When the Command Line is Not Enough

Why Your OSS Project Needs a GUI

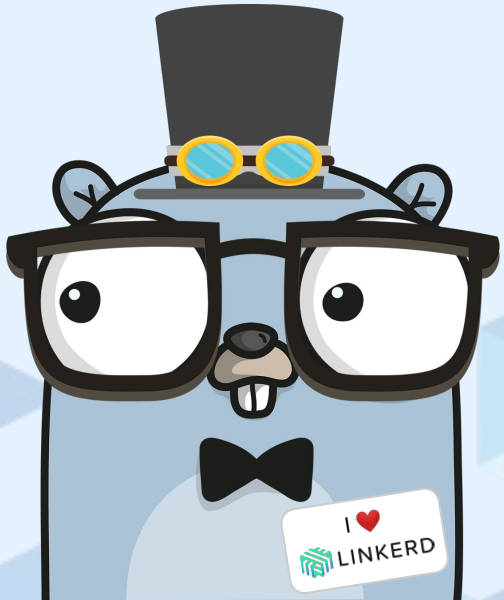
Risha Mars

Software Engineer + Linkerd Maintainer

@marzipan

@rmars

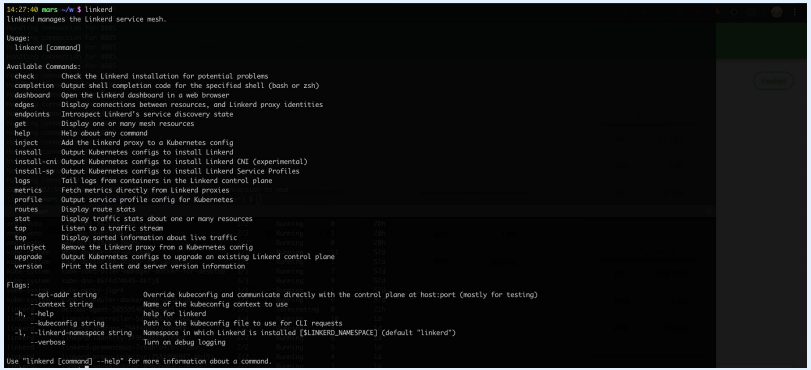
@marzipan

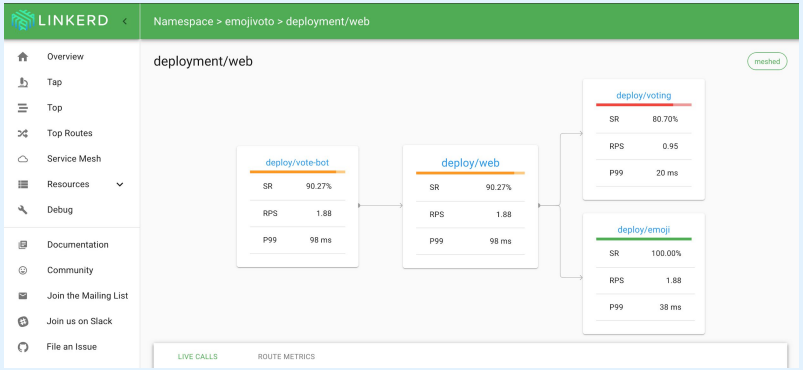


