

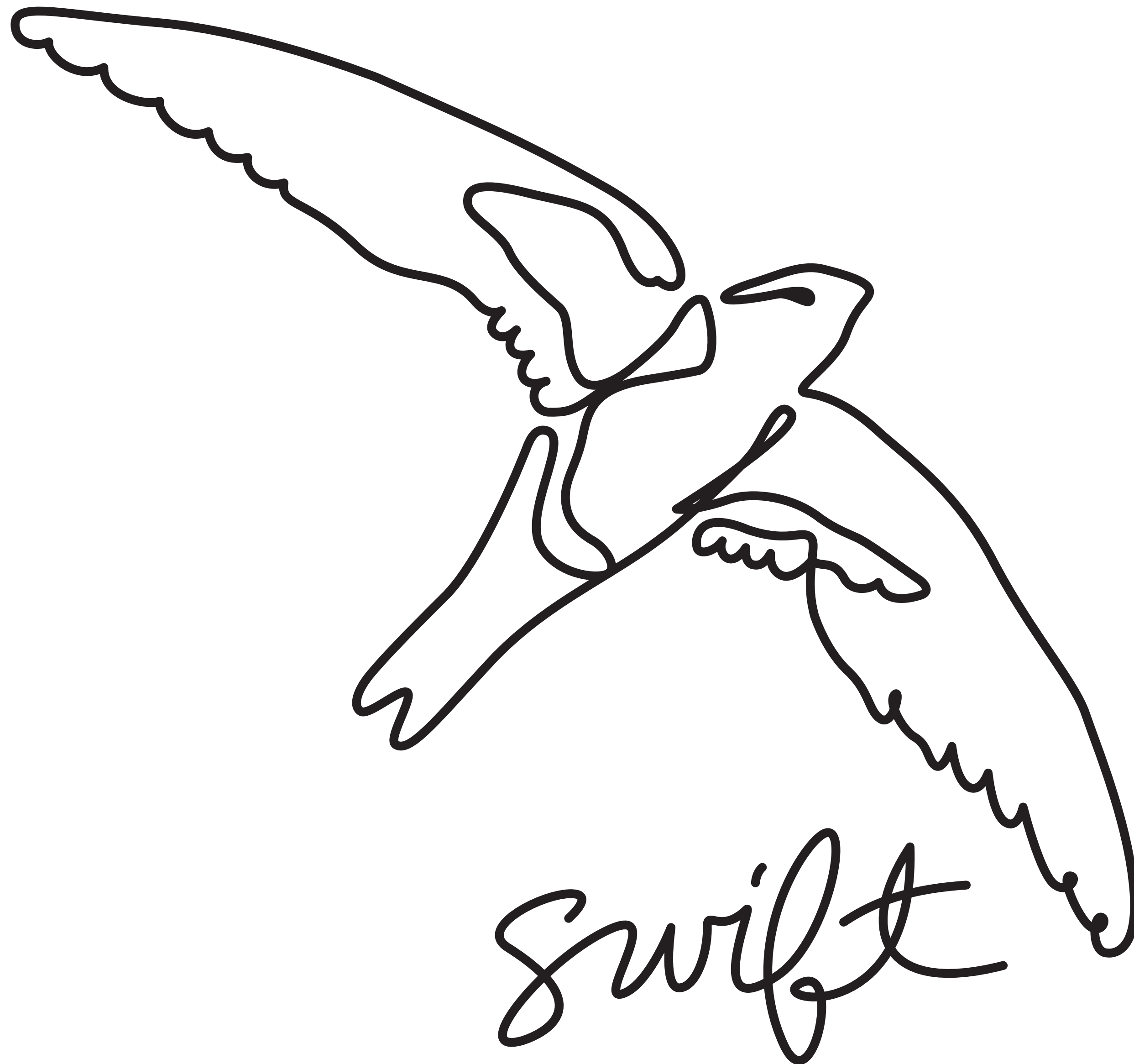
Use Cases for OpenStack Swift

John Dickinson

Director of Technology, SwiftStack

