

CDEvents

Interoperability in the Continuous Delivery space

Back in November 2019...



```
stage('Trigger Quality Gate') {  
  echo "Quality Gates ONLY: Just trigger"  
  
  // Trigger an evaluation  
  def keptnContext = keptn.sendStartEvaluation  
  String keptn_bridge = env.KEPTN_BRIDGE  
  echo "Open Keptn Bridge: ${keptn_bridge}"  
}
```

CDEvents

Interoperability in the Continuous Delivery space

Andrea Frittoli & Erik Sternerson

After this talk














- Know the basics of Continuous Delivery events
- Understand use cases for events
- Know about the CDEvents project
- Share your Glue-code story:
tinyurl.com/talktocdevents

Continuous Delivery Events





A primer on Continuous Delivery

- **Goal: Ready-for-release**
- **Scope: Idea → Build → Test → Measure → Idea**
- **Too much for any one system to solve**




CI & Pipeline Orchestration - Pipeline Orchestration (13)

 <div>Agola SeriesLab</div> <div>★ 931</div>	 <div>argo Cloud Native Computing Foundation (CNCF)</div> <div>★ 10,158 Funding: \$3M</div>	 <div>Codefresh Codefresh</div> <div>★ 19 Funding: \$43M</div>	 <div>Concourse Concourse</div> <div>★ 6,094 VMware MCap: \$50.6B</div>	 <div>flagger</div> <div>★ 3,356 Cloud Native Computing Foundation (CNCF) Funding: \$3M</div>	 <div>flux</div> <div>★ 2,394 Cloud Native Computing Foundation (CNCF) Funding: \$3M</div>
 <div>GitLab GitLab</div> <div>★ 22,810 MCap: \$19.2B</div>	 <div>JenkinsX Continuous Delivery Foundation (CDF)</div> <div>★ 4,062</div>	 <div>keptn Keptn</div> <div>★ 1,129 Dynatrace MCap: \$15.4B</div>	 <div>Azure</div> <div>★ 72 Orchestra Azure MCap: \$2.4T</div>	 <div>Screwdriver.cd Continuous Delivery Foundation (CDF)</div> <div>★ 918</div>	 <div>Spinnaker Continuous Delivery Foundation (CDF)</div> <div>★ 8,251</div>
 <div>Tekton Pipelines Continuous Delivery Foundation (CDF)</div> <div>★ 6,762</div>					


CI & Pipeline Orchestration - Continuous Integration (4)

 <div>DRONE by harness</div> <div>★ 24,380 Funding: \$28K</div>	 <div>Jenkins Continuous Delivery Foundation (CDF)</div> <div>★ 16,384</div>	 <div>Travis CI Travis CI</div> <div>★ 591</div>	 <div>Woodpecker CI Woodpecker CI</div> <div>★ 640</div>
--	---	---	---



Continuous Automation - Test Automation (3)

 <div>k6 k6</div> <div>★ 15,034</div>	 <div>Playwright Microsoft</div> <div>★ 22,007 MCap: \$2.4T</div>	 <div>Se Selenium Thoughtworks</div> <div>★ 22,605 MCap: \$7.4B</div>
--	--	--






Continuous Automation - Release Automation (1)

 <div>urban{code}</div>
<div>UrbanCode Velocity IBM</div> <div>★ 9 MCap: \$120.9B</div>



Continuous Automation - Build Automation (2)

 <div>Buildkite Buildkite</div> <div>★ 622 Funding: \$20.5M</div>	 <div>Gradle Gradle Build Tool Gradle Inc.</div> <div>★ 12,909 Funding: \$54.7M</div>
--	--

Config & Library Management - Configuration Management (5)

 <div>ANSIBLE Ansible Red Hat</div> <div>★ 51,257 MCap: \$130.9B</div>	 <div>CHEF Chef Chef Software</div> <div>★ 6,784 Funding: \$103M</div>	 <div>Opswatt Continuous Delivery Foundation (CDF)</div> <div>★ 199</div>	 <div>puppet Puppet</div> <div>★ 6,414 Funding: \$169.9M</div>	 <div>SALTSTACK SaltStack SaltStack</div> <div>★ 12,116 Funding: \$27.9M</div>
--	--	---	--	--





Infrastructure Deployments - Automated Provisioning (2)

 <div>Ketch Ships</div> <div>★ 551 Funding: \$3.8M</div>	 <div>HashiCorp Terraform HashiCorp</div> <div>★ 20,747 MCap: \$12.8B</div>
---	--