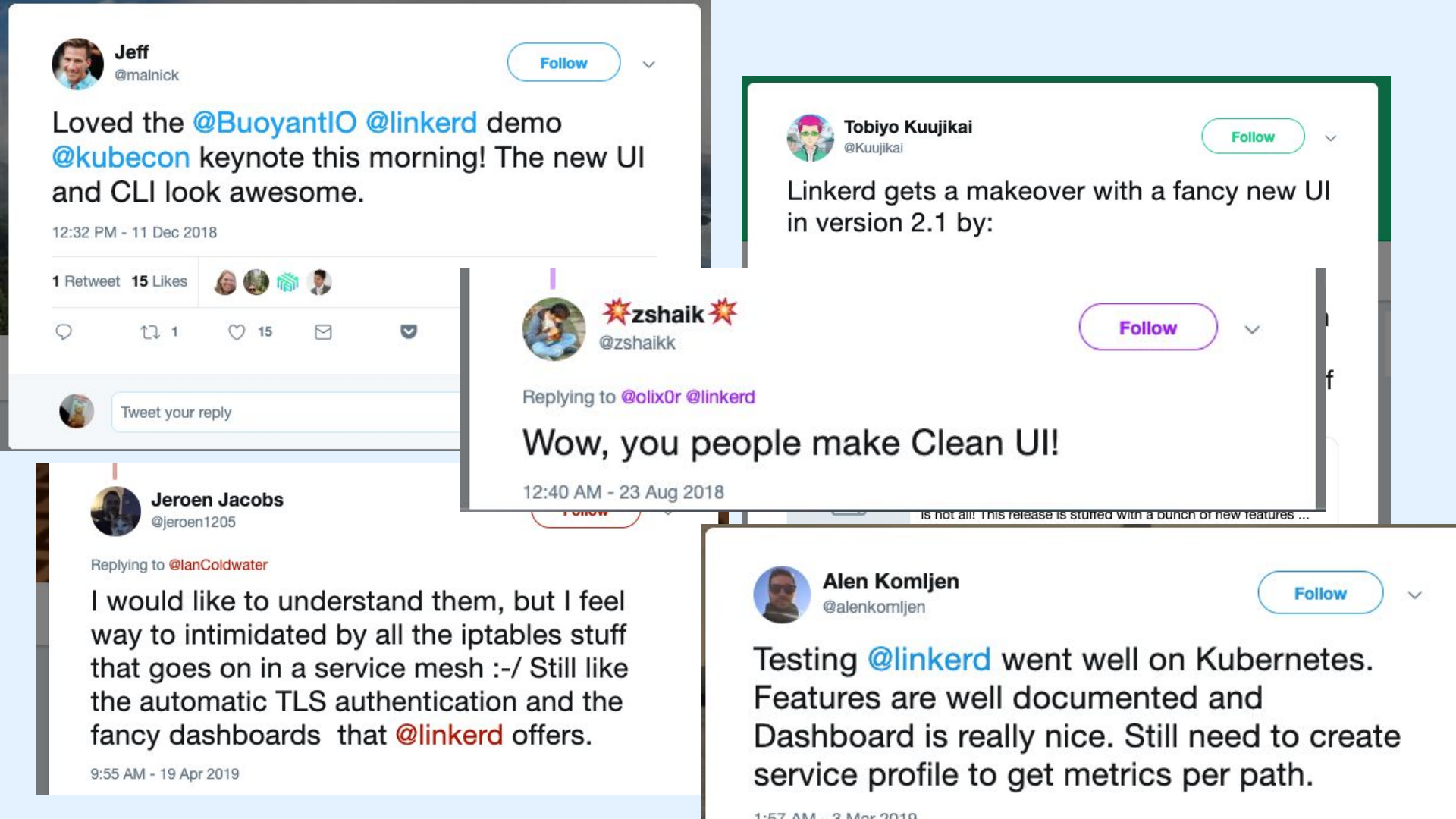
Benefits of a GUI

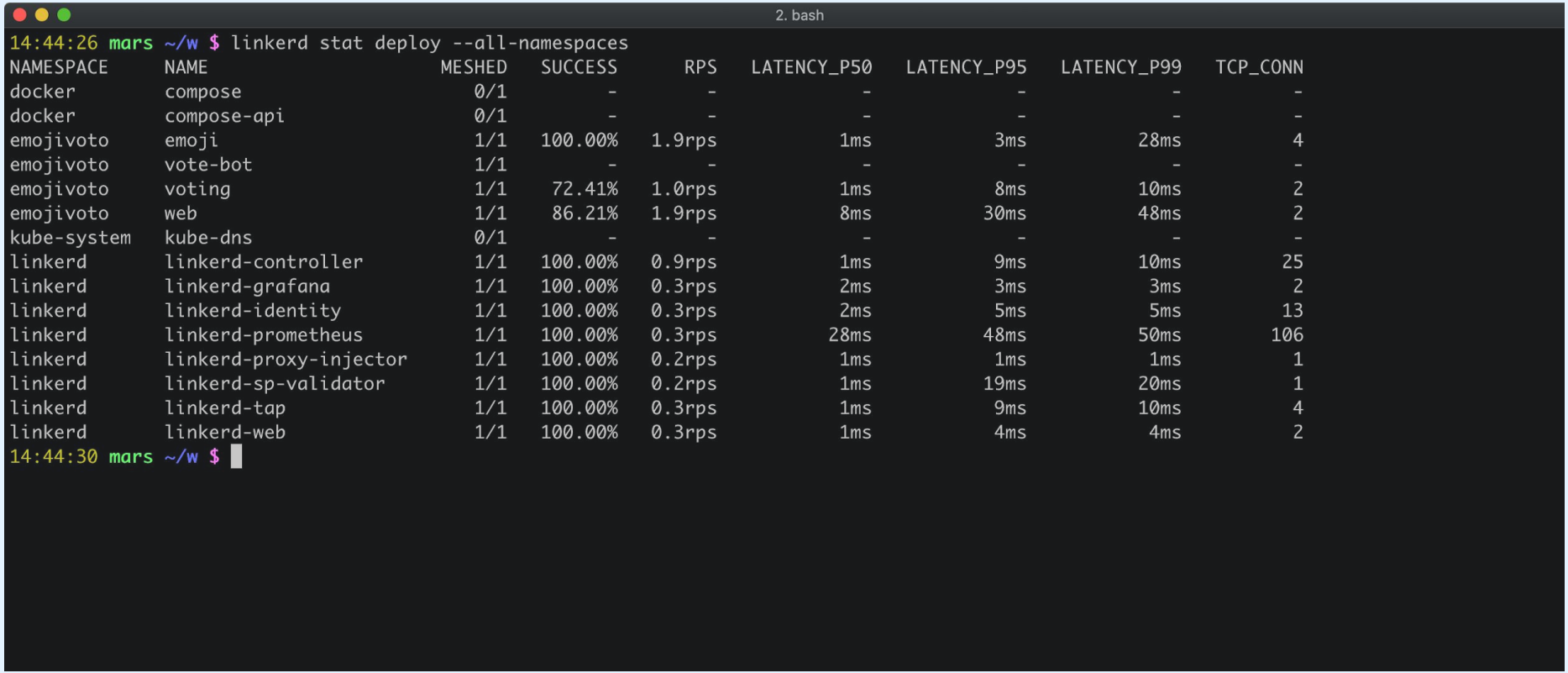
- ⚡ Tell the user a useful **story**!
- ⚡ Improve your **users' experience**!
- ⚡ Get more OSS **contributors**!
- ⚡ *Complements* your CLI!

