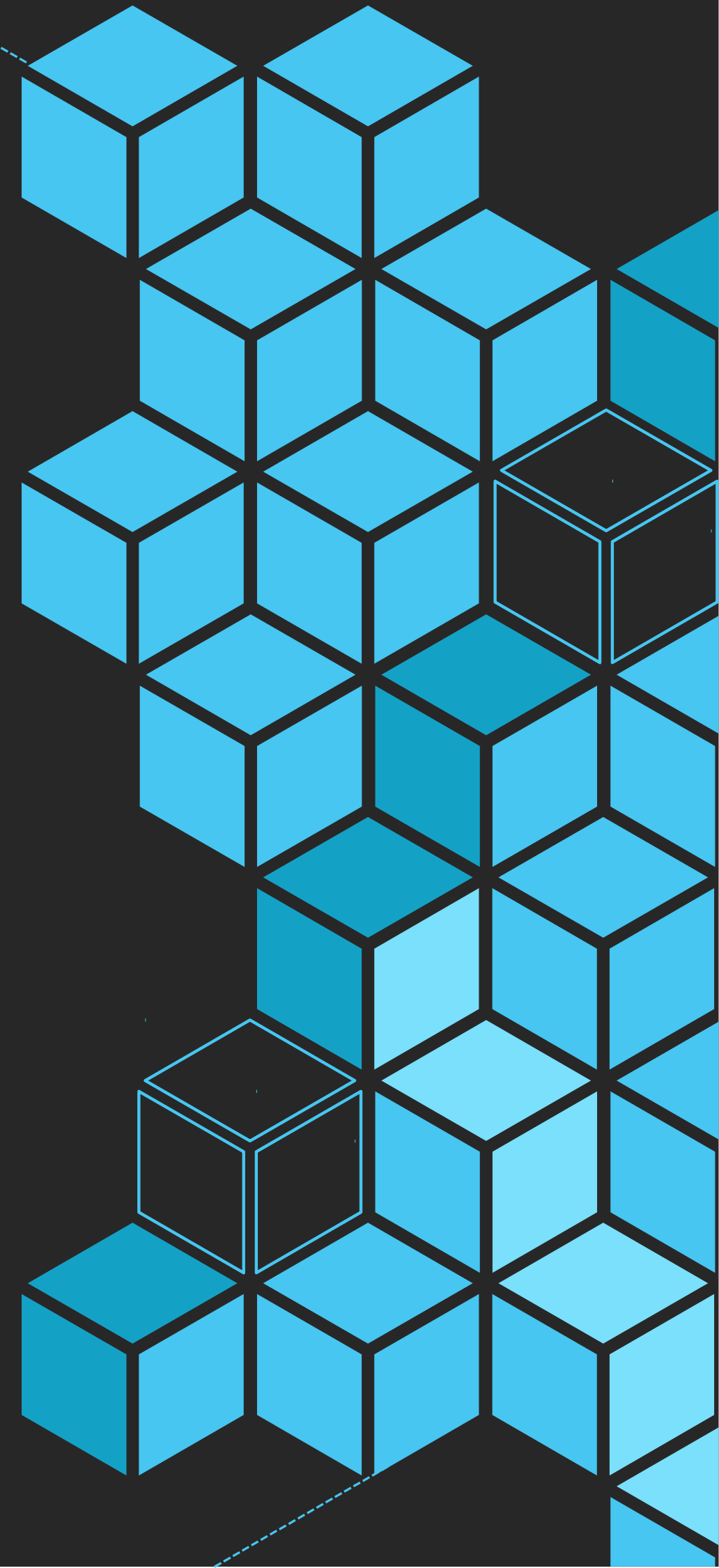


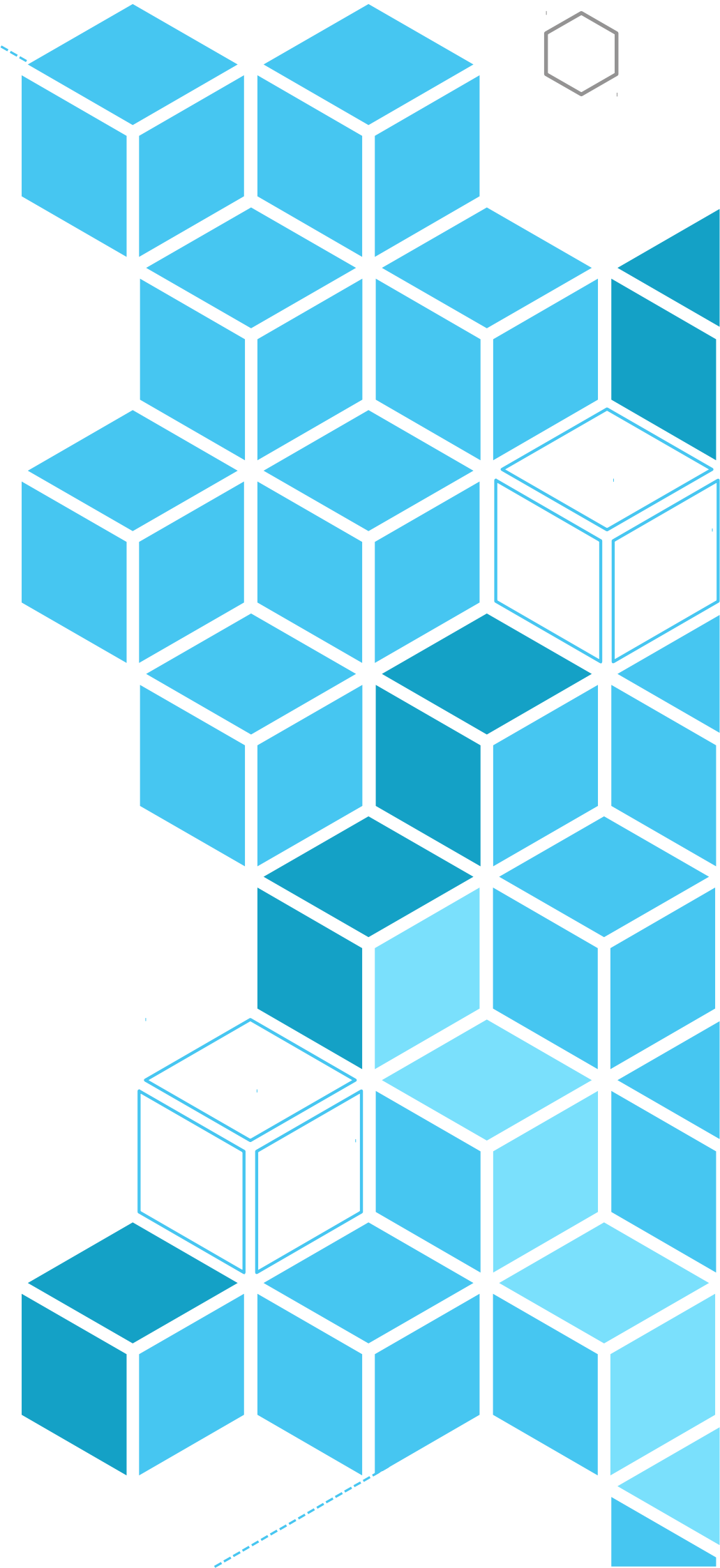
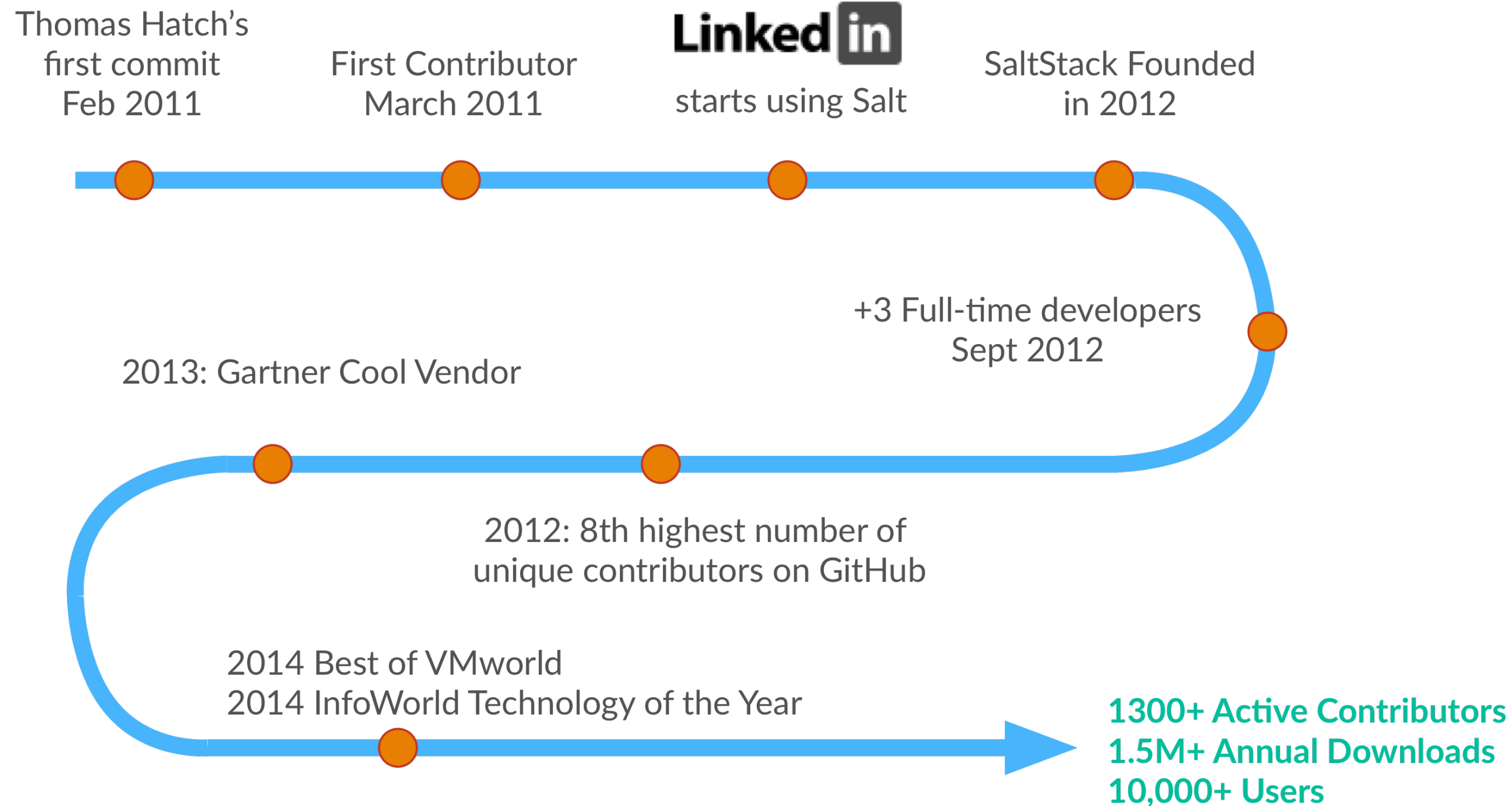