Protocols and Messaging - Messaging (1)

 <div>Eiffel Eiffel Community</div> <div>★ 95</div>
--


Container Registry & Build - Container Registry (4)

 <div>DISTRIBUTION Distribution Cloud Native Computing Foundation (CNCF)</div> <div>★ 6,482 Funding: \$3M</div>	 <div>HARBOR Harbor Cloud Native Computing Foundation (CNCF)</div> <div>★ 16,440 Funding: \$3M</div>	 <div>Portus SUSE</div> <div>★ 2,882 MCap: \$7.1B</div>	 <div>QUAY Quay Red Hat</div> <div>★ 1,889 MCap: \$120.9B</div>
--	---	--	--



Container Registry & Build - Image Build (2)

 <div>HELM Helm Cloud Native Computing Foundation (CNCF)</div> <div>★ 20,515 Funding: \$3M</div>	 <div>SHIPWRIGHT Shipwright Continuous Delivery Foundation (CDF)</div> <div>★ 5</div>
---	--

DevSecOps & Monitoring - Container Security (1)

 <div>anchore Anchore Anchore</div> <div>★ 1,398 Funding: \$29M</div>
--

Change Management - Version Control (2)

 <div>Git Git</div> <div>★ 42,681</div>	 <div>Gitea Gitea</div> <div>★ 27,712</div>
--	--

Continuous Delivery Events

- **When something valuable happens, announce it**
- *Change, Build, Test, Deployment, New Env., Failure, Remediation, etc. etc.*
- **When something interesting is seen, react to it**
- *Visualize, Store, Announce, Run, Retry, etc. etc.*

Not a brand new idea

- Tekton**
- Eiffel Events**
- Keptn**
- Many more...**

"Let's work together!"

((((
cdevents

What is CDEvents?

- A vocabulary
- A specification
- A project
- In progress :)
- github.com/cdevents

The CDEvents project

- SIG-Interop @ CDF mid 2020
- SIG-Events @ CDF early 2021
- CDEvents late 2021

The CDEvents vocabulary

- **Core**
- **Source Code Version Control**
- **Continuous Integration Pipelines**
- **Continuous Deployment Pipelines**
- **...more to come**

The CDEvents specification

- **Data Model**
 - **Events and Fields**
- **Protocol Bindings**
 - **CloudEvents**
- **Primer**