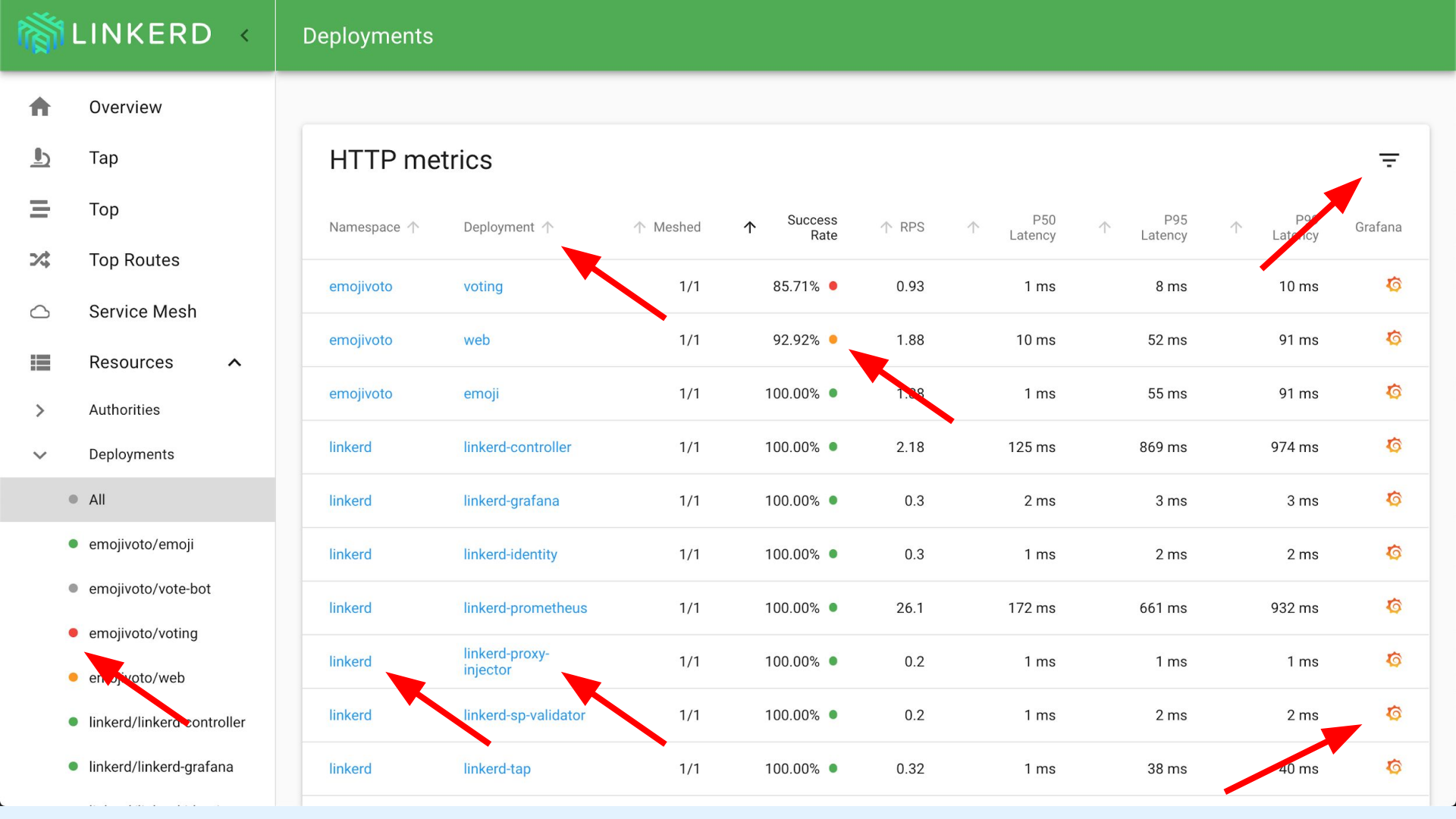
LINKERD


14:27:40 mars ~/w $ linkerd
linkerd manages the Linkerd service mesh.
Usage:
linkerd [command]
Available Commands:
check Check the Linkerd installation for potential problems
completion Output shell completion code for the specified shell (bash or zsh)
dashboard Open the Linkerd dashboard in a web browser
edges Display connections between resources, and Linkerd proxy identities
endpoints Introspect Linkerd's service discovery state
get Display one or many mesh resources
help Help about any command
inject Add the Linkerd proxy to a Kubernetes config
install Output Kubernetes configs to install Linkerd
install-cni Output Kubernetes configs to install Linkerd CNI (experimental)
install-sp Output Kubernetes configs to install Linkerd Service Profiles
logs Tail logs from containers in the Linkerd control plane
metrics Fetch metrics directly from Linkerd proxies
profile Output service profile config for Kubernetes
routes Display route stats
stat Display traffic stats about one or many resources
tap Listen to a traffic stream
top Display sorted information about live traffic
uninject Remove the Linkerd proxy from a Kubernetes config
upgrade Output Kubernetes configs to upgrade an existing Linkerd control plane
version Print the client and server version information
Flags:
--api-addr string Override kubeconfig and communicate directly with the control plane at host:port (mostly for testing)
--context string Name of the kubeconfig context to use
-h, --help help for linkerd
--kubeconfig string Path to the kubeconfig file to use for CLI requests
-l, --linkerd-namespace string Namespace in which Linkerd is installed [$LINKERD_NAMESPACE] (default "linkerd")
--verbose Turn on debug logging
Use "linkerd [command] --help" for more information about a command.


LINKERD
Namespace > emojivoto > deployment/web
Overview
Tap
Top
Top Routes
Service Mesh
Resources
Debug
Documentation
Community
Join the Mailing List
Join us on Slack
File an Issue
deployment/web
meshed
deploy/vote-bot
SR 90.27%
RPS 1.88
P99 98 ms
deploy/web
SR 90.27%
RPS 1.88
P99 98 ms
deploy/voting
SR 80.70%
RPS 0.95
P99 20 ms
deploy/emoji
SR 100.00%
RPS 1.88
P99 38 ms
LIVE CALLS
ROUTE METRICS