# Getting Started with SaltStack

Mike Place | Core Engineering | @cachedout



# Where Did SaltStack Come From

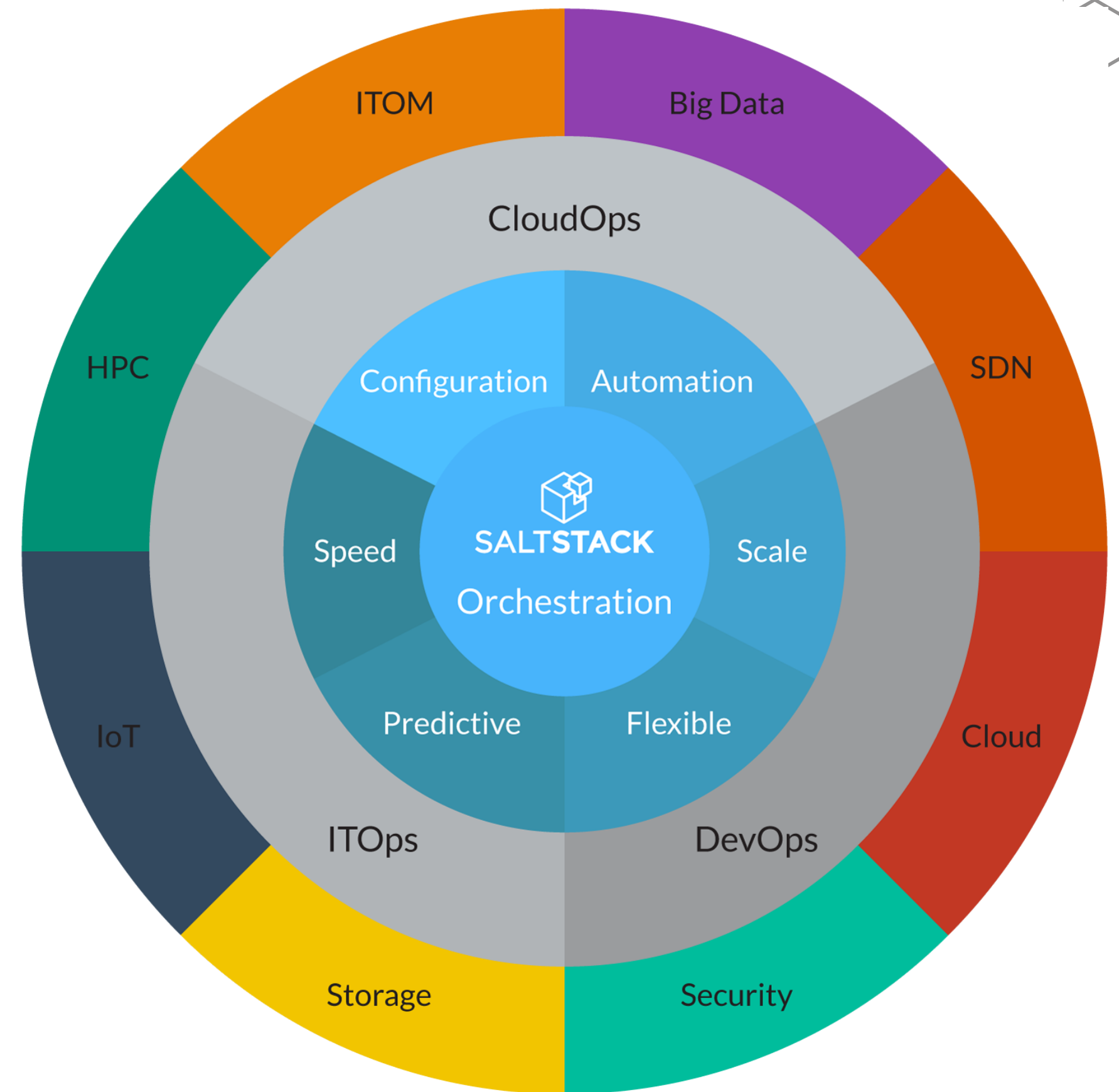




# Why do I need it?

*Mmm Tasty!*

- ⬡ SaltStack is systems management software built for cloud, Web scale, complex data center infrastructure and enterprise IT.
- ⬡ SaltStack software provides predictive infrastructure orchestration, combined with native configuration management, to address a massive market opportunity.





