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SRE

October 2025

Systematising Production Operations

Feat. Reddit Control Tower

whoami

Atlanta GA 🍑

Recovered kitchen
sink SRE

Traffic → Risk SRE @
Reddit

❤️ Safer prod
changes





The Problem

Manual prod changes are necessary



Our services and infrastructure aren't fully self-managing (yet)

When things are broken change needs to happen fast



Manual prod changes are necessary



Autonomous/declarative but imperfect (or slow)

- ➔ **Restarting or resizing a workload**
- ➔ **Traffic management**
- ➔ **Rolling back code or config**



Manual prod changes are necessary



One-time operations

- Restoring from a backup
- Inputting secret values
- Manual failovers
- Deletions



But they are scary

Operators*:

How/where do I do it?

Do I even have access?

How should I communicate it?

This runbook is really long...

* of a service / platform / domain**

** these can be the same people



But they are scary

Owners*:

How do I prevent people from doing it wrong?

How can I tell when someone has done it?

I'm sick of getting paged to do this

*** of a service / platform / domain****

**** these can be the same people**



Administrative APIs

A Conceptual Framework



Admin Operations

Manual tasks required for the day-to-day or emergency management of production

Admin APIs

The interfaces for performing these operations



Administrative APIs

A Conceptual Framework



In an ideal world...

- Discoverable
- Consistent Interface
- Clear & limited intent
- Limited access
- Auditable





Our Solution

Reddit Control Tower

An Actual Framework



**A self-service platform for building
and using production Admin APIs
at Reddit**



An aside: why build?