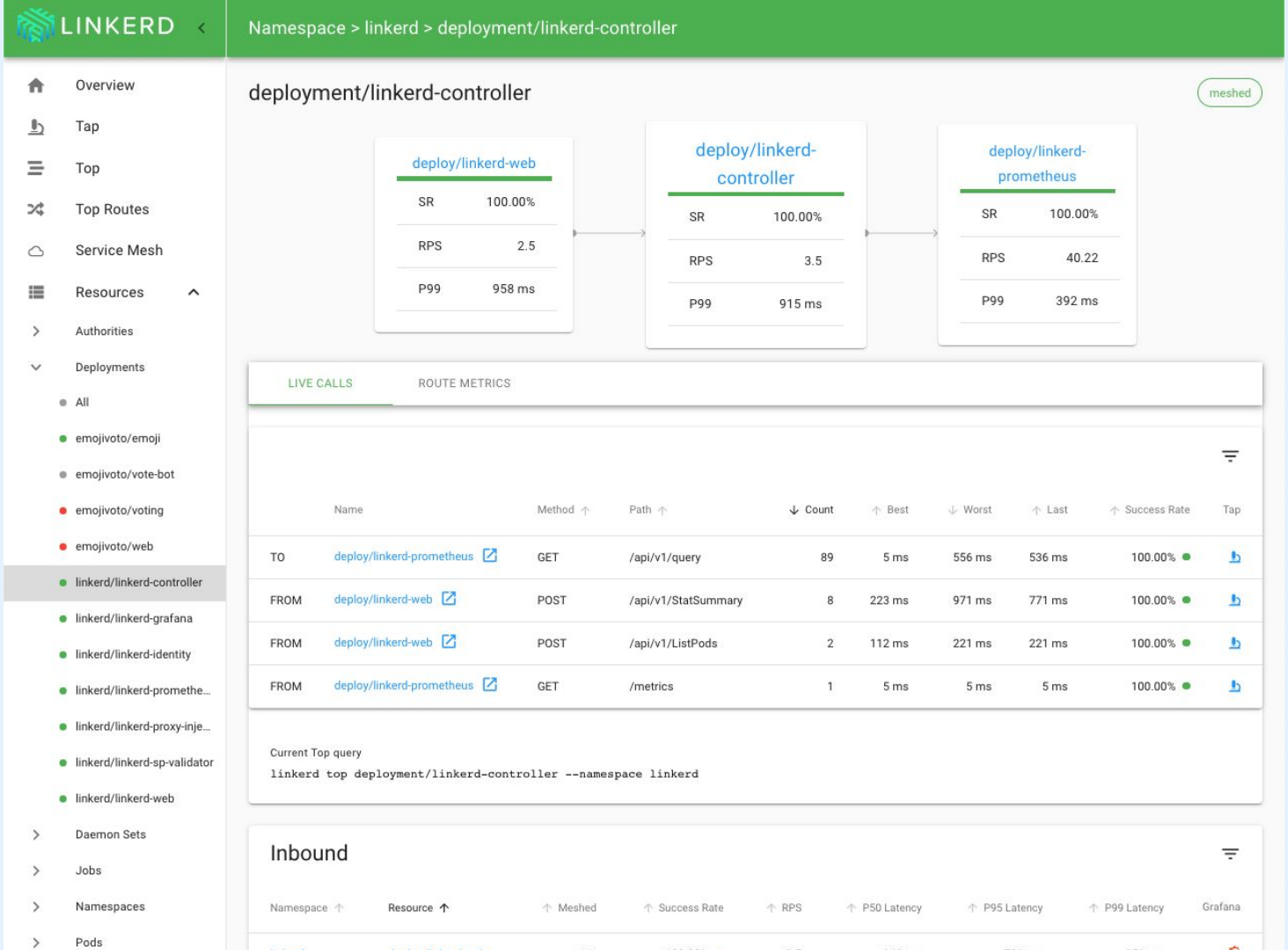

Jeff
@malnick
Follow
Loved the @BuoyantIO @linkerd demo @kubecon keynote this morning! The new UI and CLI look awesome.
12:32 PM - 11 Dec 2018
1 Retweet 15 Likes
Tweet your reply
Tobiyo Kuujikai
@Kuujikai
Follow
Linkerd gets a makeover with a fancy new UI in version 2.1 by:
zshaik
@zshaikk
Follow
Replying to @olix0r @linkerd
Wow, you people make Clean UI!
12:40 AM - 23 Aug 2018
Jeroen Jacobs
@jeroen1205
Replying to @IanColdwater
I would like to understand them, but I feel way to intimidated by all the iptables stuff that goes on in a service mesh :-/ Still like the automatic TLS authentication and the fancy dashboards that @linkerd offers.
9:55 AM - 19 Apr 2019
Alen Komljen
@alenkomljen
Follow
Testing @linkerd went well on Kubernetes. Features are well documented and Dashboard is really nice. Still need to create service profile to get metrics per path.


2. bash
14:44:26 mars ~/w $ linkerd stat deploy --all-namespaces
NAMESPACE   NAME   MESHED   SUCCESS   RPS   LATENCY_P50   LATENCY_P95   LATENCY_P99   TCP_CONN
docker   compose   0/1   -   -   -   -   -   -
docker   compose-api   0/1   -   -   -   -   -   -
emojivoto   emoji   1/1   100.00%   1.9rps   1ms   3ms   28ms   4
emojivoto   vote-bot   1/1   -   -   -   -   -   -
emojivoto   voting   1/1   72.41%   1.0rps   1ms   8ms   10ms   2
emojivoto   web   1/1   86.21%   1.9rps   8ms   30ms   48ms   2
kube-system   kube-dns   0/1   -   -   -   -   -   -
linkerd   linkerd-controller   1/1   100.00%   0.9rps   1ms   9ms   10ms   25
linkerd   linkerd-grafana   1/1   100.00%   0.3rps   2ms   3ms   3ms   2
linkerd   linkerd-identity   1/1   100.00%   0.3rps   2ms   5ms   5ms   13
linkerd   linkerd-prometheus   1/1   100.00%   0.3rps   28ms   48ms   50ms   106
linkerd   linkerd-proxy-injector   1/1   100.00%   0.2rps   1ms   1ms   1ms   1
linkerd   linkerd-sp-validator   1/1   100.00%   0.2rps   1ms   19ms   20ms   1
linkerd   linkerd-tap   1/1   100.00%   0.3rps   1ms   9ms   10ms   4
linkerd   linkerd-web   1/1   100.00%   0.3rps   1ms   4ms   4ms   2
14:44:30 mars ~/w $