# Why do I need it?

*SaltStack... because robots should have all the crap jobs by now!*

- | Extremely flexible
- ▣ Extremely extensible
- ▣ Highly modular
- ▣ Easy to customize
- ▣ Scalable
- ▣ Secure
- ▣ Remote Execution Framework







# Remote Execution 101

*Make it go!*

## Basic Remote Execution:

```
$ ssh charles@myhost "ls /home/charles"
some_file.txt
```

## Multiple hosts:

```
$ for h in myhost1 myhost2 myhost3;
> do ssh charles@myhost "ls /home/charles";
> done
```

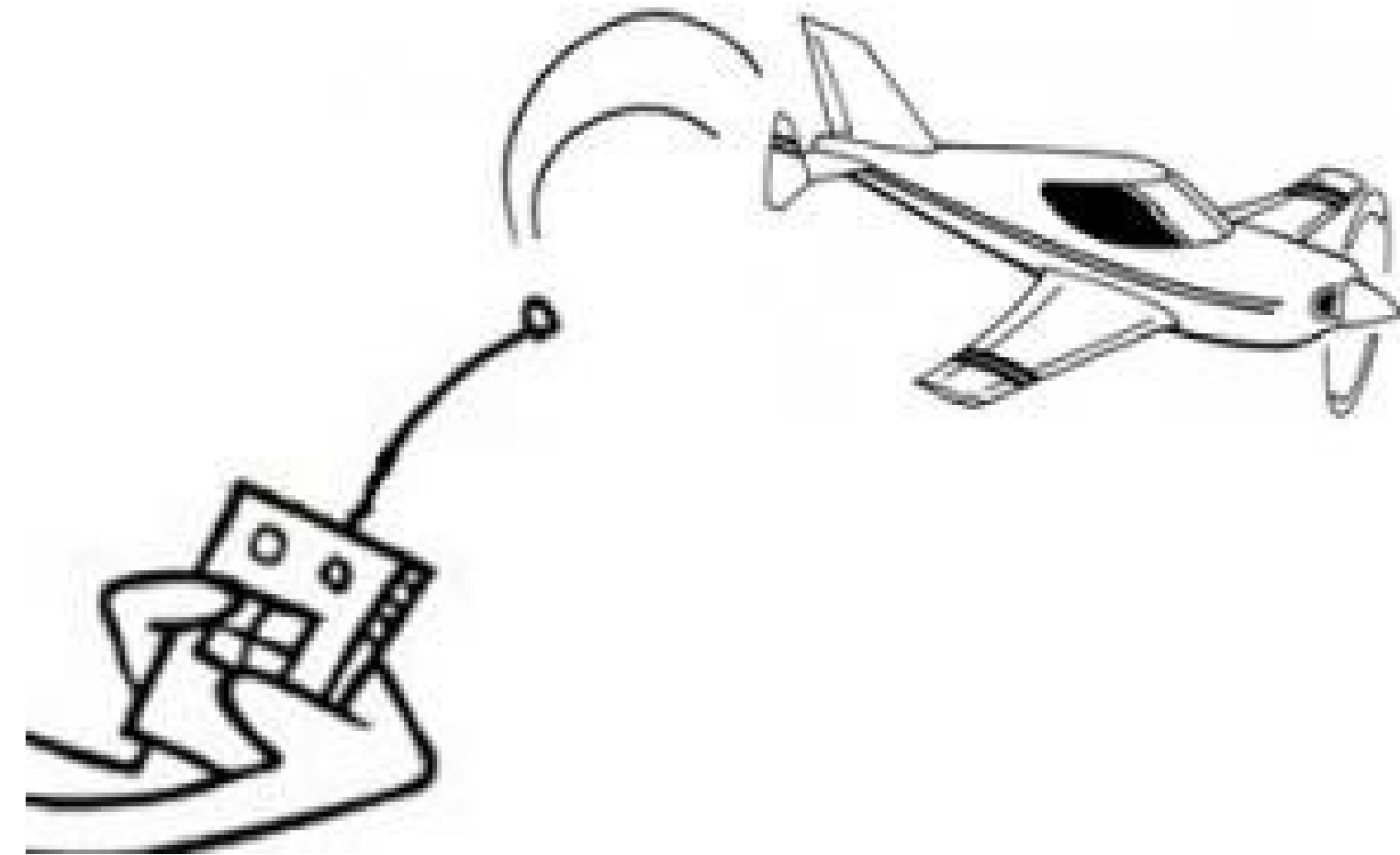




# Remote Execution 101

*Make it do!*

- ⬡ What about hundreds of hosts?
- ⬡ With different login credentials on some?
- ⬡ What if I need to do something with the output?
- ⬡ And I need to do this many times?





# Remote Execution 101

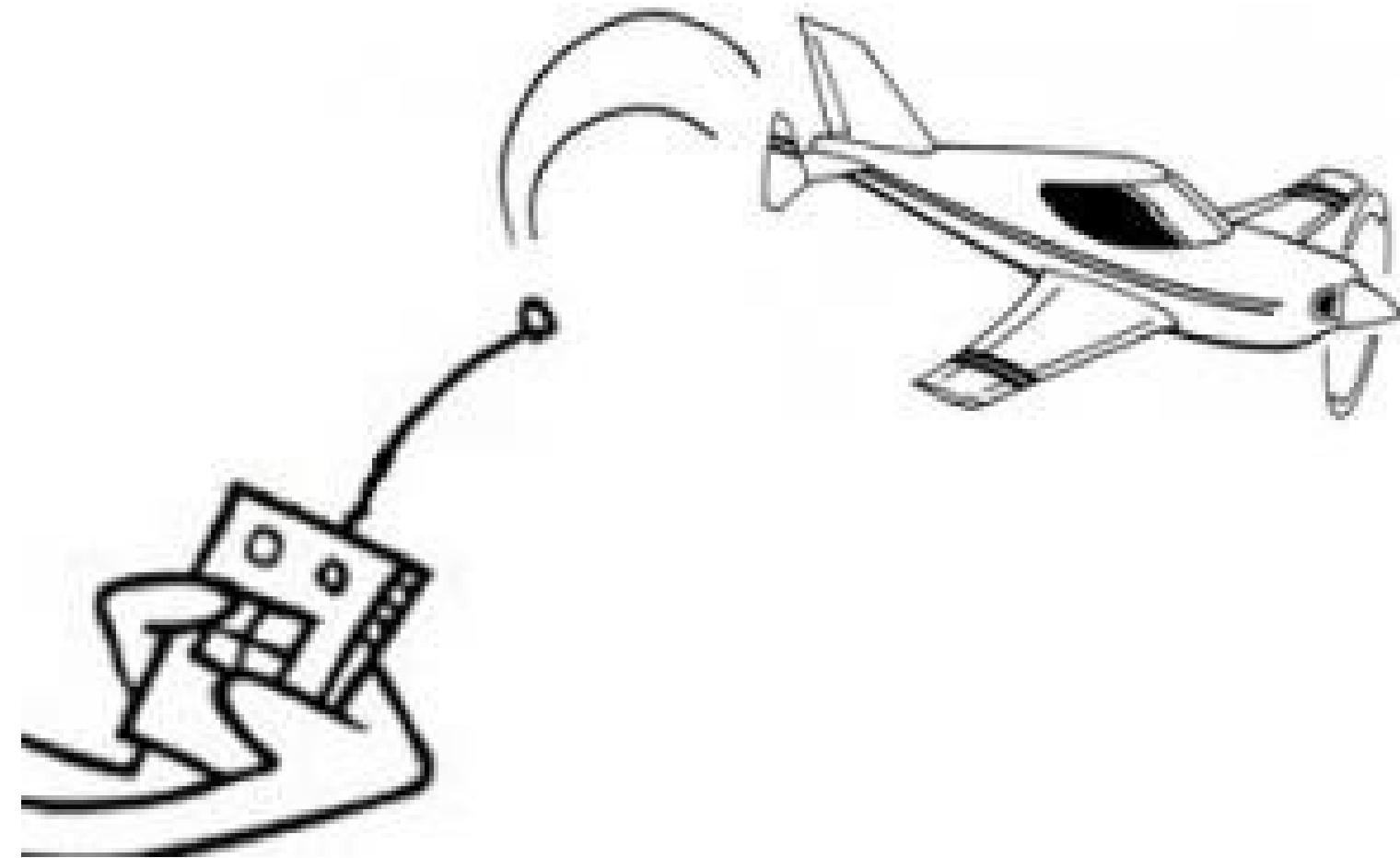
*and going...*

⬡ How about a script?

```
#!/bin/bash
# Make sure your SSH config (~/.ssh/config) is setup!

command=$1
host_list=$2
for h in host_list; do
    ssh "$h" "$command"
done

# FIXME: Add output handling
# FIXME: Add error handling
# FIXME: Add logging
# TODO: FIND A BETTER WAY TO DO THIS!!!
```





