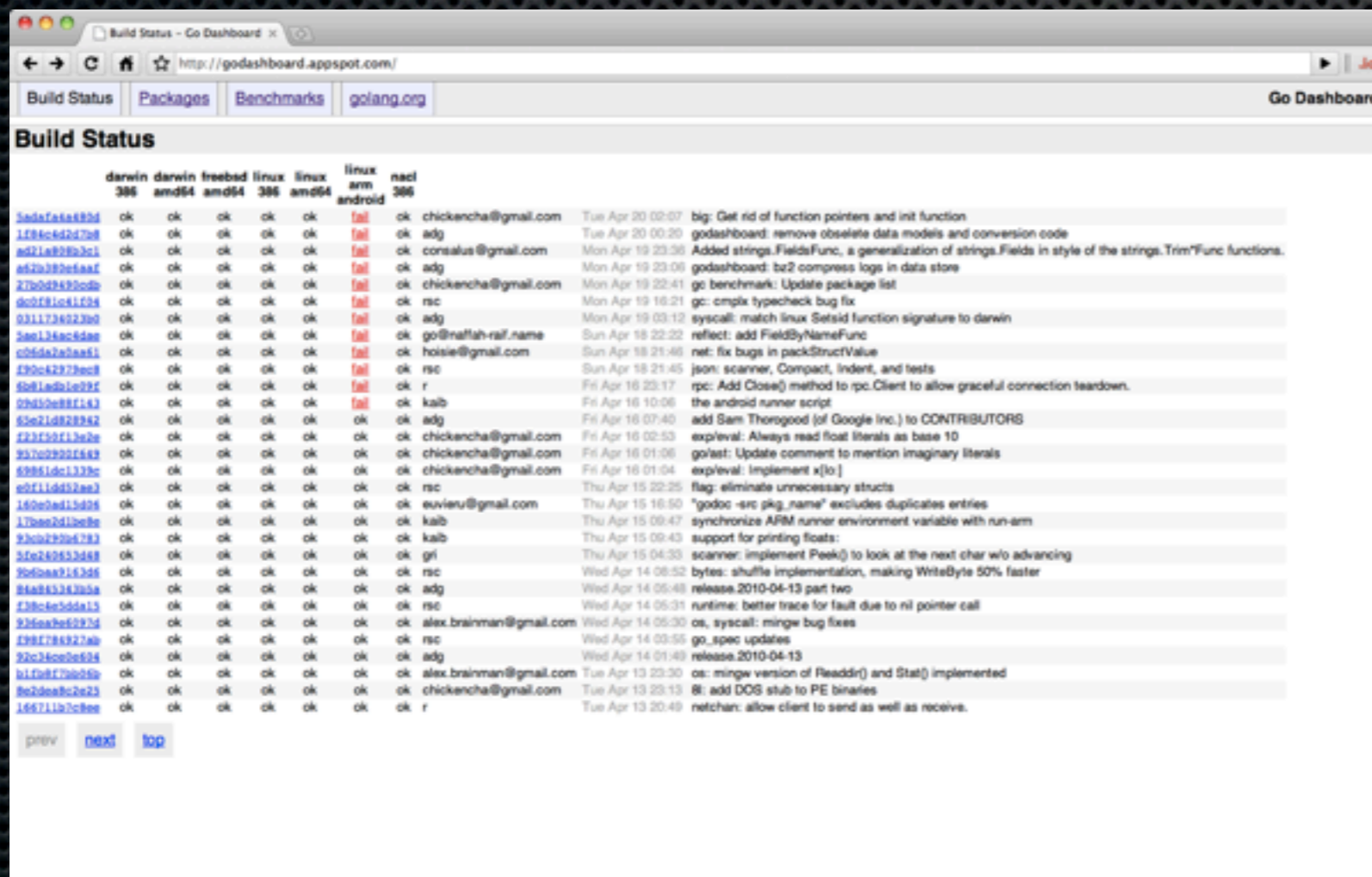
Multi-platform Support

- 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

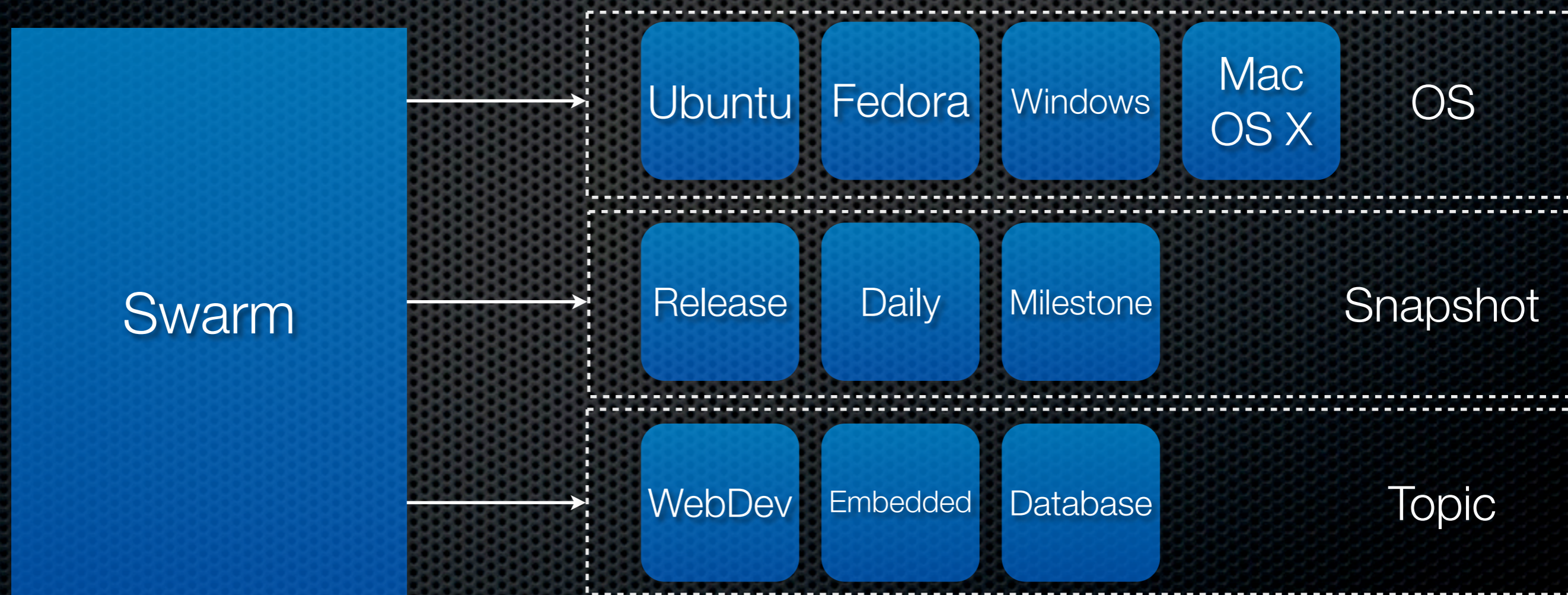


The screenshot shows the 'Build Status' page of the Go Dashboard. The page has a navigation bar with links for 'Build Status', 'Packages', 'Benchmarks', and 'golang.org'. The 'Build Status' section displays a table with columns for platform/architecture, build status, commit hash, author, and commit message. The table lists various builds for Darwin, FreeBSD, Linux, and NaCl on 386, amd64, and arm architectures. The commit messages include details about function pointers, data models, benchmarks, and other code changes.