LINKERD
Deployments
Overview
Tap
Top
Top Routes
Service Mesh
Resources
Authorities
Deployments
All
emojivoto/emoji
emojivoto/vote-bot
emojivoto/voting
emojivoto/web
linkerd/linkerd-controller
linkerd/linkerd-grafana
HTTP metrics
Namespace
Deployment
Meshed
Success Rate
RPS
P50 Latency
P95 Latency
Grafana
emojivoto voting 1/1 85.71% 0.93 1 ms 8 ms 10 ms
emojivoto web 1/1 92.92% 1.88 10 ms 52 ms 91 ms
emojivoto emoji 1/1 100.00% 1 ms 55 ms 91 ms
linkerd linkerd-controller 1/1 100.00% 2.18 125 ms 869 ms 974 ms
linkerd linkerd-grafana 1/1 100.00% 0.3 2 ms 3 ms 3 ms
linkerd linkerd-identity 1/1 100.00% 0.3 1 ms 2 ms 2 ms
linkerd linkerd-prometheus 1/1 100.00% 26.1 172 ms 661 ms 932 ms
linkerd linkerd-proxy-injector 1/1 100.00% 0.2 1 ms 1 ms 1 ms
linkerd linkerd-sp-validator 1/1 100.00% 0.2 1 ms 2 ms 2 ms
linkerd linkerd-tap 1/1 100.00% 0.32 1 ms 38 ms 40 ms

Getting data for a Deployment page

```
$ linkerd stat deploy/linkerd-controller -n linkerd
$
$ linkerd top deploy/linkerd-controller -n linkerd
$
$ linkerd routes deployment/linkerd-controller --namespace linkerd
$
$ linkerd stat deploy --to deploy/linkerd-controller -n linkerd
$
$ linkerd stat deploy --from deploy/linkerd-controller -n linkerd
$
$ linkerd stat po -n linkerd -o wide
$
```


