

TestGrid and You!

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What's TestGrid?

"A **highly-configurable, interactive** dashboard for viewing your test results in a **grid**"

[sig-testing-misc](#)
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[sig-testing-maintenance](#)
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[Summary](#)
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[bazel-test](#)
[ci-kubernetes-coverage-conformance](#)
[ci-kubernetes-coverage-e2e-gci-gce](#)
[ci-kubernetes-coverage-unit](#)
[prow](#)
[gce](#)
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[test-infra-bazel](#)
[pull-kubernetes-integration-podutil](#)
[pull-bazel-build](#)
[pull-bazel-test](#)
[pull-bazel-test-integration](#)

build instrumented kubernetes, run conformance tests, generate line coverage using gopherage

10-24 14:48 PDT @1187485293859573762 -- 10-10 17:34 PDT @1182453818906906626; Served from cache in 0.48 seconds

About

Size

Options

Graph

Local Time: OFF

Display Clustered Failures List

10-24

14:48 PDT	12:09 PDT	09:54 PDT	07:38 PDT	05:27 PDT	03:22 PDT	01:04 PDT	22:00 PDT
118748529385	118744502504	118741162381	118737739673	11873444271	121187312717291	118727824232	118727824232
3f402534f	05fa6f9e8	8c1ffb59e	900c0cf0b	e4bb49a23	2c4cba8aa	2905275a0	52305275a0

[Show 10 stale tests](#) (no results in last 10+ runs)

OVERALL							
Overall	R	34.9	34.9	34.9		34.9	34.9
► [k8s.io]							
► [sig-api-machinery]							
► [sig-apps]							
▼ [sig-auth]							
ServiceAccounts should allow opting out of API token automount [Conformance]							
ServiceAccounts should mount an API token into pods [Conformance]							

Code in github.com/GoogleCloudPlatform/testgrid, see it at testgrid.k8s.io

What's TestGrid?

Highly-Configurable

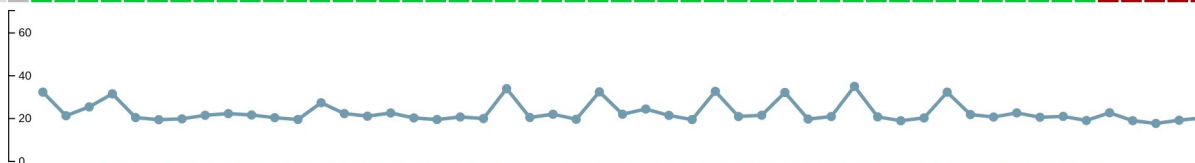
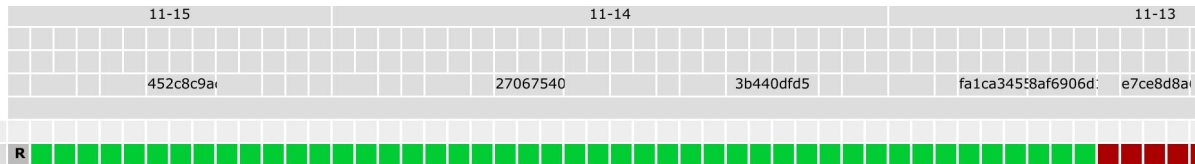
- Tailor to your needs
- Show graphs, failures, properties, more!

About ▾ Size ▾ Options ▾ Graph ▾
Local Time: OFF Display Clustered Failures List

[Show 197 stale tests](#) (no results in last 10+)

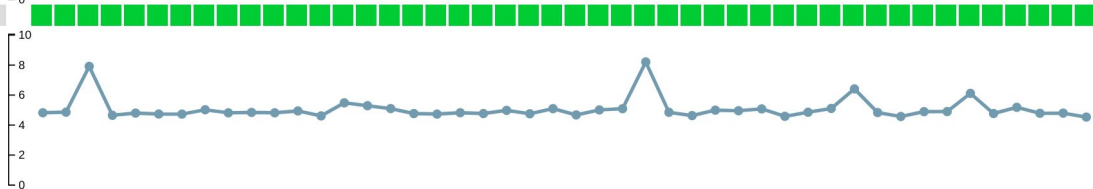
Overall

test-duration-minutes



Kubemark Overall

test-duration-minutes



What's TestGrid?