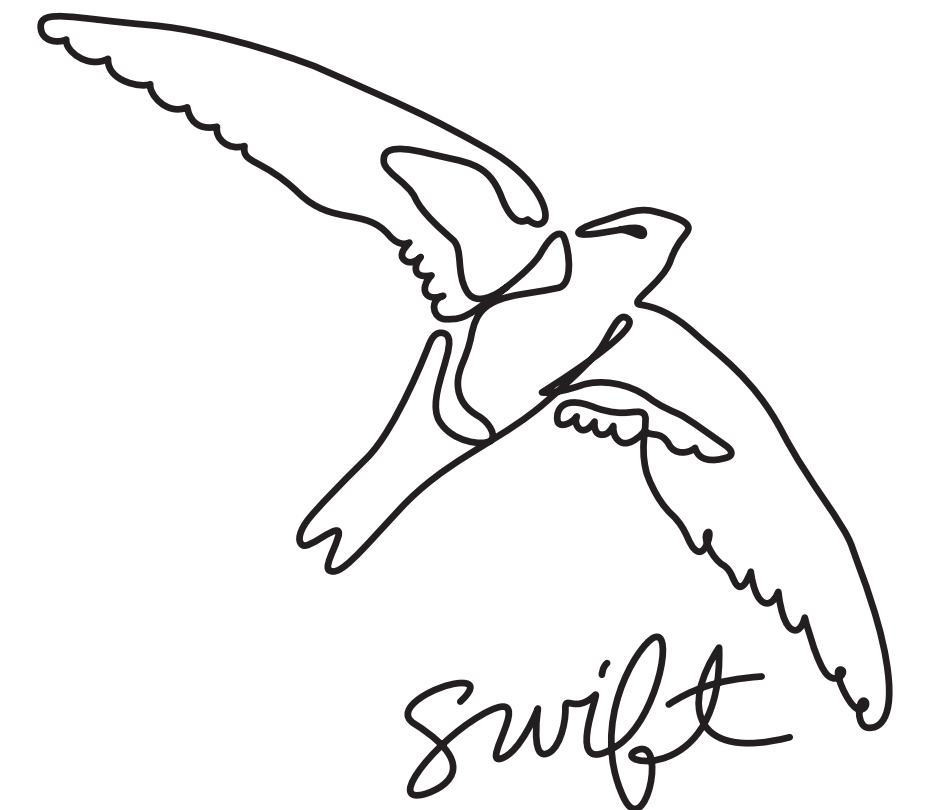
Project Technical Lead, Swift

@notmyname



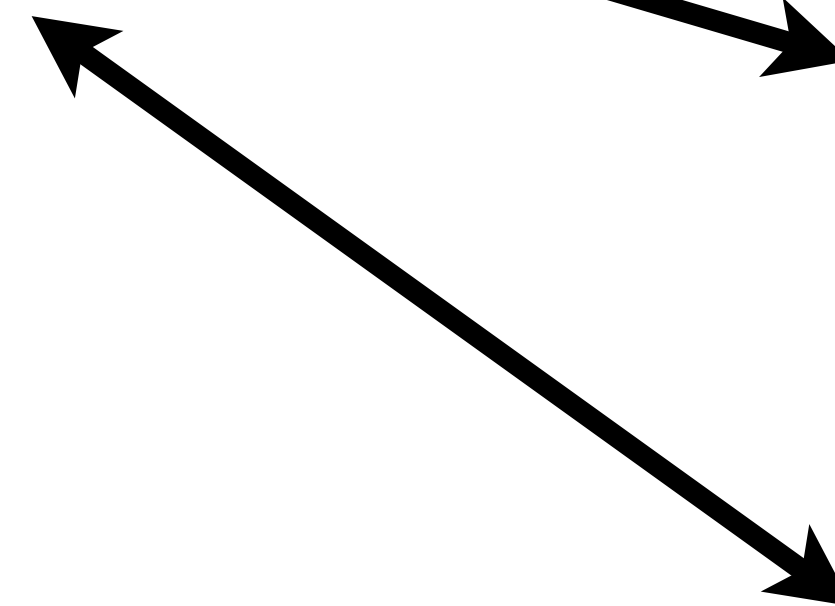
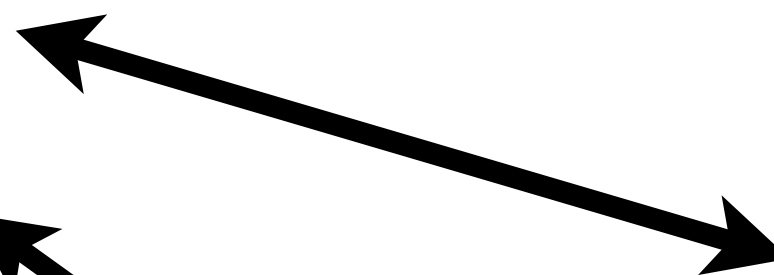