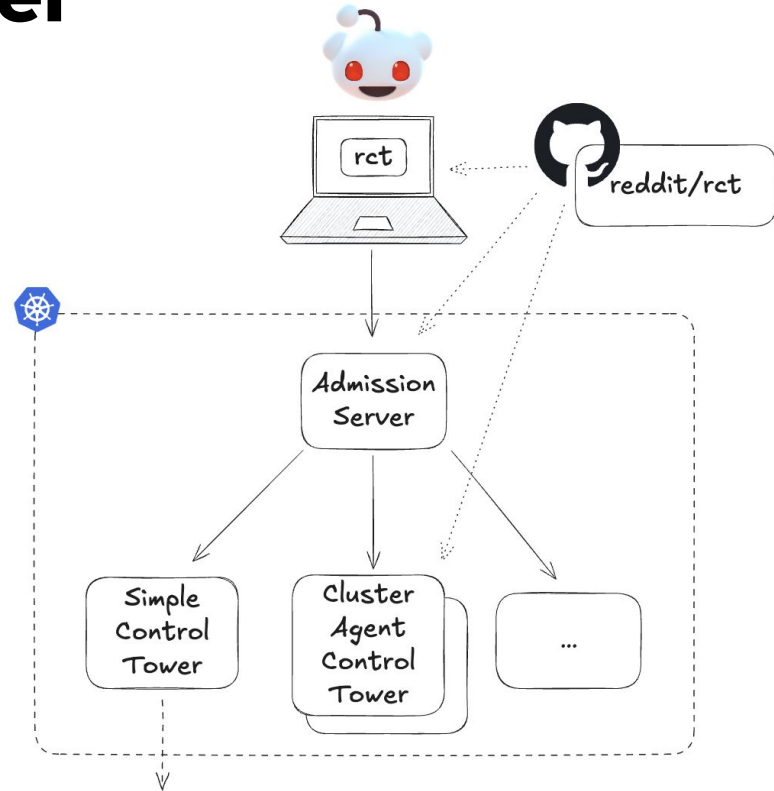
This is mostly an interface problem

Security is really important



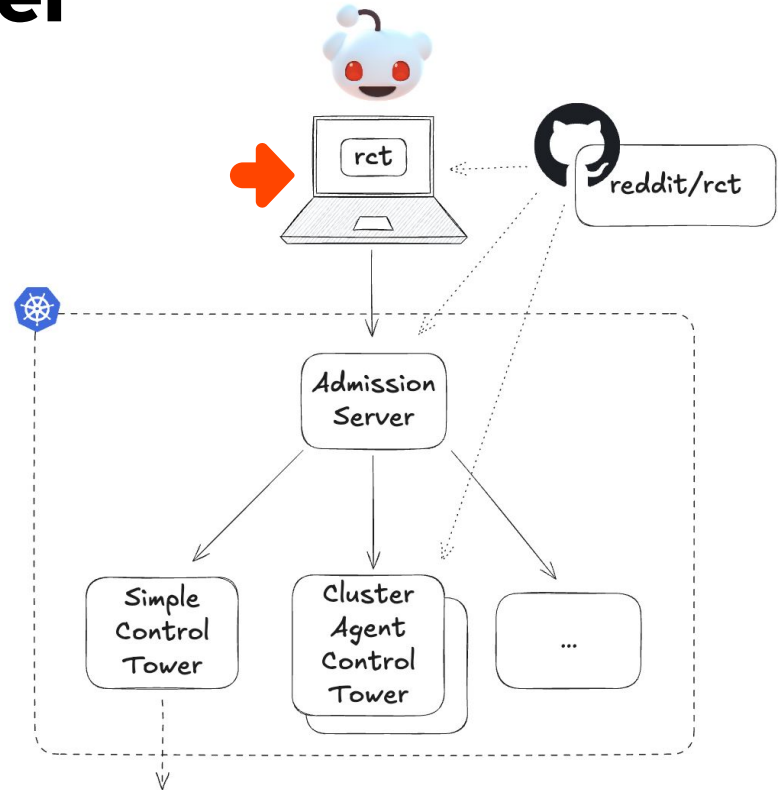
Reddit Control Tower

CLI +
Admission Server +
Control Tower Servers +
Development Framework



Reddit Control Tower

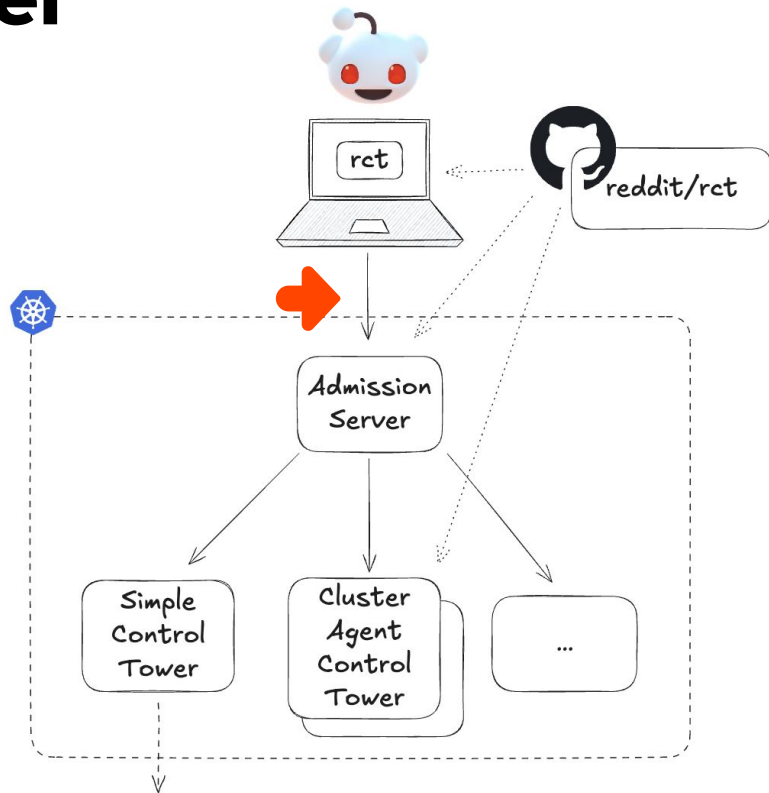
~ rct traffic drain
--cluster prod-1
--justification SRE-101