Interactive

- Customize test names
- Sort, filter, group rows

[illegible]

How Do TestGrid?

I want to use it!

github.com/kubernetes/test-infra/blob/master/testgrid/config.md

- YAML-configured
- Reads logs in JUnit format from Cloud Storage

How Do TestGrid?

I want to use it...**with Prow!**

- TestGrid reads Prow annotations with Configurator
- Automatic Log Deployment with Pod Utilities: Sidecar
- Automatic Config Deployment with Transfigure.sh

Add this to your Prow job:

```
annotations:  
  testgrid-dashboards: dashboard-name      #  
  testgrid-tab-name: some-short-name      #  
  testgrid-alert-email: me@me.com          #  
                                           #  
  description: Words about your job.      #  
                                           #  
  testgrid-num-columns-recent: "10"        #  
                                           #  
  testgrid-num-failures-to-alert: "3"      #  
                                           #  
  testgrid-alert-stale-results-hours: "12" #
```

This functionality is provided by [Configurator](#). If you ha

How Does TestGrid?

Protos!

Protocol Buffers: serialized structured data format (like XML or JSON)

Cloud Communication/Storage for TestGrid modules!

We have a bunch:

Config

Issue State

State

+ More!

Summary

How Does TestGrid?

Cloud Storage holds **protos**



Configurator

The diagram illustrates the TestGrid architecture. At the top, a text label states 'Cloud Storage holds protos'. Below this, five components are arranged in two rows. The top row contains three elements: a rounded rectangle labeled 'Configurator', a square labeled 'Cloud Storage' (which is highlighted with a thick black border), and another rounded rectangle labeled 'Updater'. The bottom row contains two elements: a stack of three document icons labeled 'Config Files' on the left, and a rounded rectangle with a header bar labeled 'Frontend' on the right.

Cloud
Storage

Updater

Config Files

Frontend

How Does TestGrid?

Modules asynchronously read/write **protos**



Configurator

The diagram illustrates the TestGrid architecture with five main components. At the top left is the 'Configurator' module, represented by a rounded rectangle with a dark border. To its right is the 'Cloud Storage' module, shown as a rectangle with a light gray border. Further right is the 'Updater' module, a rounded rectangle with a dark border. In the bottom left, 'Config Files' are depicted as a stack of three document icons with light gray borders. Finally, at the bottom center is the 'Frontend' module, represented by a rounded rectangle with a dark border and a small tab on its top edge.