Platform/Arch	Status	Commit Hash	Author	Commit Message
darwin 386	ok	5adafa8a882d	chickencha@gmail.com	big: Get rid of function pointers and init function
darwin amd64	ok	1f94c6d2d7e8	adg	godashboard: remove obsolete data models and conversion code
darwin amd64	ok	ad21a828a3c1	consalus@gmail.com	Added strings.FieldsFunc, a generalization of strings.Fields in style of the strings.TrimFunc functions.
darwin amd64	ok	ad21a828a3c1	adg	godashboard: bz2 compress logs in data store
darwin amd64	ok	27b0d42492cd	chickencha@gmail.com	go benchmark: Update package list
darwin amd64	ok	6c0f91c41f24	rsc	gc: cmplx typecheck bug fix
darwin amd64	ok	0311736023e0	adg	syscall: match linux Setsid function signature to darwin
darwin amd64	ok	2ae134ec8dae	go@naffah-raif.name	reflect: add FieldByNameFunc
darwin amd64	ok	c06da7a3a51	hoisie@gmail.com	net: fix bugs in packStructValue
darwin amd64	ok	f90c4297bec8	rsc	json: scanner, Compact, Indent, and tests
darwin amd64	ok	6b1ed91e99f	r	rpc: Add Close() method to rpc.Client to allow graceful connection teardown.
darwin amd64	ok	07d50e88f1a3	kalb	the android runner script
darwin amd64	ok	65e21d8288a2	adg	add Sam Thorogood (of Google Inc.) to CONTRIBUTORS
darwin amd64	ok	f23f30f13e2e	chickencha@gmail.com	exp/eval: Always read float literals as base 10
darwin amd64	ok	9370c92021442	chickencha@gmail.com	go/ast: Update comment to mention imaginary literals
darwin amd64	ok	69861dc1137c	chickencha@gmail.com	exp/eval: Implement x[b:]
darwin amd64	ok	e0f11d452aa3	rsc	flag: eliminate unnecessary structs
darwin amd64	ok	160e0ad13d26	euvienu@gmail.com	"godoc -src pkg_name" excludes duplicates entries
darwin amd64	ok	170ae2412e8e	kalb	synchronize AFM runner environment variable with run-arm
darwin amd64	ok	930a7b92a6783	kalb	support for printing floats:
darwin amd64	ok	2fe2d0532d48	gri	scanner: implement Peek() to look at the next char w/o advancing
darwin amd64	ok	9e60aa9143d6	rsc	bytes: shuffle implementation, making WriteByte 50% faster
darwin amd64	ok	81a843242a5a	adg	release.2010-04-13 part two
darwin amd64	ok	f38c4e3dd413	rsc	runtime: better trace for fault due to nil pointer call
darwin amd64	ok	2360a7e697d4	alex.brainman@gmail.com	os, syscall: mingw bug fixes
darwin amd64	ok	f98f786927ab	rsc	go_spec updates
darwin amd64	ok	22c24c0e0e84	adg	release.2010-04-13
darwin amd64	ok	61f0d770a03a	alex.brainman@gmail.com	os: mingw version of ReadDir() and Stat() implemented
darwin amd64	ok	8e2d0a8c2e23	chickencha@gmail.com	8i: add DOS stub to PE binaries
darwin amd64	ok	166711b7c8ee	r	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