Reddit Control Tower

```
POST
reddit-control-tower.example.net/
execute
```

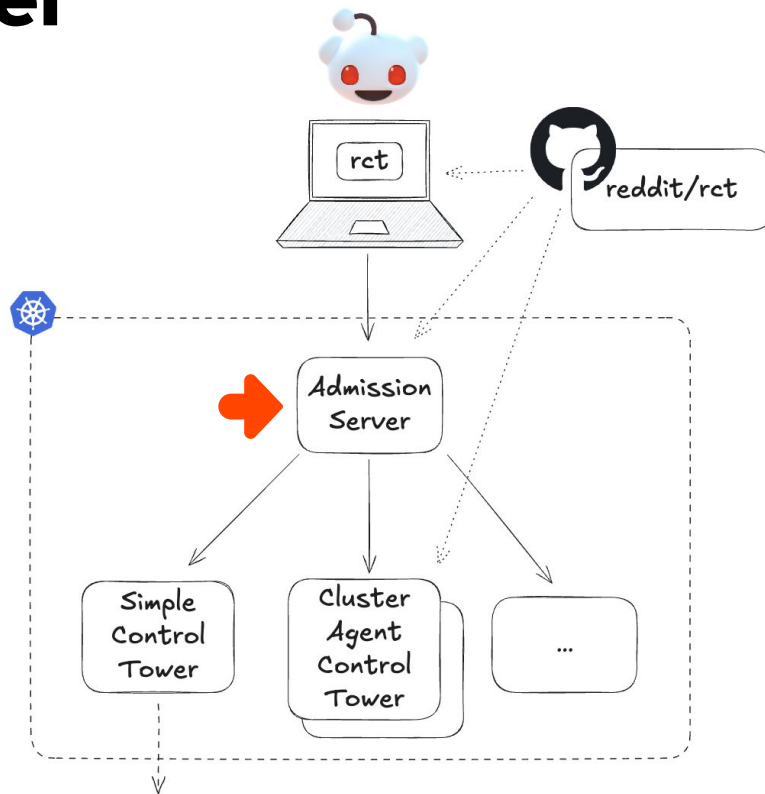
```
{
  command:
    traffic/drain-cluster,
  parameters: {
    cluster: prod-1
  },
  id_token: <token>,
  justification: "SRE-101"
}
```



Reddit Control Tower

Admission Server
handles auth & eventing

**This is really important
so the best team owns it
(SRE) - with a lot of input
from security**



Reddit Control Tower

operations:

traffic/drain-cluster:

allowed_groups:

- sre_team
- traffic_team

control_tower:

traffic_control_tower

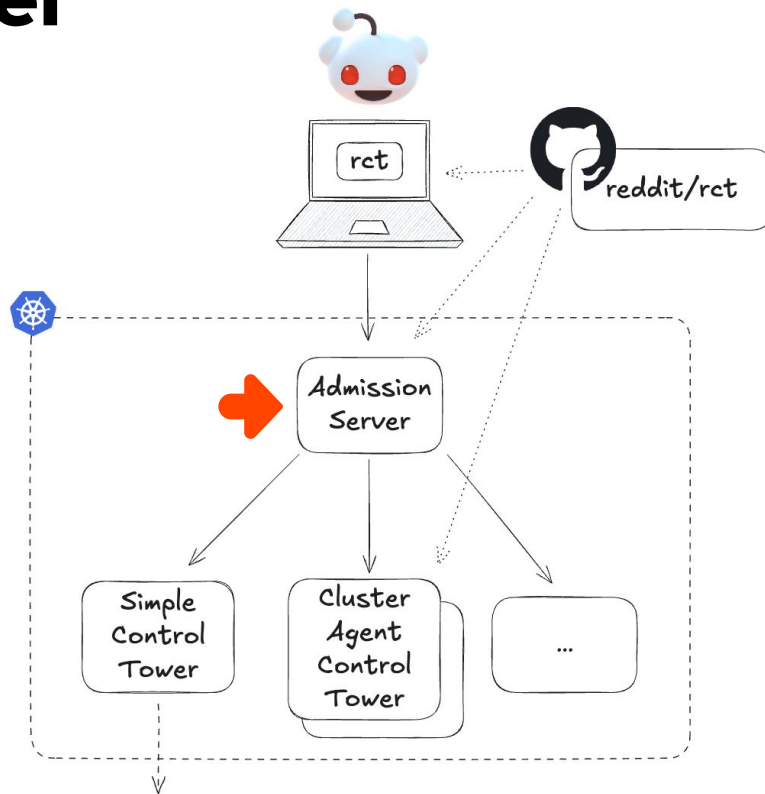
endpoint: drain_cluster

control_towers:

traffic_control_tower:

address:

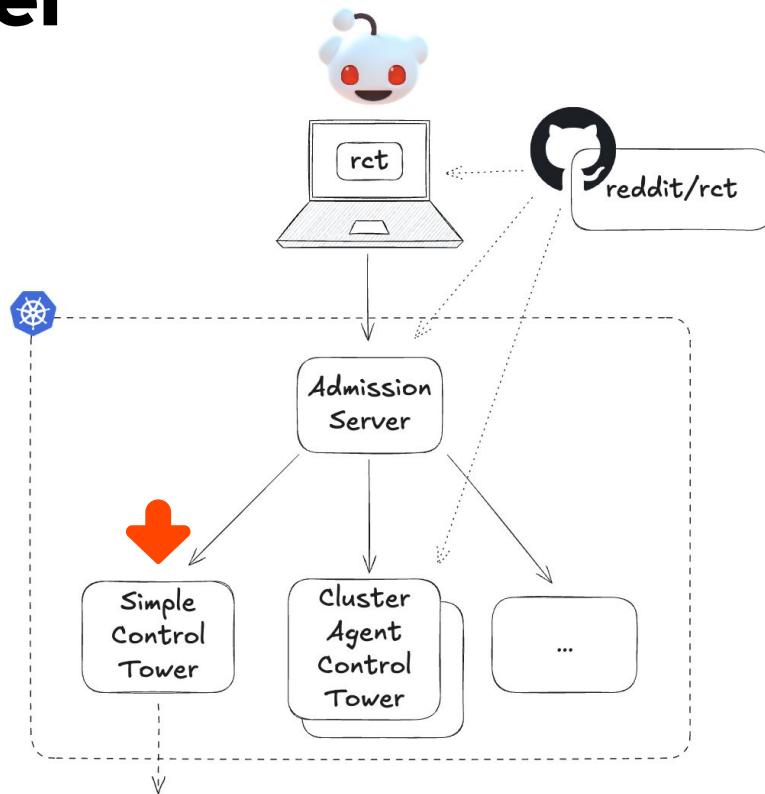
<http://traffic-control-tower.example.net>



Reddit Control Tower

Team-owned *Control Tower* services contain admin operation business logic

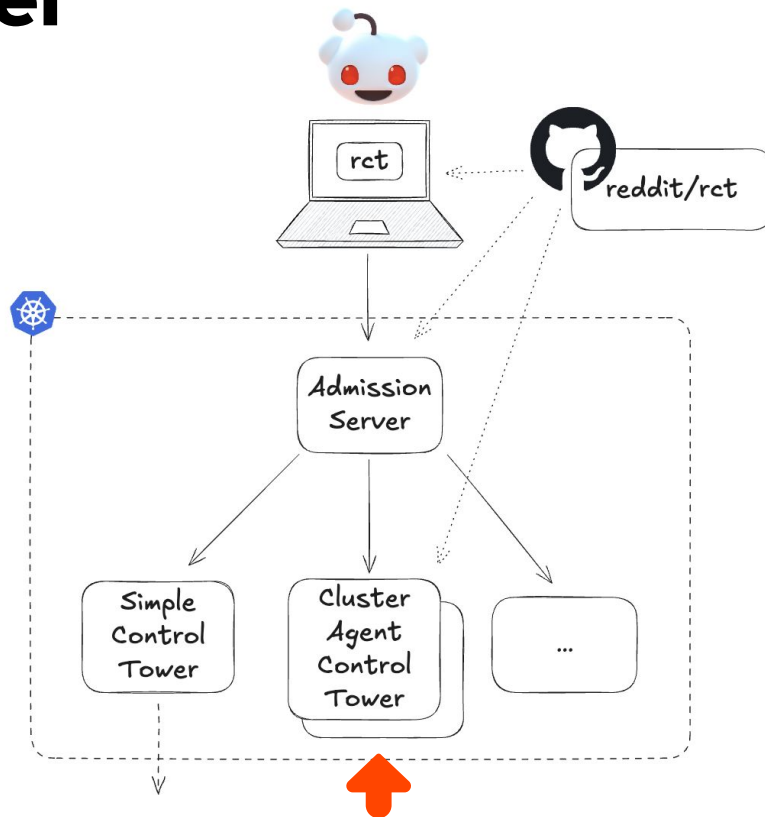
Come in “simple” and “cluster agent” flavors