Cloud
Storage

Updater

Config Files

Frontend

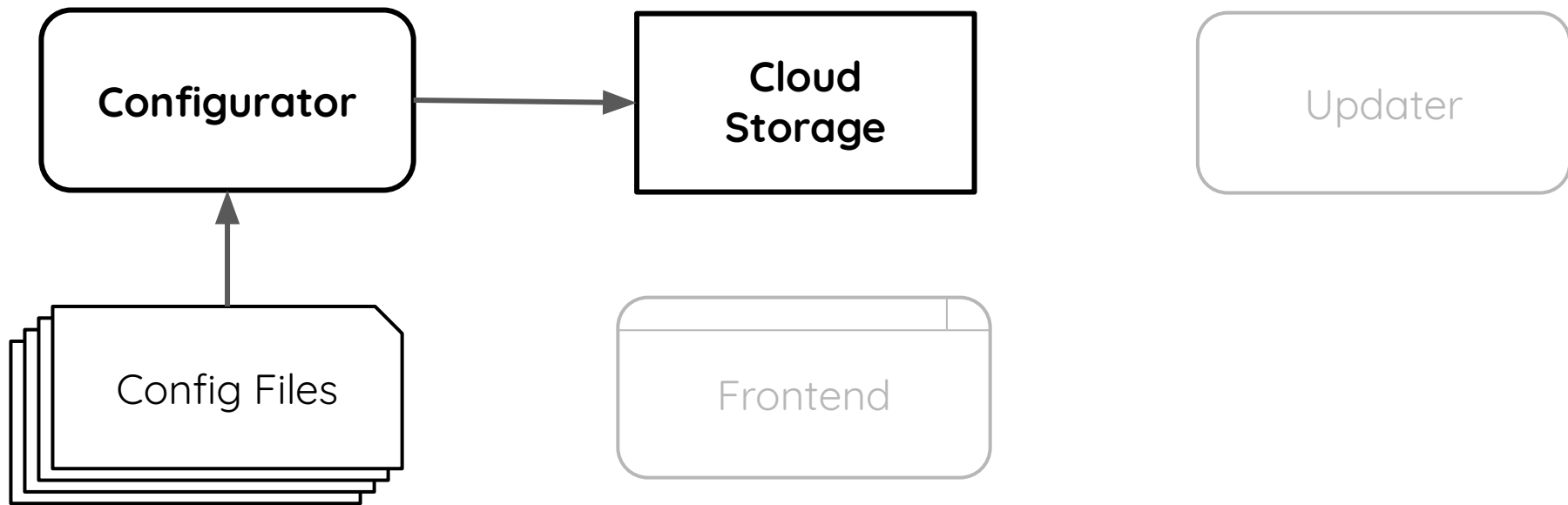
How Does TestGrid?

Configurator reads **config files** (YAML/Prow) from GitHub



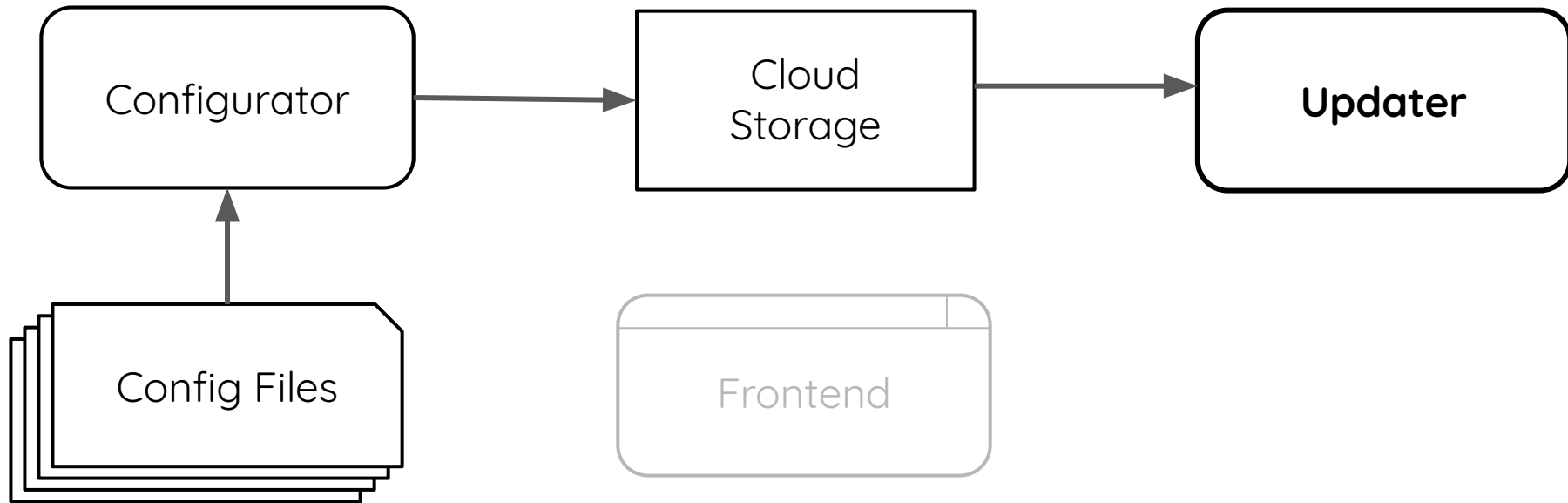
How Does TestGrid?