LINKERD
Namespace > linkerd > deployment/linkerd-controller
Overview
Tap
Top
Top Routes
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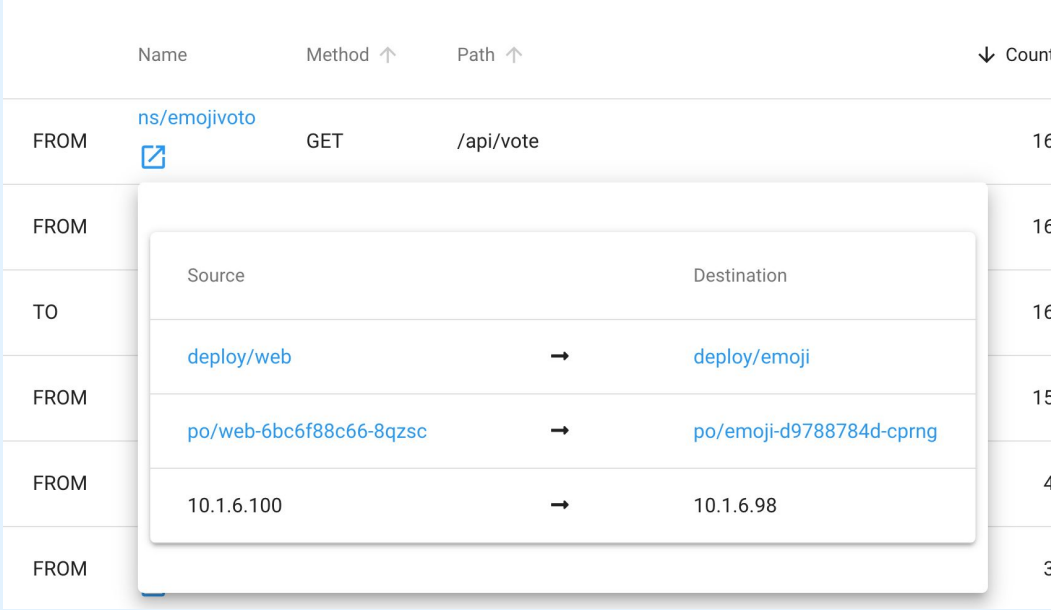
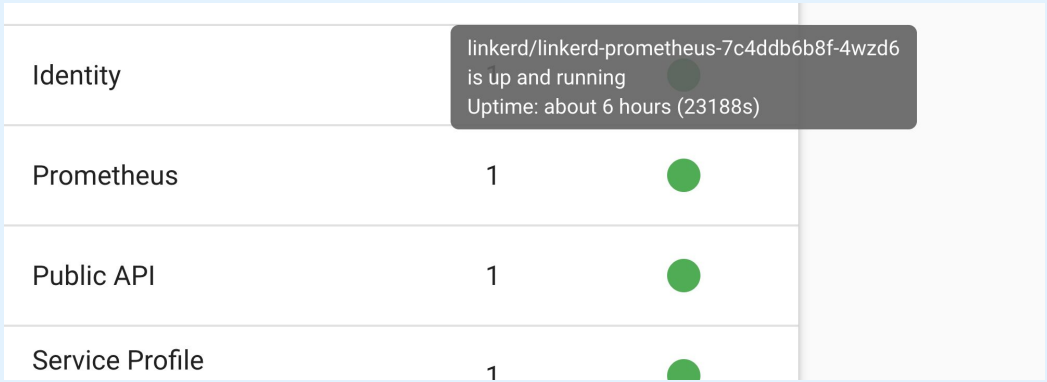
Authorities
Deployments
All
emojivoto/emoji
emojivoto/vote-bot
emojivoto/voting
emojivoto/web
linkerd/linkerd-controller
linkerd/linkerd-grafana
linkerd/linkerd-identity
linkerd/linkerd-promethe...
linkerd/linkerd-proxy-inje...
linkerd/linkerd-sp-validator
linkerd/linkerd-web
Daemon Sets
Jobs
Namespaces
Pods
deployment/linkerd-controller
meshed
deploy/linkerd-web
SR 100.00%
RPS 2.5
P99 958 ms
deploy/linkerd-controller
SR 100.00%
RPS 3.5
P99 915 ms
deploy/linkerd-prometheus
SR 100.00%
RPS 40.22
P99 392 ms
LIVE CALLS
ROUTE METRICS
Name
Method
Path
Count
Best
Worst
Last
Success Rate
Tap
TO deploy/linkerd-prometheus GET /api/v1/query 89 5 ms 556 ms 536 ms 100.00%
FROM deploy/linkerd-web POST /api/v1/StatSummary 8 223 ms 971 ms 771 ms 100.00%
FROM deploy/linkerd-web POST /api/v1/ListPods 2 112 ms 221 ms 221 ms 100.00%
FROM deploy/linkerd-prometheus GET /metrics 1 5 ms 5 ms 5 ms 100.00%
Current Top query
linkerd top deployment/linkerd-controller --namespace linkerd
Inbound
Namespace
Resource
Meshed
Success Rate
RPS
P50 Latency