Reddit Control Tower

Team-owned *Control Tower* services contain admin operation business logic

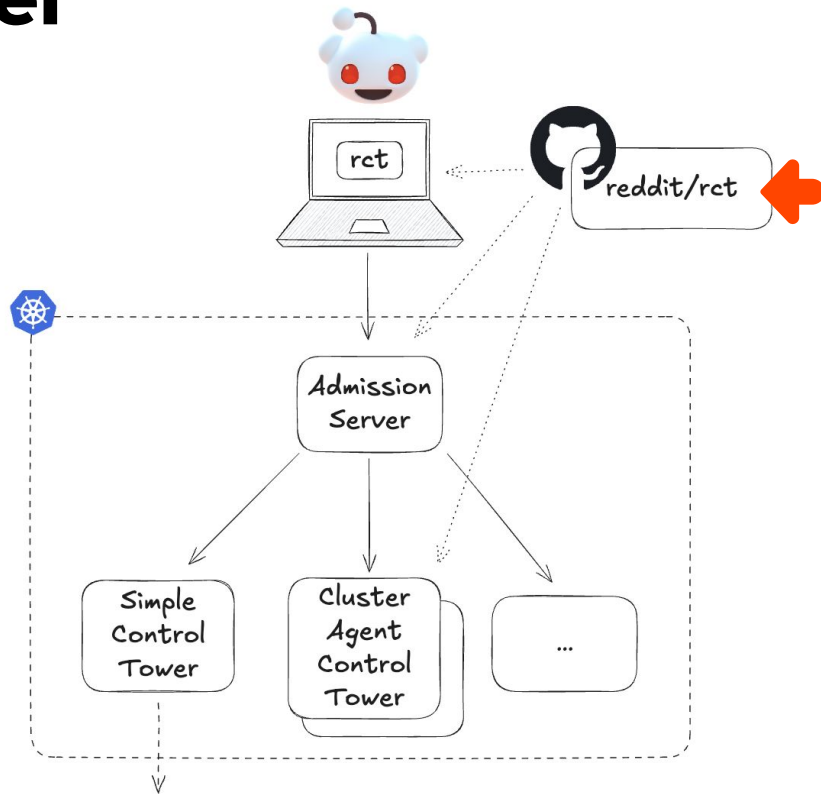
Come in “simple” and “cluster agent” flavors



Reddit Control Tower

Service templates +
libraries

Monorepo for easy
governance & fewest
clicks to launch





The Results

This is still pretty new

Three control towers and a handful of implemented operations

But historical levels of interest!



Some big wins



Reddit Control Tower APP # rct-events

Traffic shift starting - cluster weight change initiated
by kelly.dodd@reddit.com at 03 Sep 25 19:14 UTC

Fastly Service: **reddit.com**

Updated Region Weights:

prod-1	: 0
prod-2	: 0
prod-3	: 5000
prod-4	: 5000

[See more](#)

**Cluster + region traffic
shifting brought into the
daylight**

**Heavy use in both incidents
and testing & rollout**



Some big plans

New control towers & many new operations planned in the next 6 months

Lots of marketing, socializing, and training

Framework improvements

Open source?



Takeaways

Think about your admin APIs

Consider providing a platform

Engineers will thank you!





Thank you