Configurator makes **config.proto**, stores in Cloud Storage



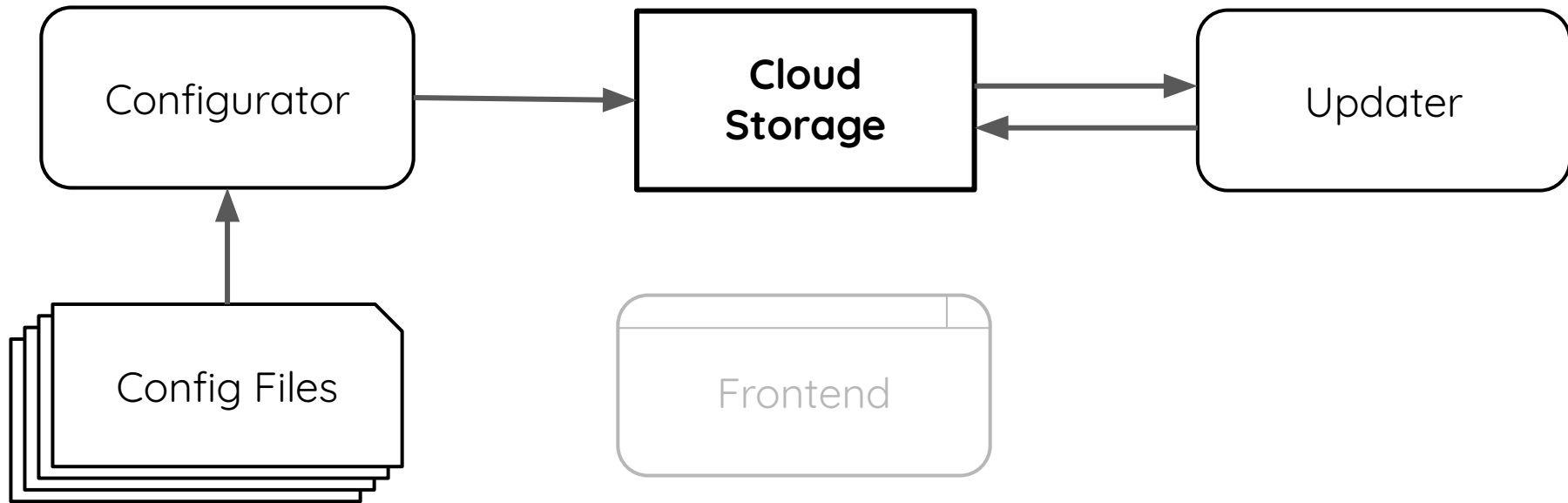
How Does TestGrid?