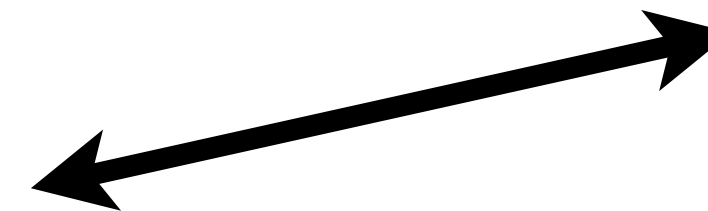
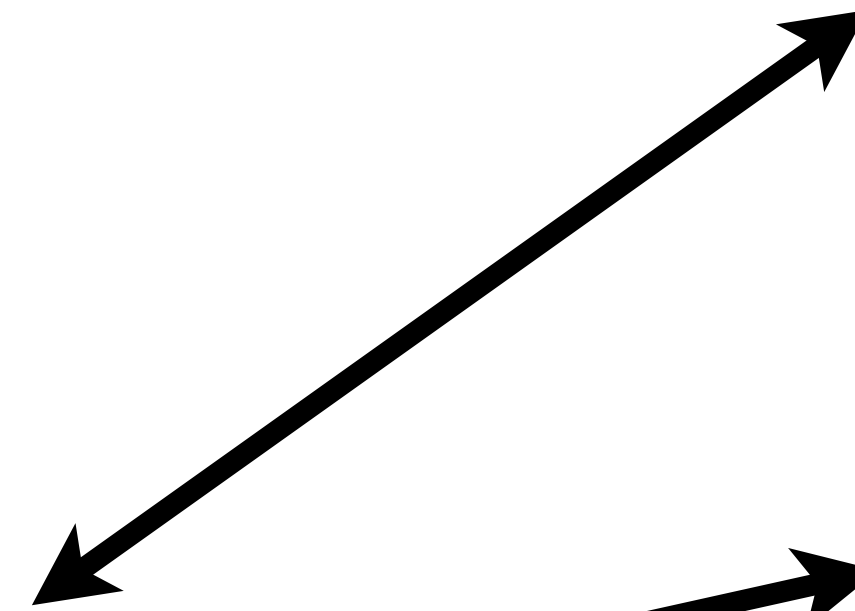
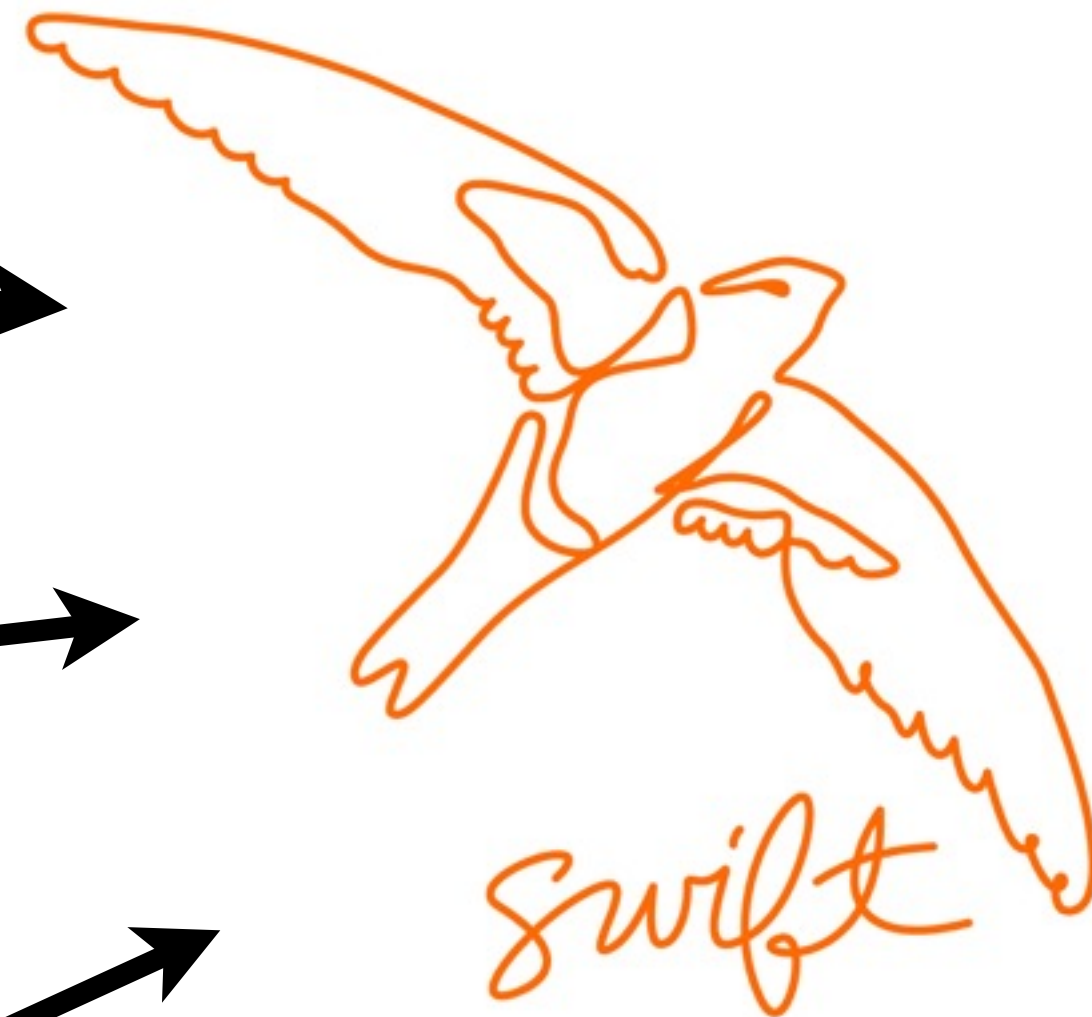