CDEvents use cases

Interoperability









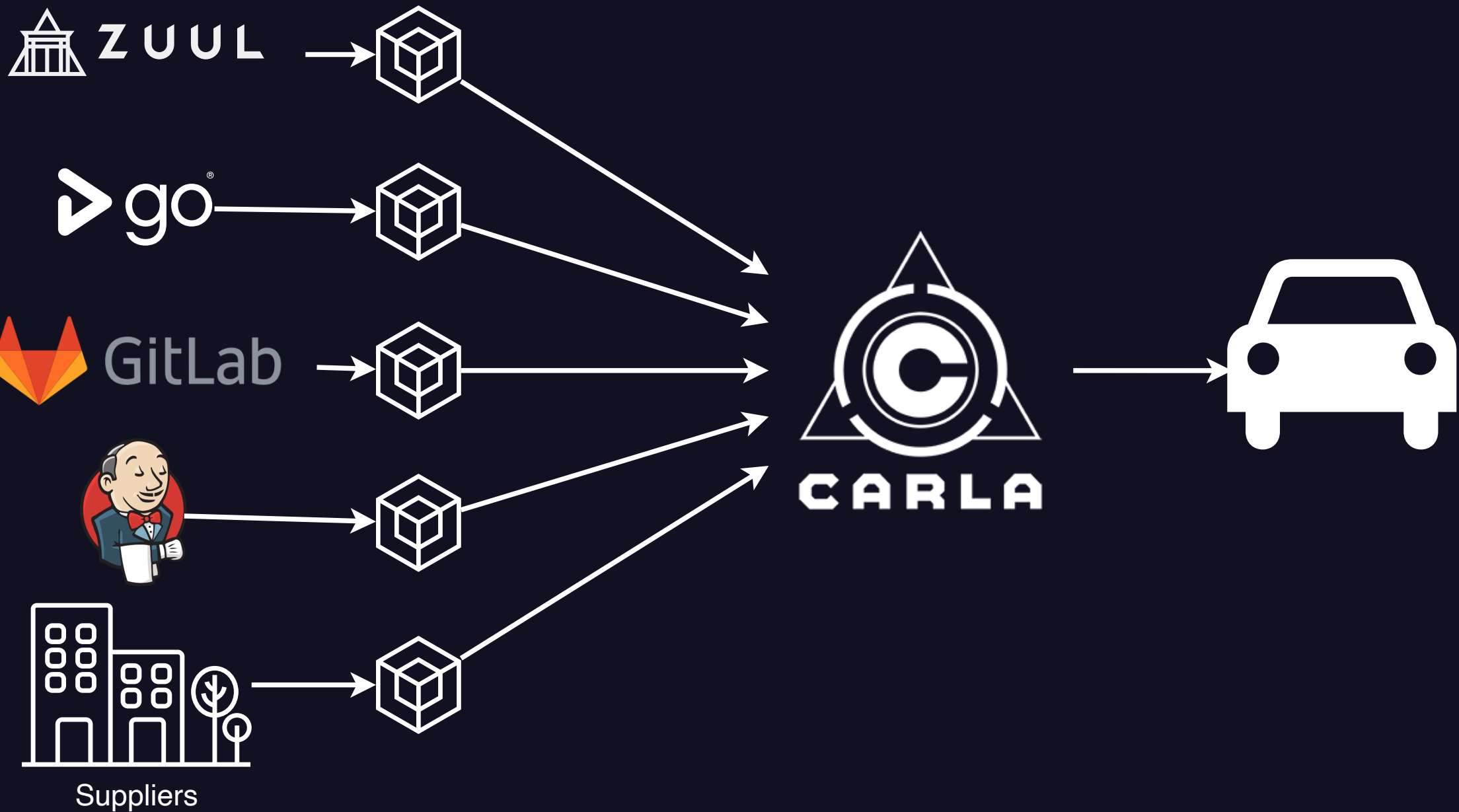


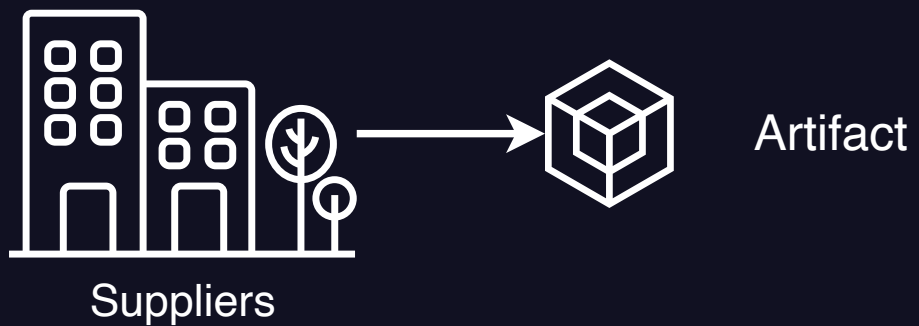
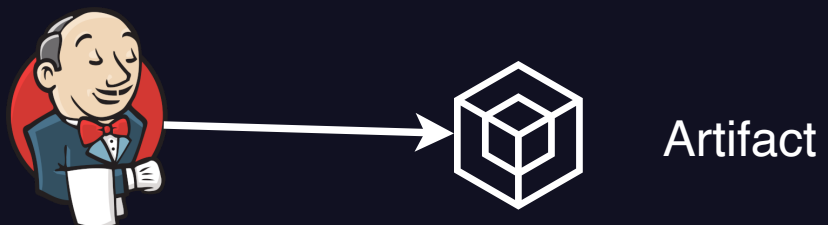
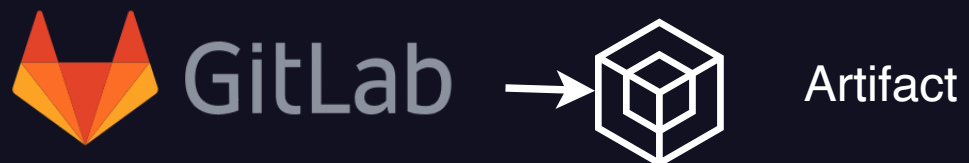
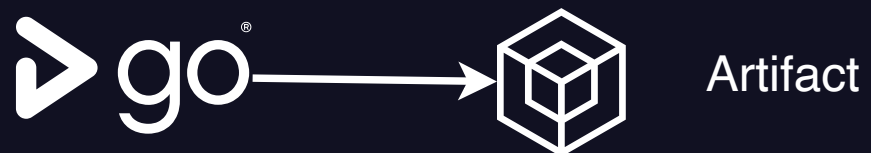
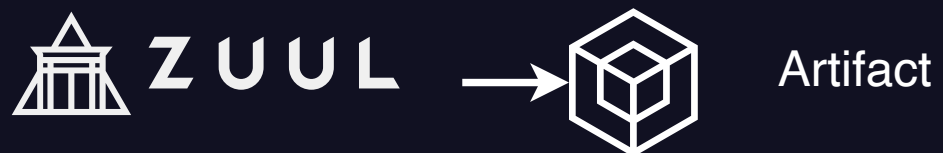