P95 Latency
P99 Latency
Grafana


Name
Method
Path
Count
FROM
ns/emojivoto
GET
/api/vote
16
FROM
16
TO
16
FROM
15
FROM
4
FROM
3
Source
Destination
deploy/web
deploy/emoji
po/web-6bc6f88c66-8qzsc
po/emoji-d9788784d-cprng
10.1.6.100
10.1.6.98


Identity
1
linkerd/linkerd-prometheus-7c4ddb6b8f-4wzd6
is up and running
Uptime: about 6 hours (23188s)
Prometheus
1
Public API
1
Service Profile
1

linkerd / linkerd2

Unwatch 163 | Star 3,780 | Fork 304

Code | Issues 243 | Pull requests 23 | Projects 3 | Wiki | Insights

- Pulse
- Contributors
- Community
- Traffic
- Commits
- Code frequency
- Dependency graph
- Network
- Forks

Dec 3, 2017 – May 6, 2019

Contributions: Commits

Contributions to master, excluding merge commits

#1 **rmars**
217 commits 39,401 ++ 21,958 --

#2 **siggy**
208 commits 58,302 ++ 28,345 --

#3 **klingerf**
182 commits 30,844 ++ 30,734 --

#4 **olix0r**
151 commits 73,036 ++ 50,165 --

#5 **briansmith**
122 commits 9,931 ++ 5,614 --

#6 **hawkw**
113 commits 16,897 ++ 17,254 --

#7 **adleong**
55 commits 16,120 ++ 8,265 --

#8 **dadjeibaah**
39 commits 4,057 ++ 919 --

#9 **alpeb**
36 commits 11,704 ++ 6,733 --

#10 **seanmonstar**
31 commits 6,153 ++ 1,309 --

Benefits of a GUI

Tell the user a useful **story**!