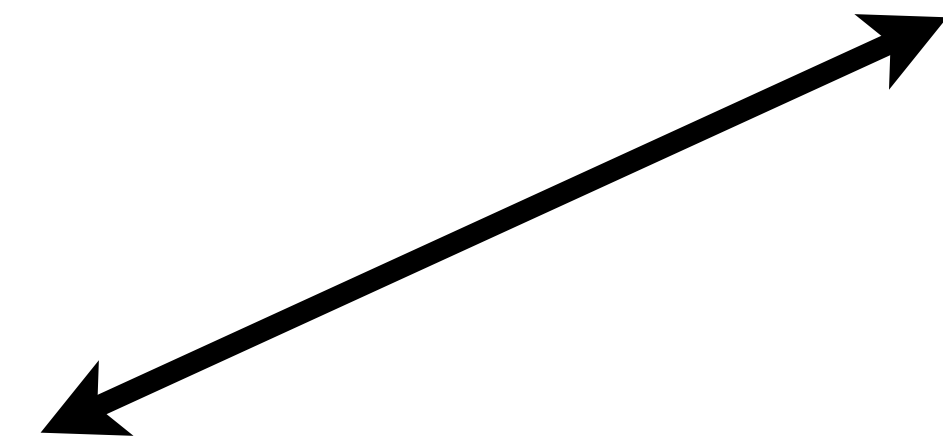
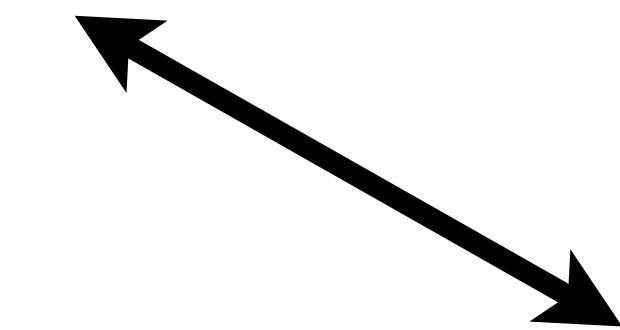
The Plan

- What's the problem with what I'm already using?