Suppliers











Artifact (Zuul)



Artifact (GoCD)



Artifact (GitLab)



Artifact (Jenkins)



Artifact (Supplier)

Suppliers



By the way: not just artifacts

- Source changes
- Build activities
- Test runs
- Failures
- Compositions (multiple artifacts)
- Announcements
- Many many more...



```
stage('Trigger Quality Gate') {  
  echo "Quality Gates ONLY: Just trigger"  
  
  // Trigger an evaluation  
  def keptnContext = keptn.sendStartEvaluation  
  String keptn_bridge = env.KEPTN_BRIDGE  
  echo "Open Keptn Bridge: ${keptn_bridge}"  
}
```

Solution: CDEvents



Artifact (CDEvents)



Artifact (CDEvents)



Artifact (CDEvents)



Artifact (CDEvents)



Artifact (CDEvents)

Suppliers



Observability & Metrics



Write



Test



Release



Deploy



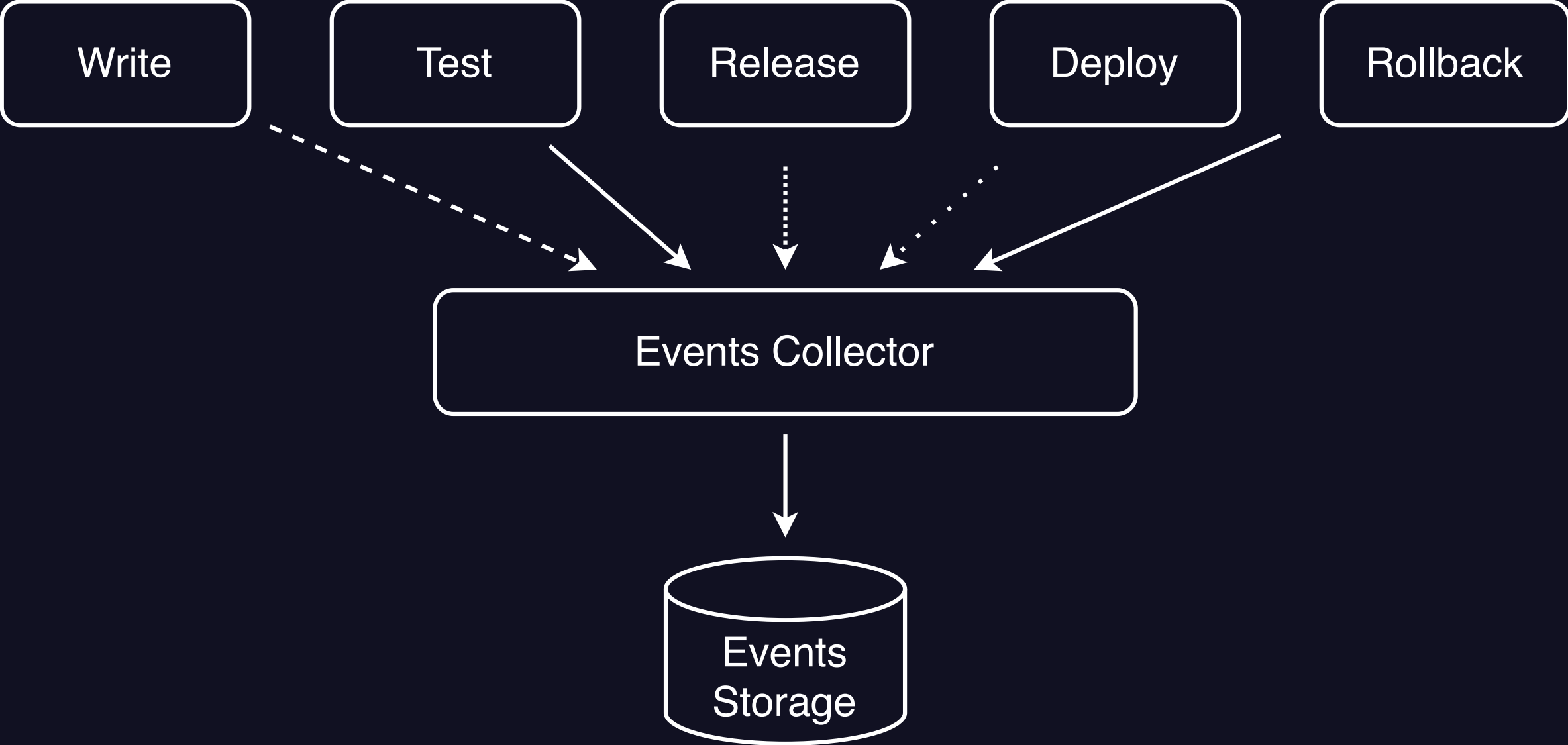
Rollback

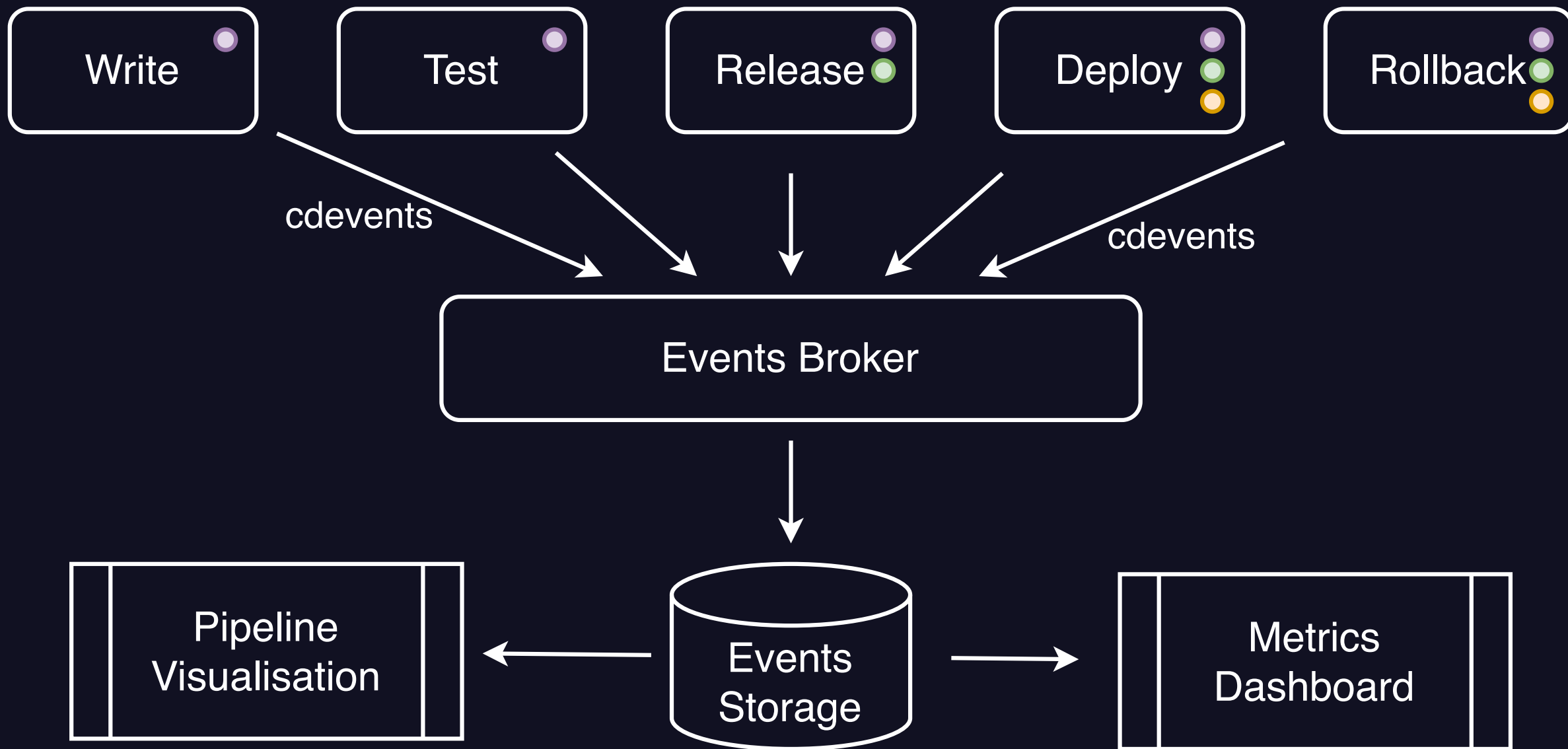


Test



Test





What can CDEvents do for you?