Updater reads **config.proto**



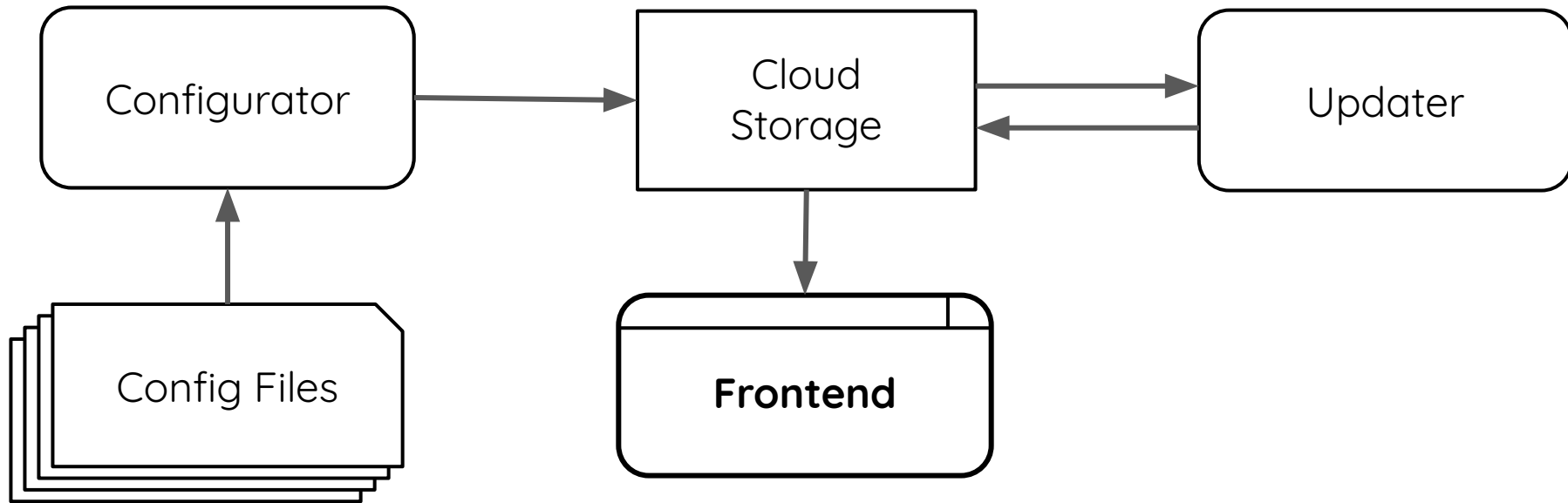
How Does TestGrid?

Updater parses test results, writes **state.proto** to Cloud Storage



How Does TestGrid?

Frontend reads **state.proto**, displays grid



How Does TestGrid?

Write a proto and TestGrid can read it!

Summarizer: Reads **state.proto**, writes **summary.proto**



[gke-canary: FAILING](#)

650 of 975 tests (66.7%) and 325 of 325 runs (100.0%) failed in the past 7 days

Last update: 11-15 23:06 PST

Tests last ran: 11-15 22:50 PST

No green runs found

- Hide Alerts -

Test Name	# Fails	Failure Messages	First Failed	Last Passed	Bugs	Regression
Extract	652		11-01 23:32 PST			
Overall	652		11-01 23:32 PST			



[kops-aws-canary: FLAKY](#)

541 of 796785 tests (0.1%) and 111 of 165 runs (67.3%) failed in the past 7 days

Last update: 11-15 21:51 PST

Tests last ran: 11-15 21:49 PST

Last green run: c3f8d700a



[node: PASSING](#)

9 of 52965 tests (0.0%) and 4 of 165 runs (2.4%) failed in the past 7 days

Last update: 11-15 22:40 PST

Tests last ran: 11-15 22:18 PST

Last green run: c3f8d700a

How Does TestGrid?

Write a proto and TestGrid can read it!

Summarizer: Reads **state.proto**, writes **summary.proto**

Alerter: Reads **summary.proto**, sends email alerts

Entomologist: Gathers issues for failing tests, writes **issue_state.proto**

How Does TestGrid?

Want to **auto-open issues for failing tests**?

- Read **summary.proto** for failing tests
- **Open an issue** (GitHub API)
- Update **issue_state.proto** with new issue

What's Coming Up?

Winter 2019

- **Internal cleanup:** cleaning up, translating, consolidating code
- **Self-service Prow integration:** Configurator, transfigure.sh

2020

- Open-sourcing (more!)
- Tell us what you need!

github.com/GoogleCloudPlatform/testgrid/issues/51

I Want to Help!

Thanks in advance! :D

Help us by:

- **Using TestGrid:** Set TestGrid up for your tests!
- **Filing Issues:** What's [wrong | missing | cool to have] ?
- **Adding Code:** Build on top of TestGrid's protos!

Thanks!

Repo: github.com/GoogleCloudPlatform/testgrid

Slack: #sig-testing

Questions?