- What do app developers get out of Swift?
- Cool API things in Swift
- High-level design of Swift



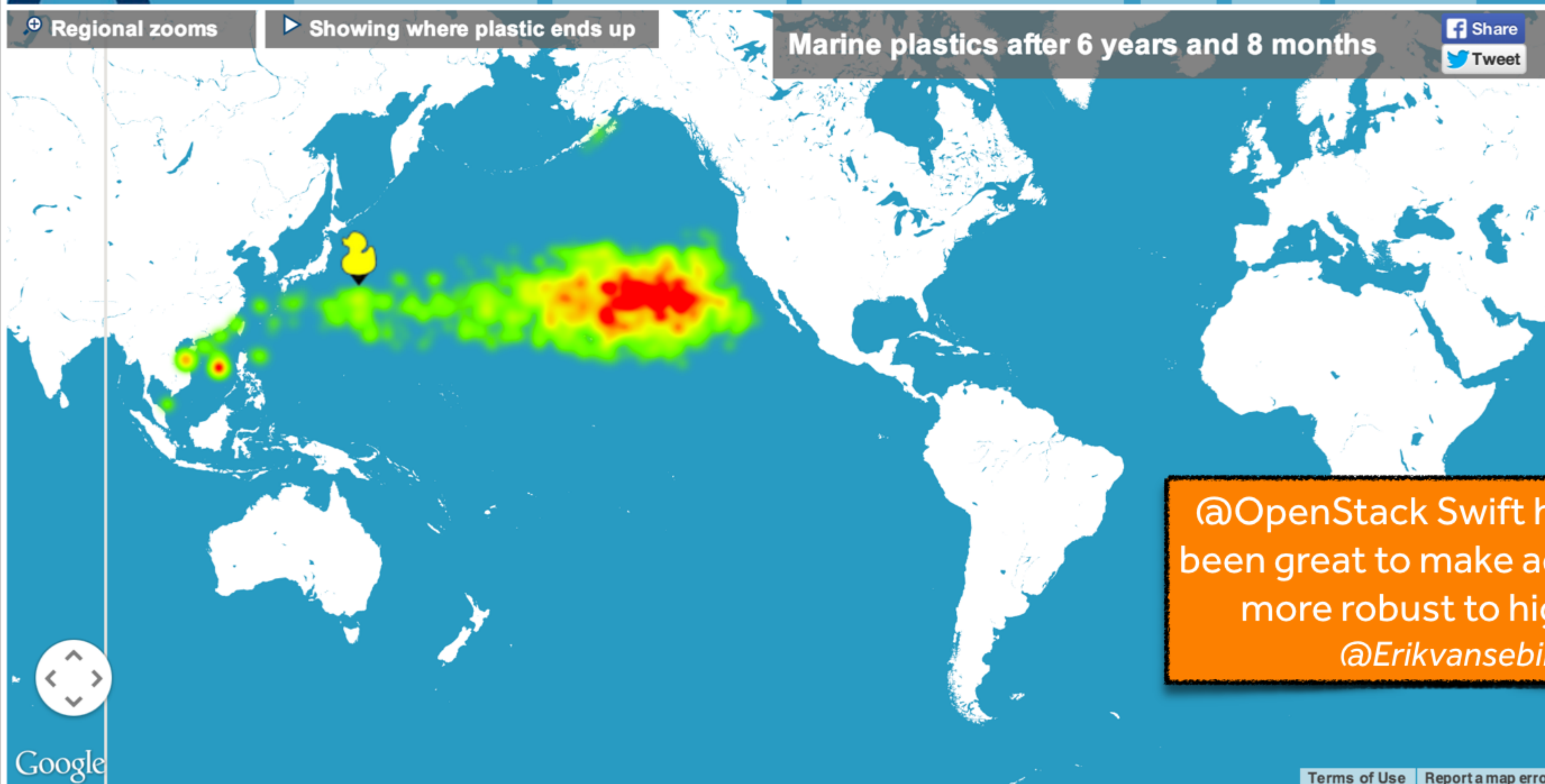