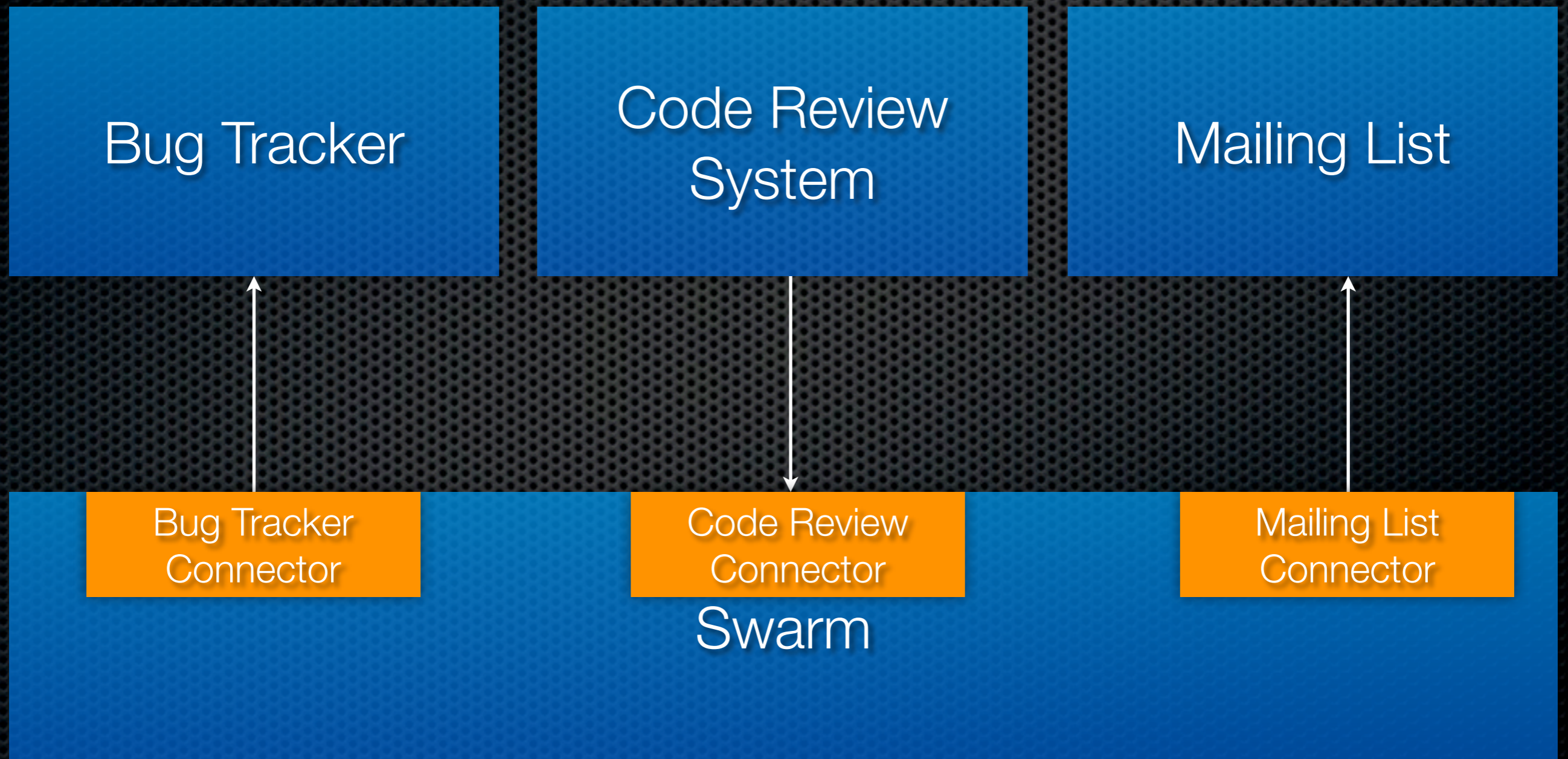


External Systems Support

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

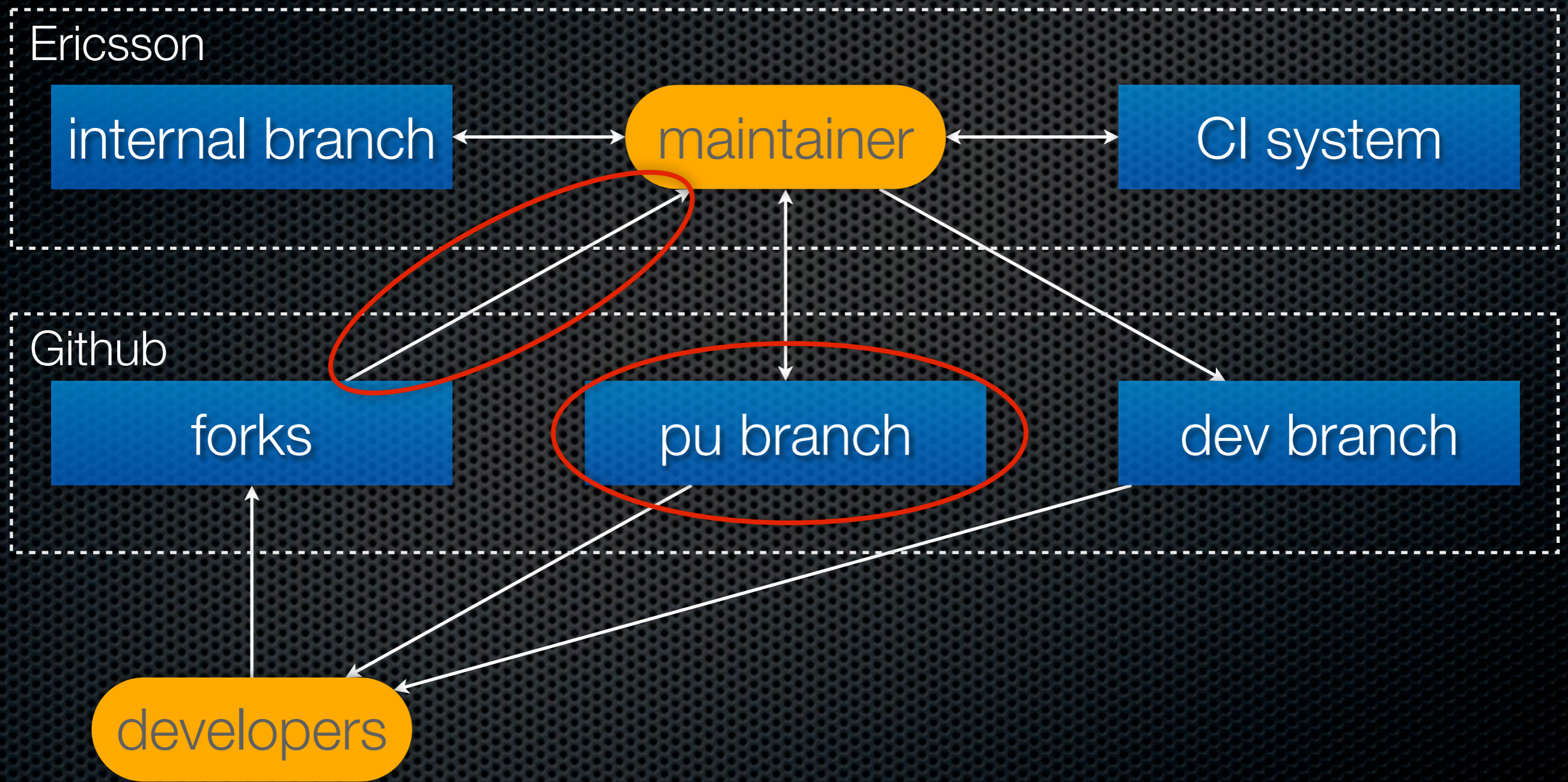