# Remote Execution 101

*and doing...*



We need a script that can handle:

- Executing arbitrary commands

- ... on one or more remote hosts

- ... with a sane way to get the output (STDOUT? Write a file? Text Output? JSON? YAML???)

- ... and graceful error handling

- ... and logging

- ... and authentication

- ... everything else I haven't thought of yet!










# Remote Execution 101

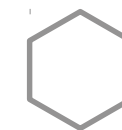
*The Realization Sets In...*



-  We only want to run a command if the host is in a particular state...
-  The command is different for some hosts because they have a different OS
-  We need to configure host X before we configure host Y
-  We want to generate a file from a template, using data from an external database
-  We need to keep that external data secret

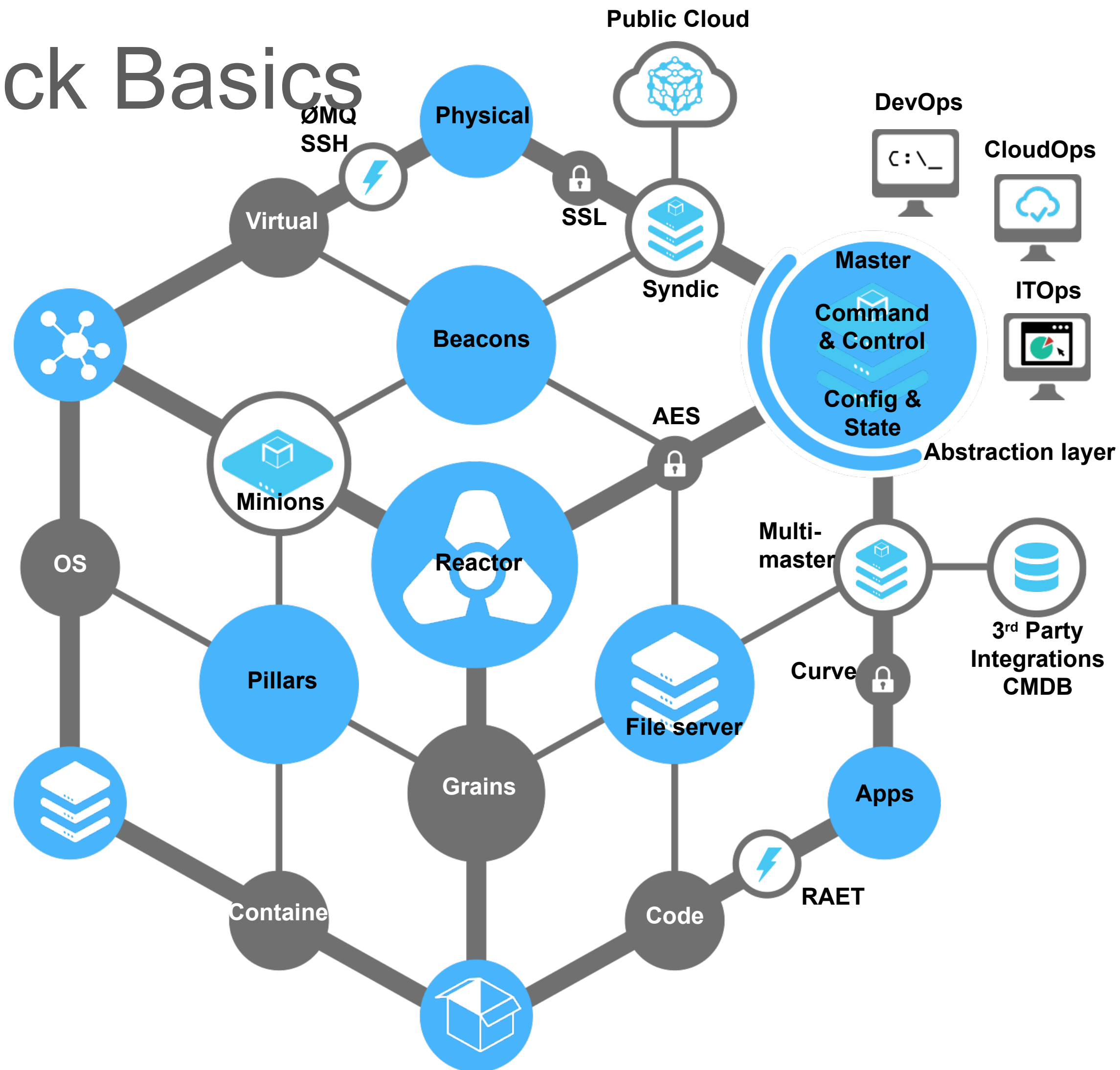


# Say What?

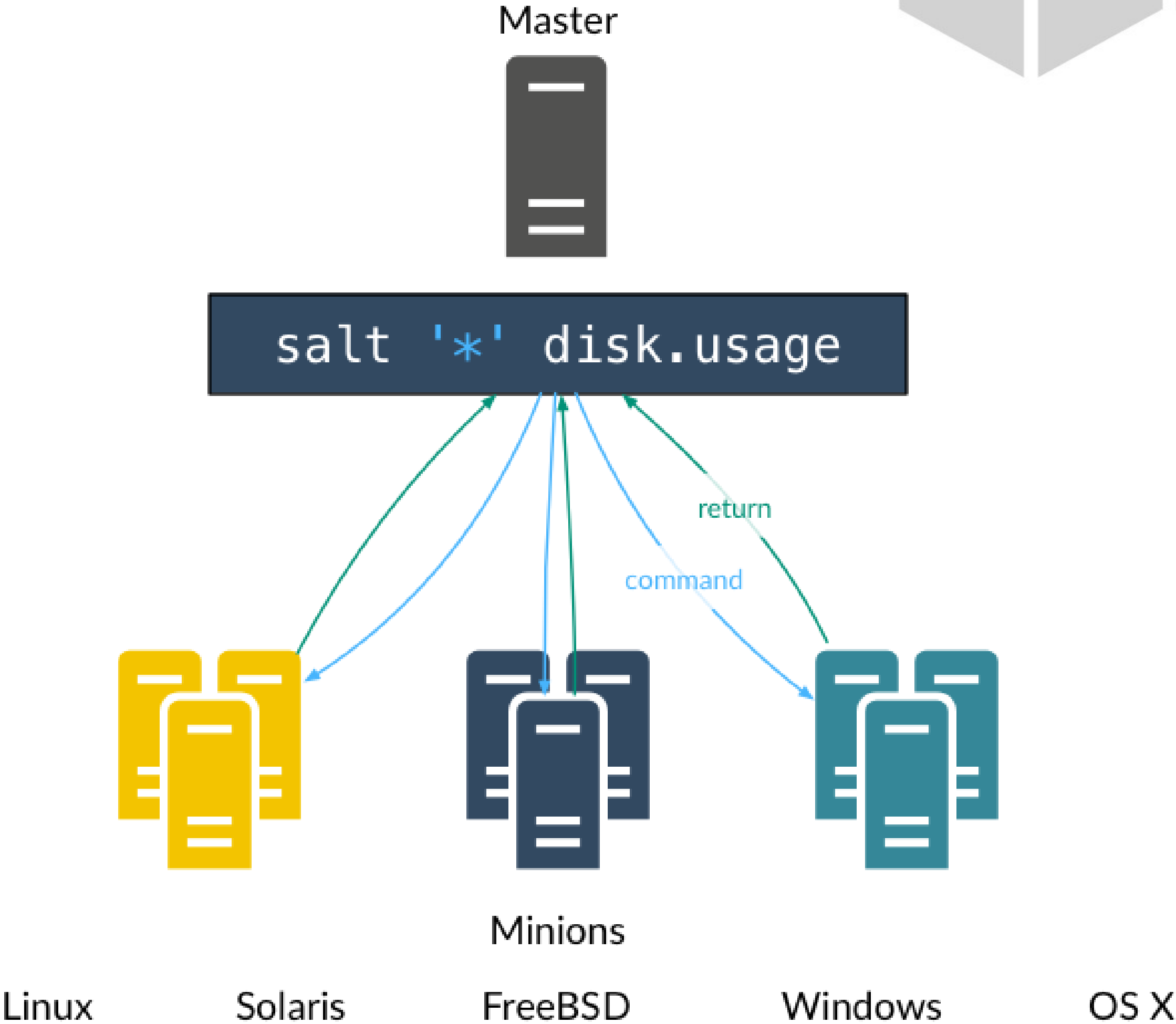


**You want me to maintain a 5,000 line BASH script?**

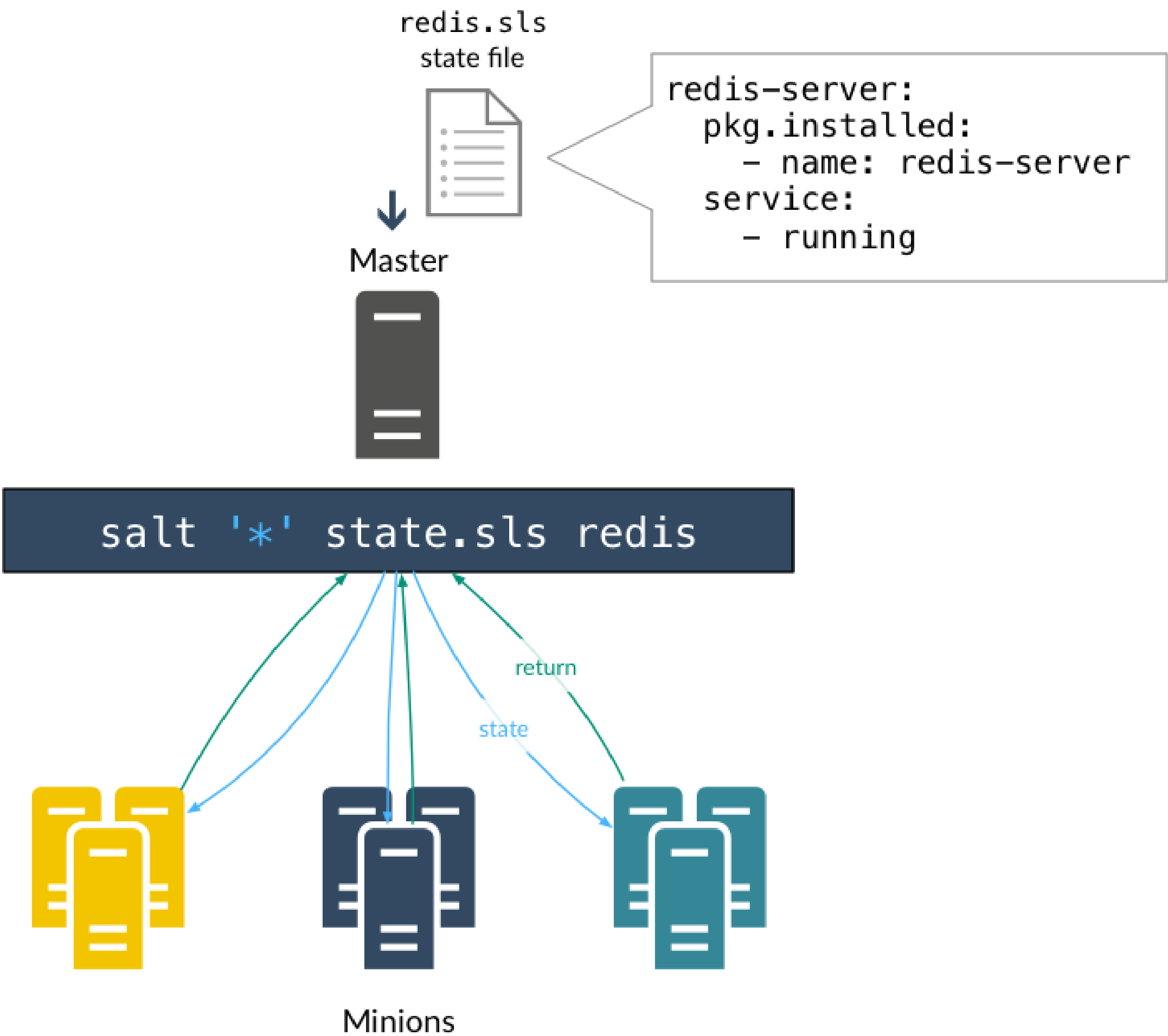




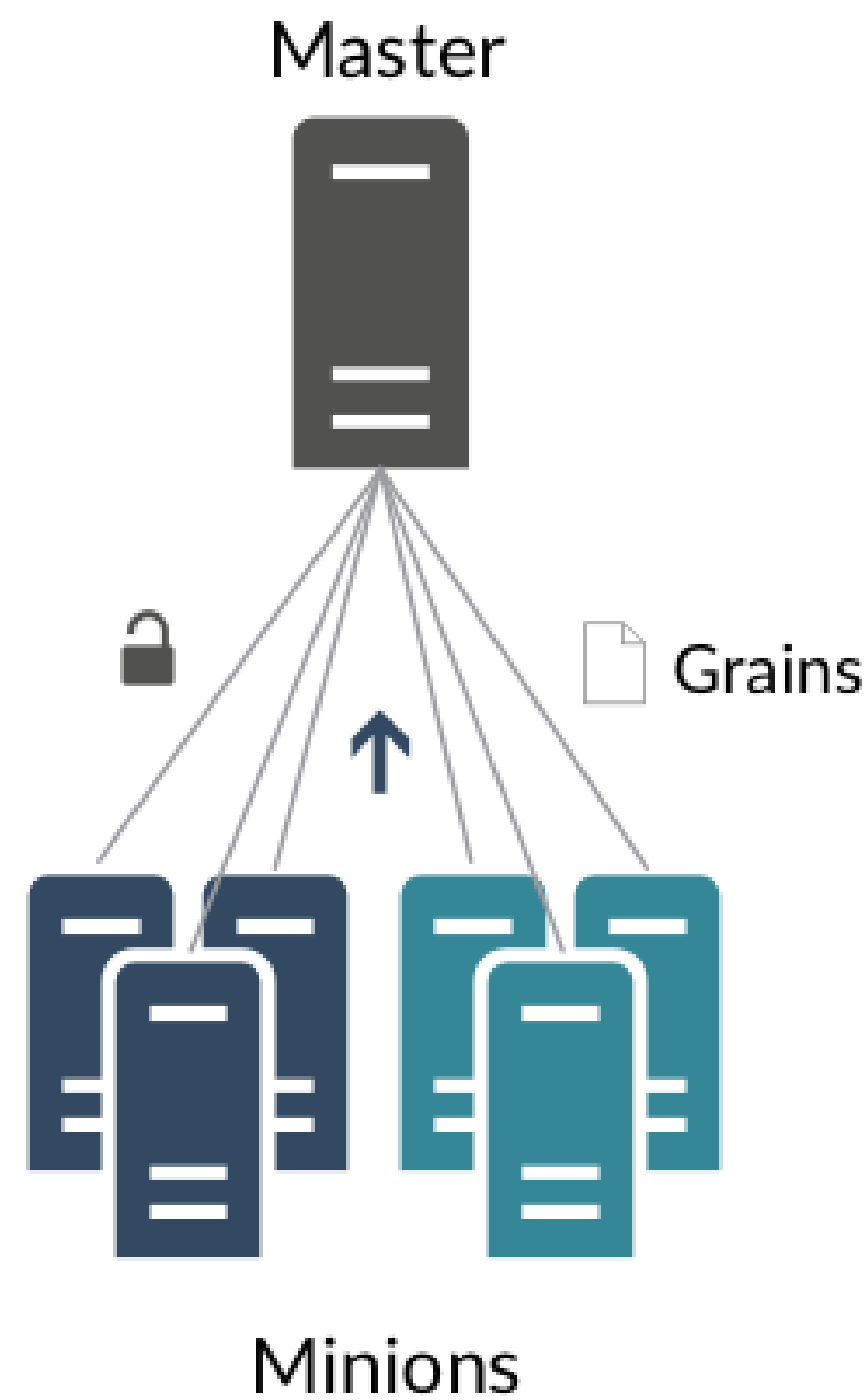
# Execution Modules



# States

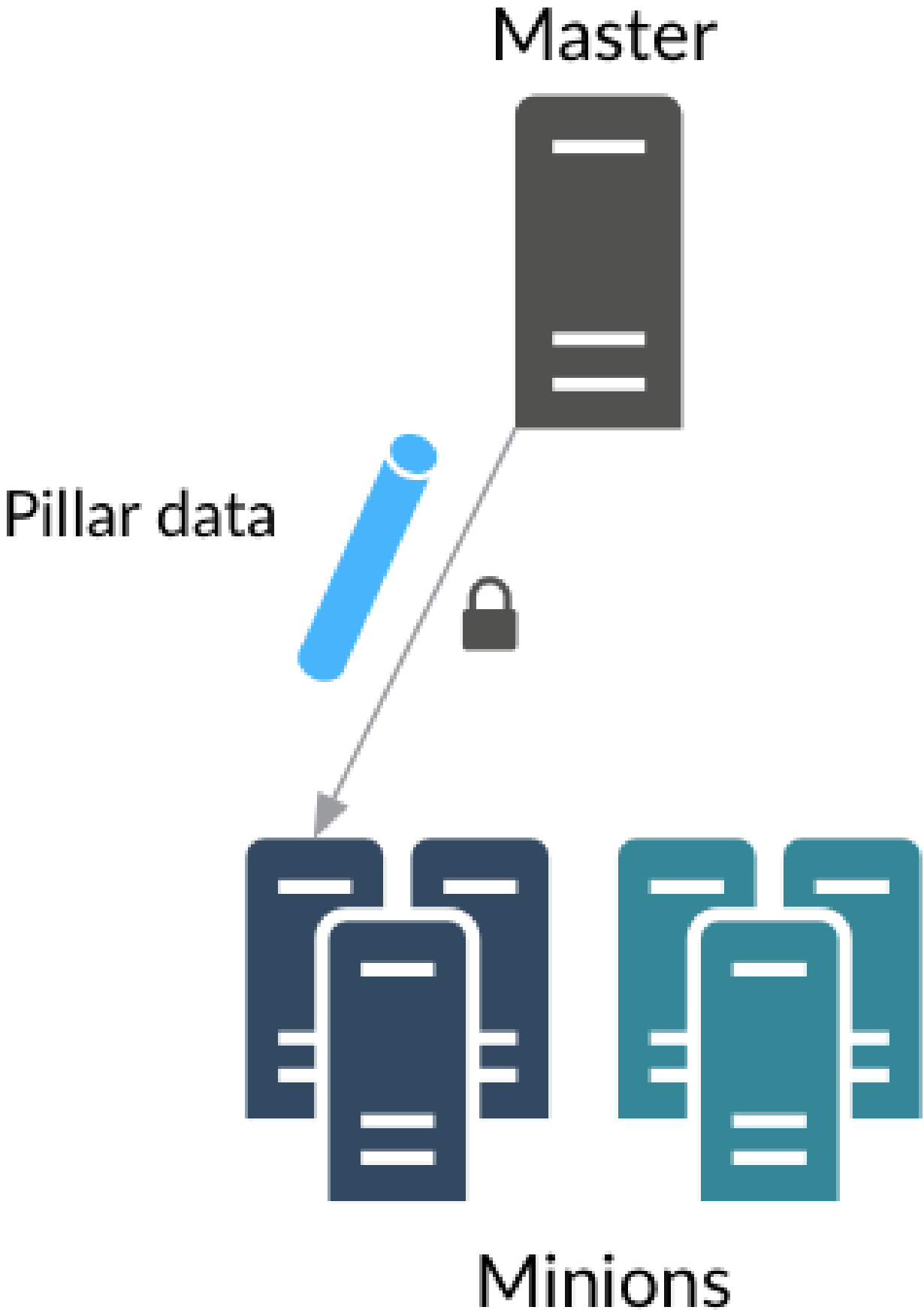


Grains

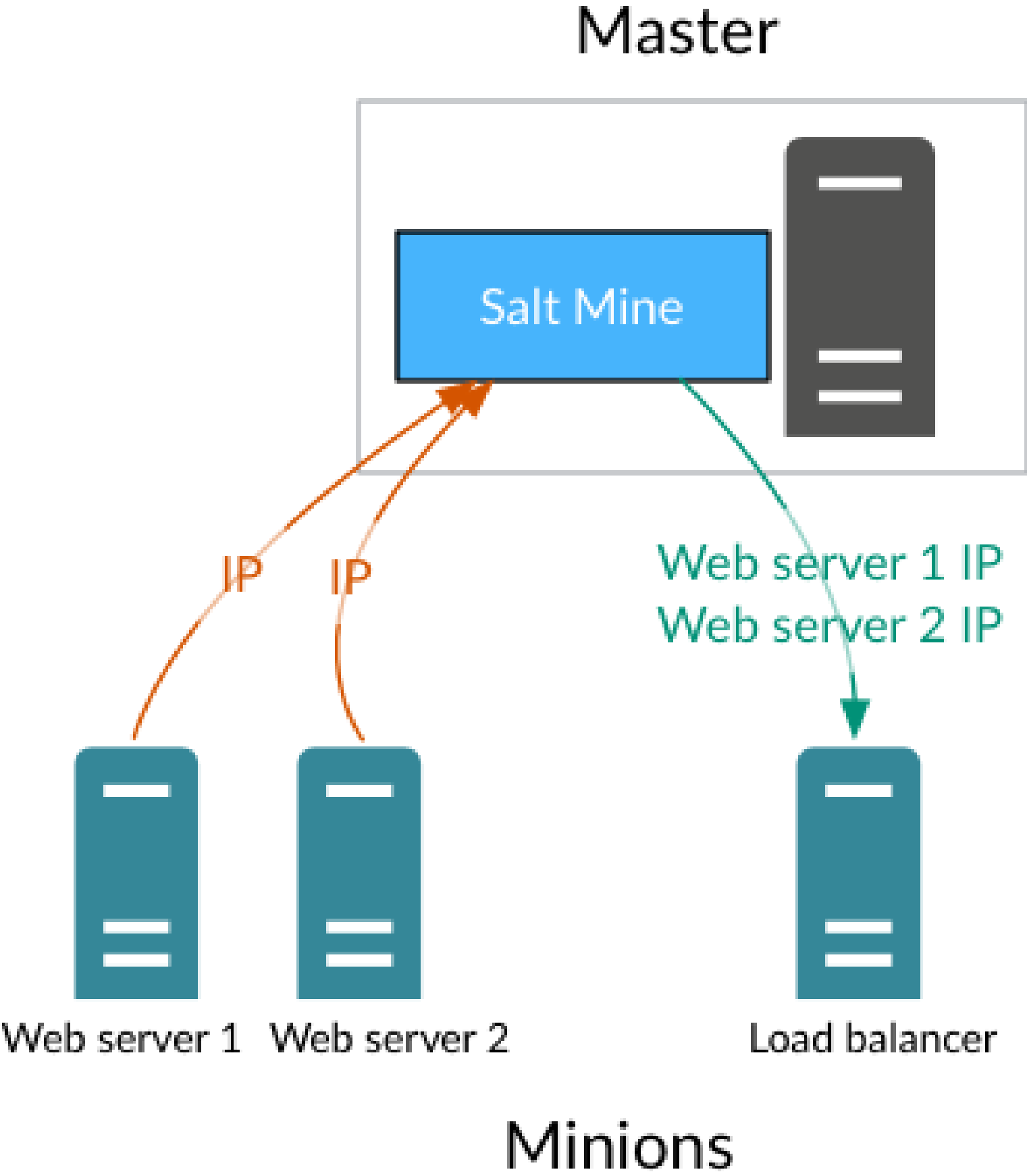