Reduce Glue Code

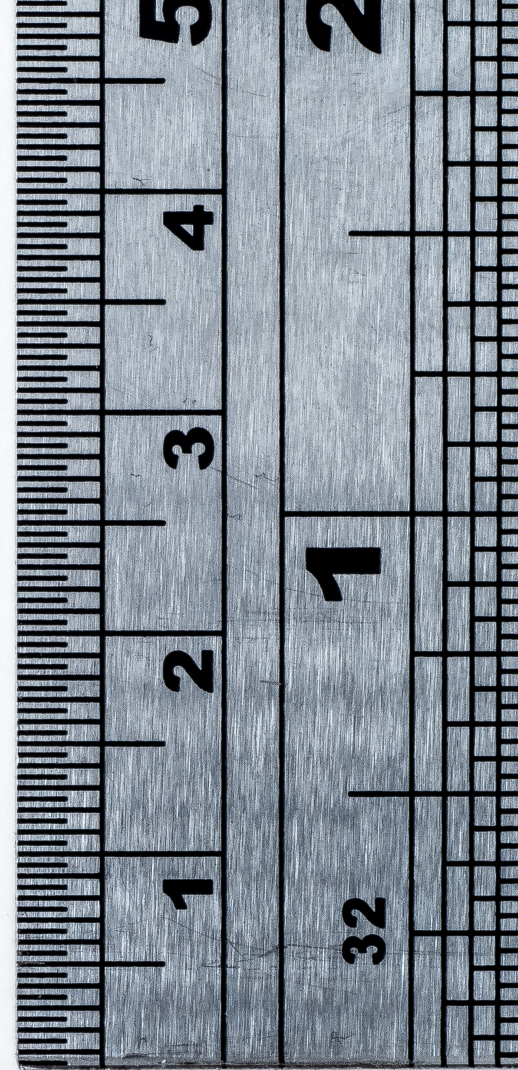
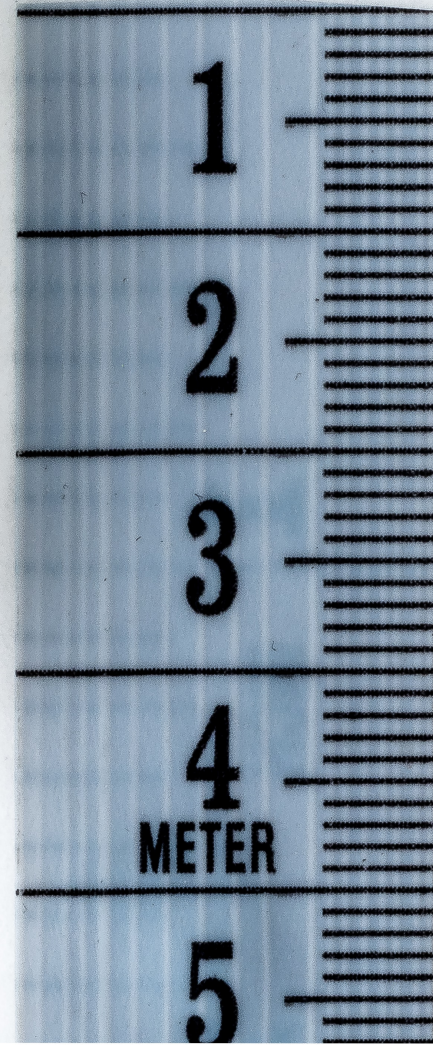


```
stage('Trigger Quality Gate') {  
    echo "Quality Gates ONLY: Just trigger"  
  
    // Trigger an evaluation  
    def keptnContext = keptn.sendStartEvaluation  
    String keptn_bridge = env.KEPTN_BRIDGE  
    echo "Open Keptn Bridge: ${keptn_bridge}"
```




End to End CD Workflow Visibility

**Collect data to
measure
DevOps
Performance**



The way forward

CDEvents way forward

- **Learn more about existing use cases**
- **Keep building the spec and the SDKs**
- **Implement into existing tools/services**

Key Takeaways

CDEvents

A spec for interoperability and observability

Integrations needed

We want to hear from YOU!

tinyurl.com/talktocdevents

Thank You!

Questions?

Join the cause!

CDEvents <https://github.com/cdevents>

tinyurl.com/talktocdevents