External Systems Support

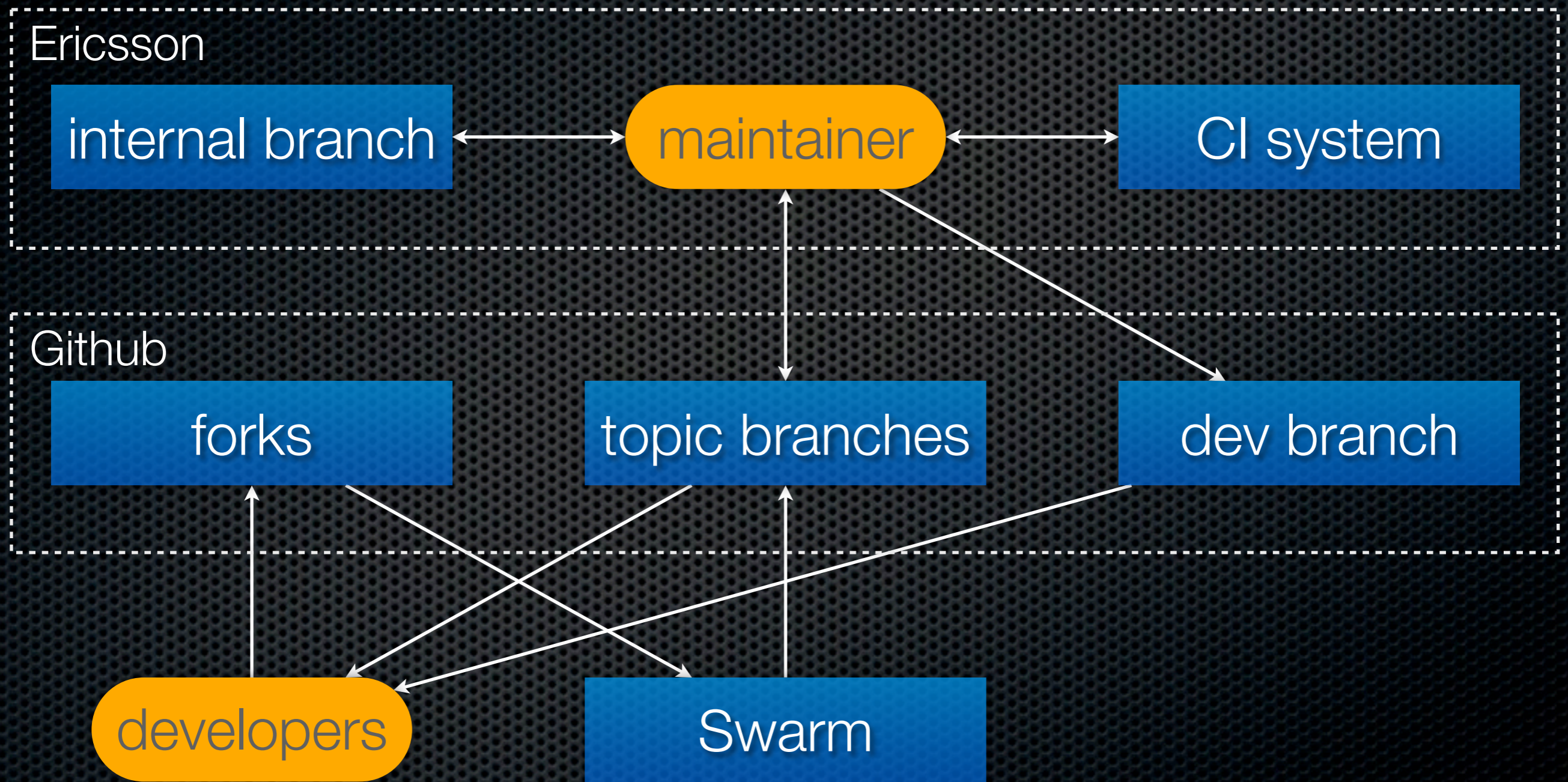


The Erlang/OTP Challenge

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Innovation Streams