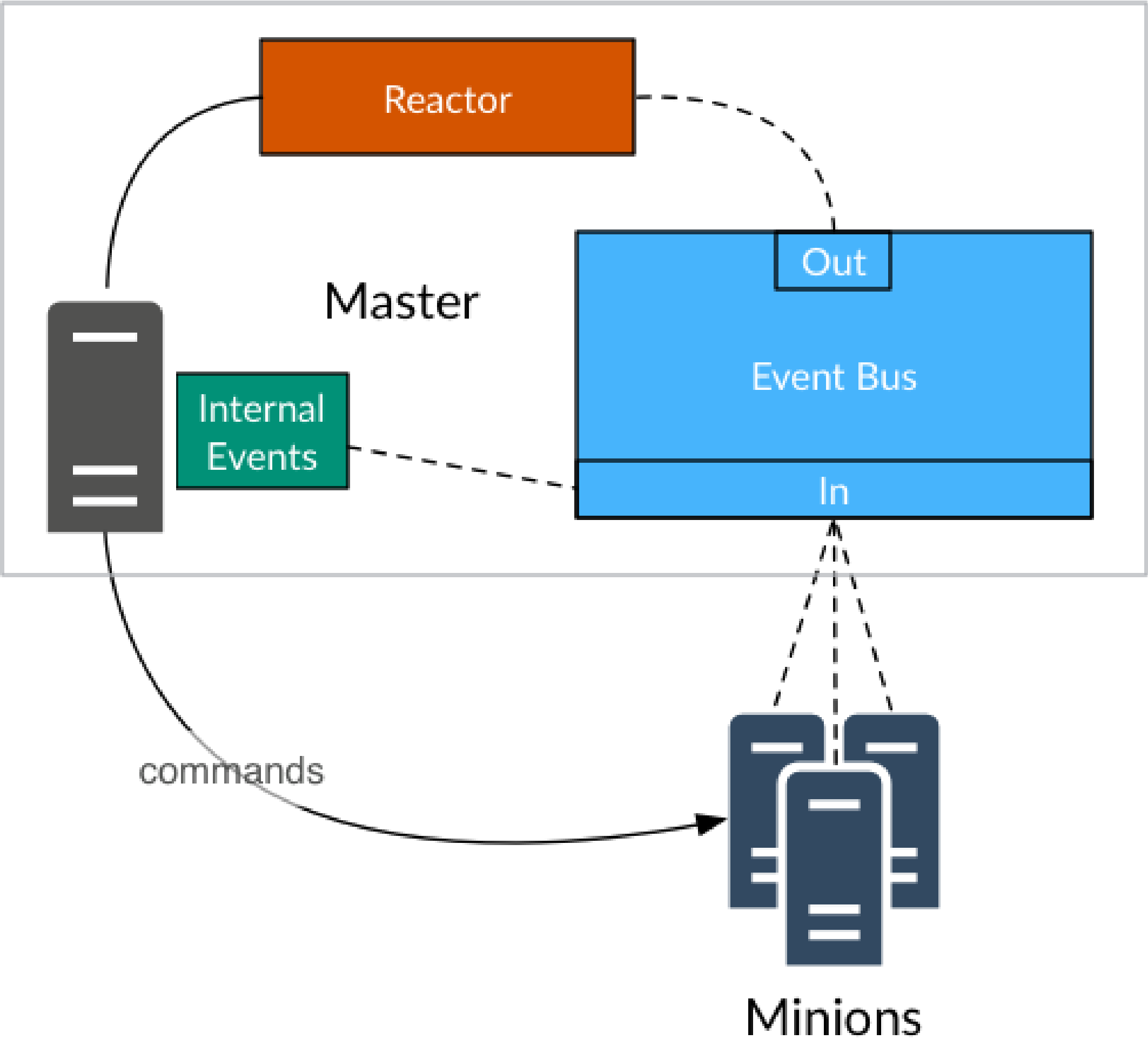
Pillar



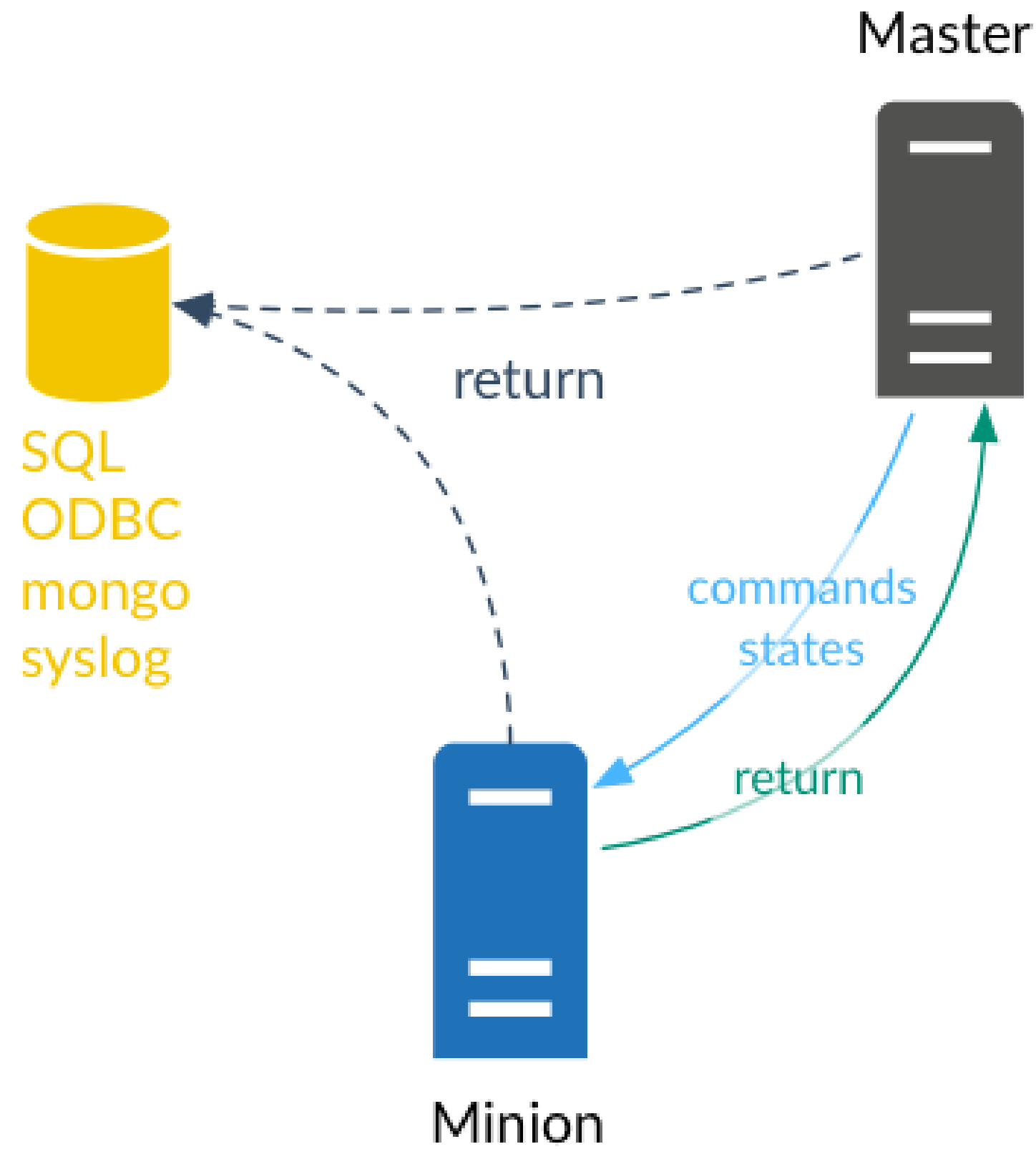
Mine



# Reactor



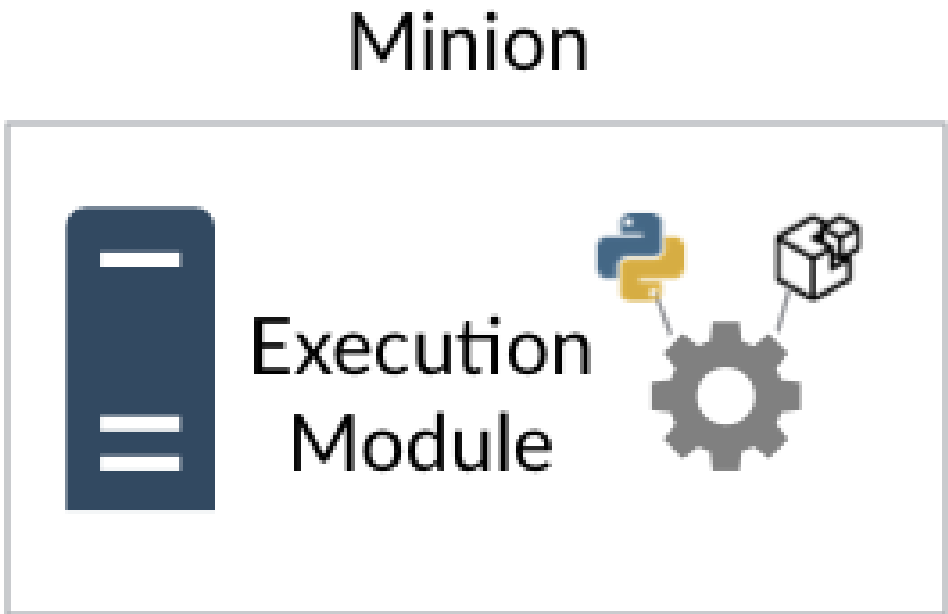
## Returns



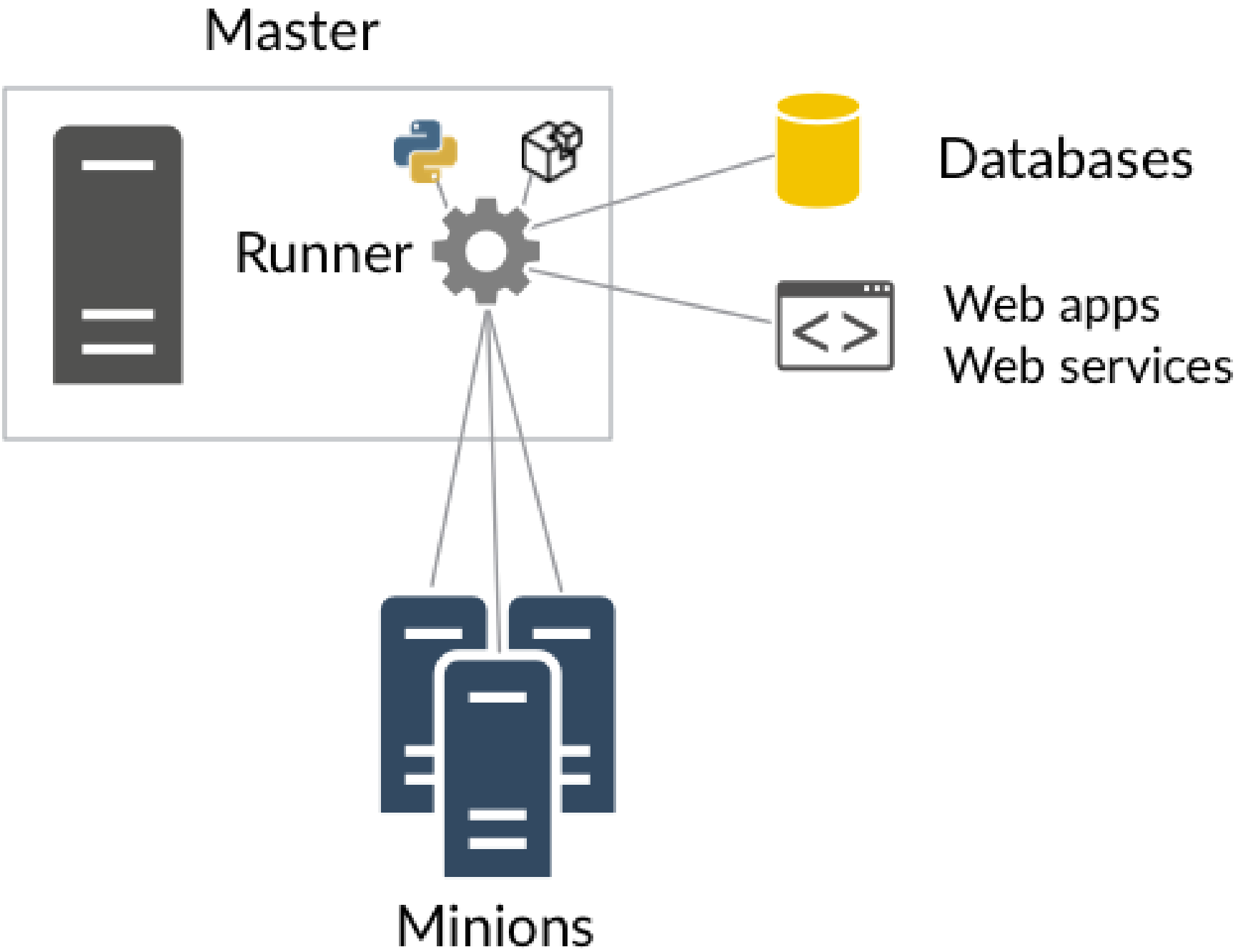
```
salt '*' disk.usage --return redis_return
```

# Custom Modules & Runners

## Custom Execution Module



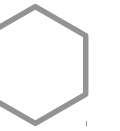
## Runner



```
salt-run jobs.active
```



# More Information



<http://saltstack.com/training/>

<https://www.youtube.com/user/SaltStack>

<http://salt.readthedocs.org/en/latest/>

<http://salt.readthedocs.org/en/latest/ref/modules/all/index.html>

<http://salt.readthedocs.org/en/latest/ref/states/all/index.html>

<https://github.com/saltstack>





# Thank You!



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