Improve your **users' experience**!

Get more OSS **contributors**!

Complements your CLI!


Why don't we have both?

Join our community!

github.com/linkerd

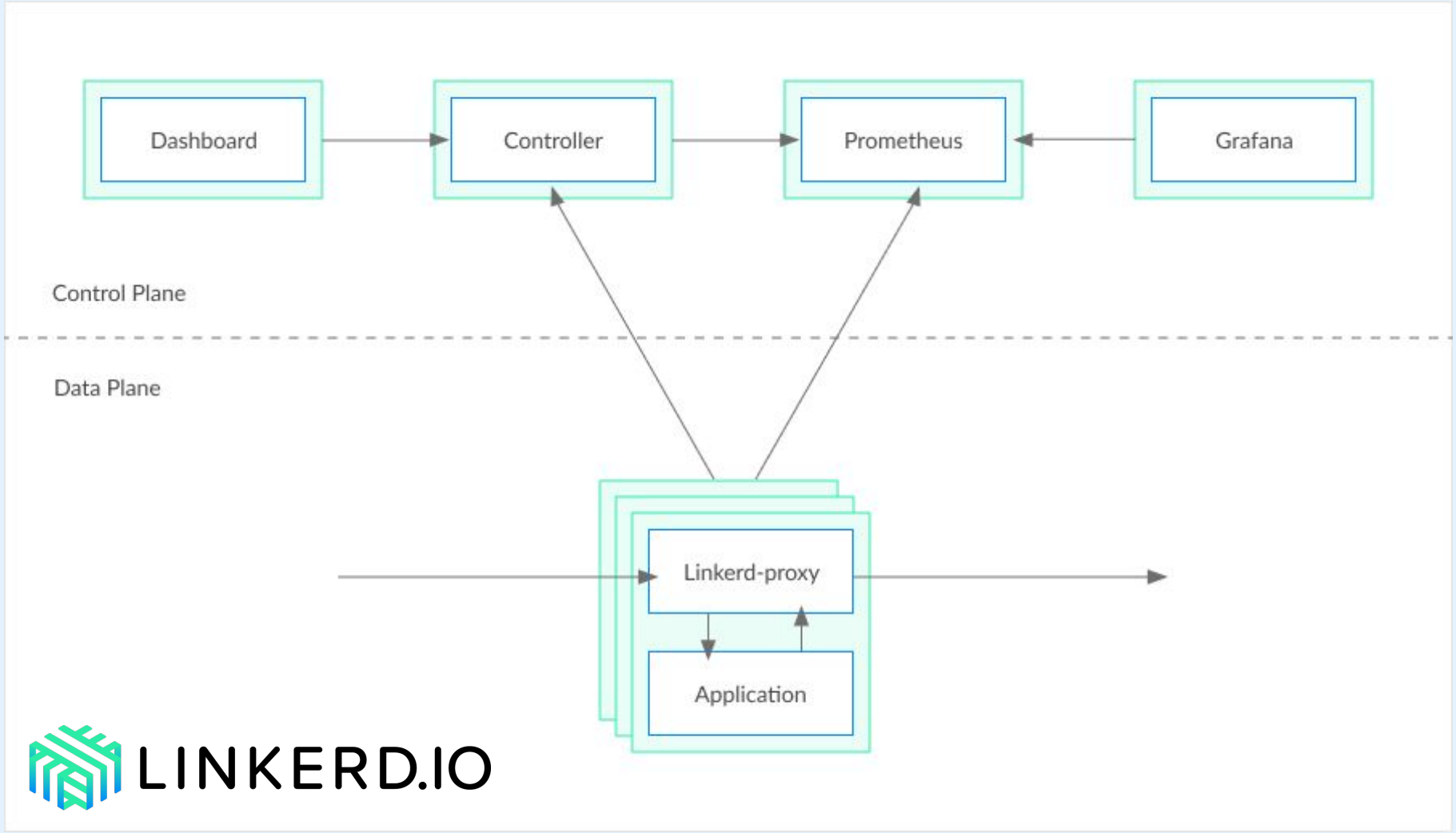
slack.linkerd.io

@linkerd

FROM YOUR FRIENDS AT

An open source *service mesh* and CNCF member project.

- 🔥 24+ months in production
- 🔥 3,000+ Slack channel members
- 🔥 10,000+ GitHub stars
- 🔥 100+ contributors


Dashboard
Controller
Prometheus
Grafana
Control Plane
Data Plane
Linkerd-proxy
Application
LINKERD.IO