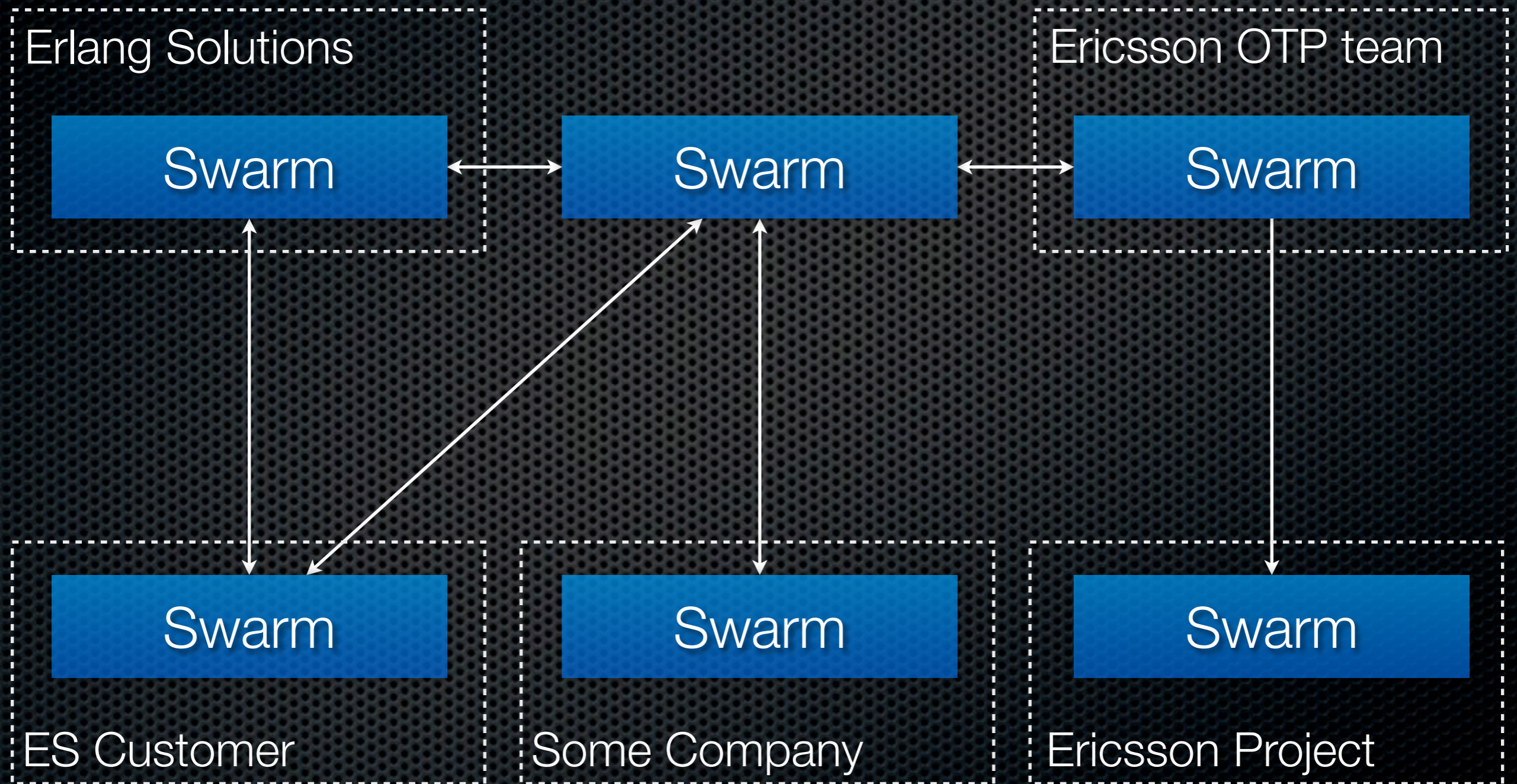
Innovation Streams

- ✦ 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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