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Marine plastics after 6 years and 8 months

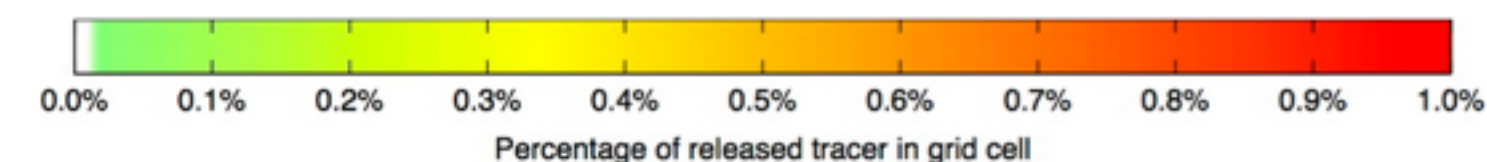
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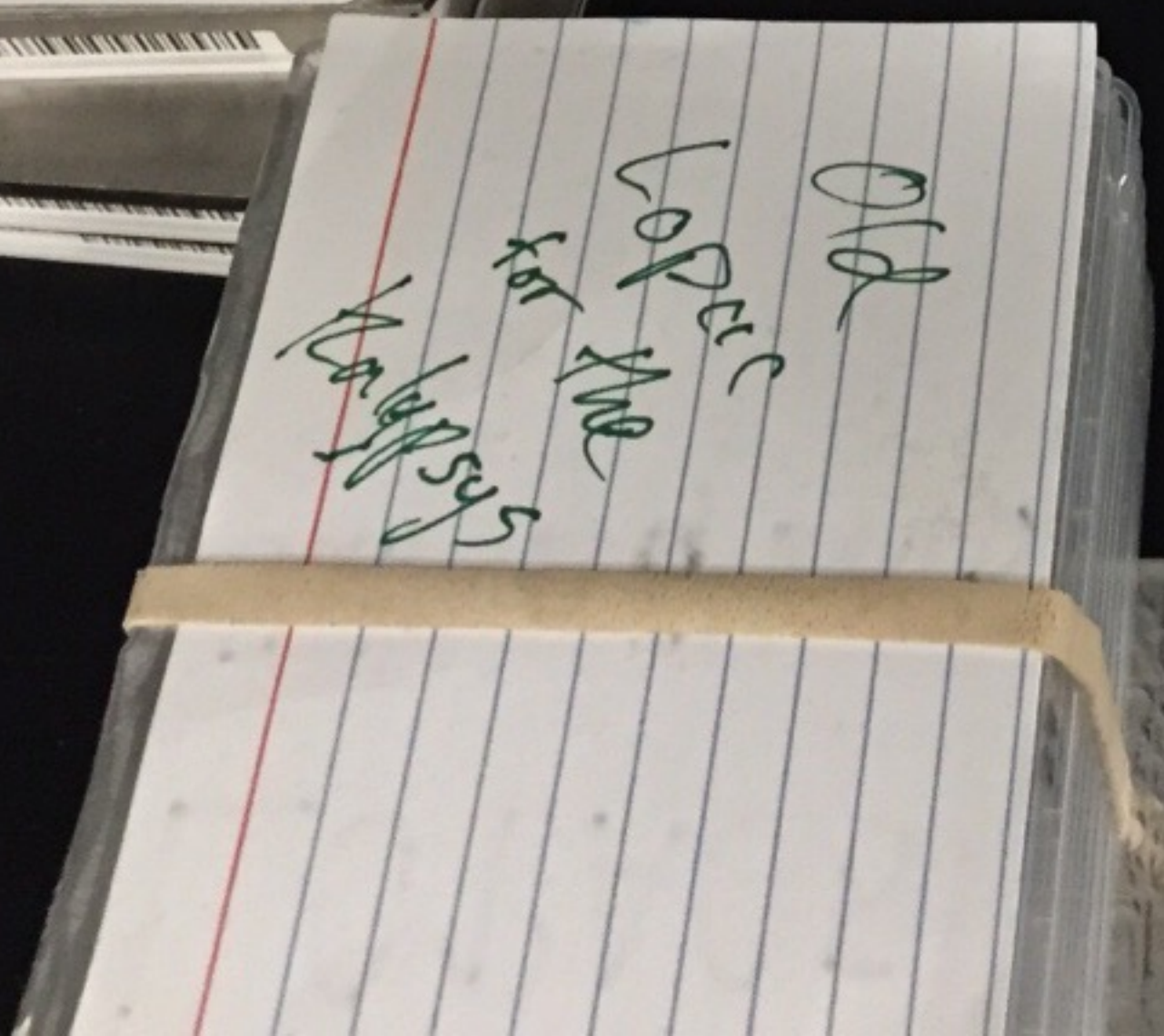
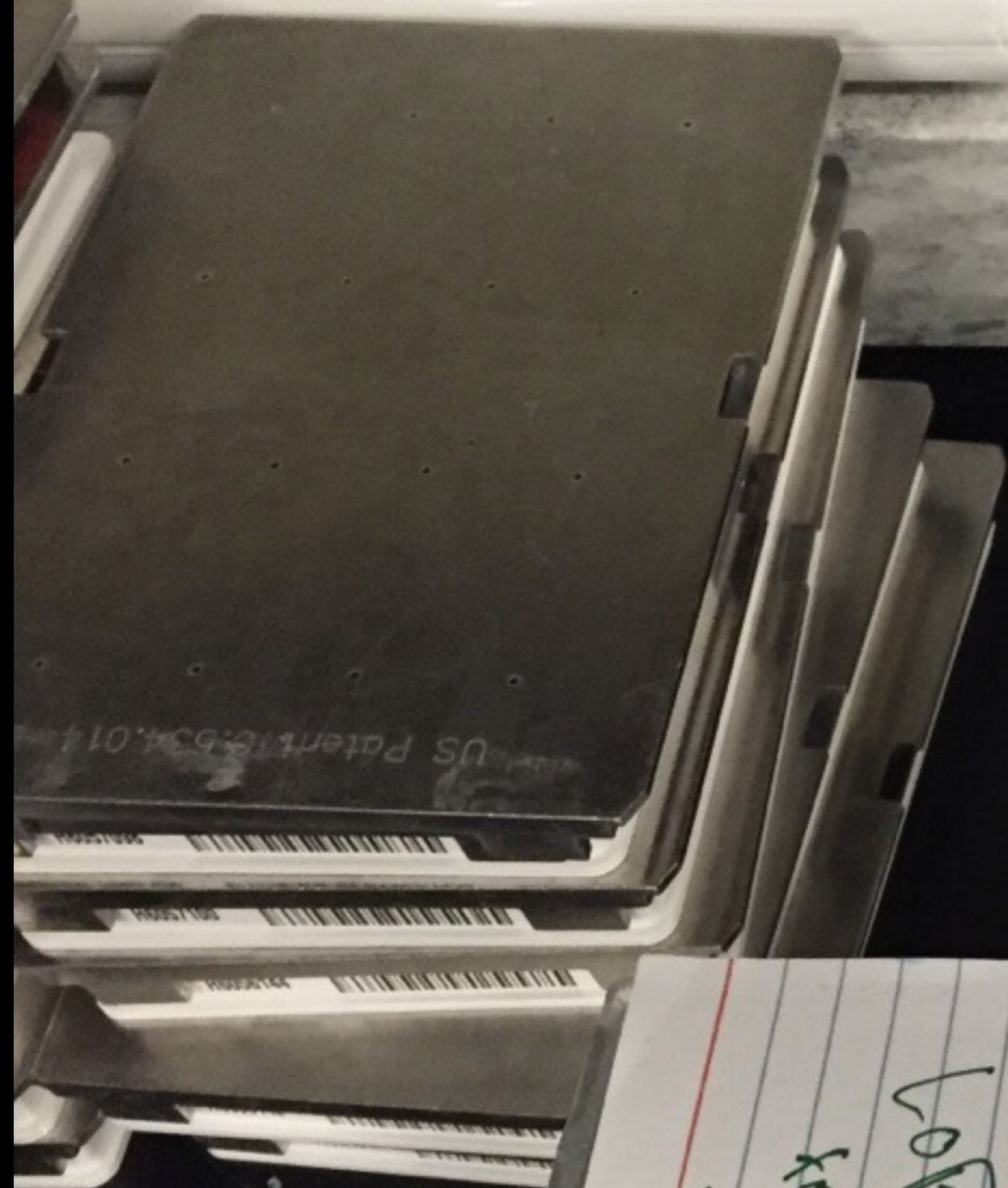
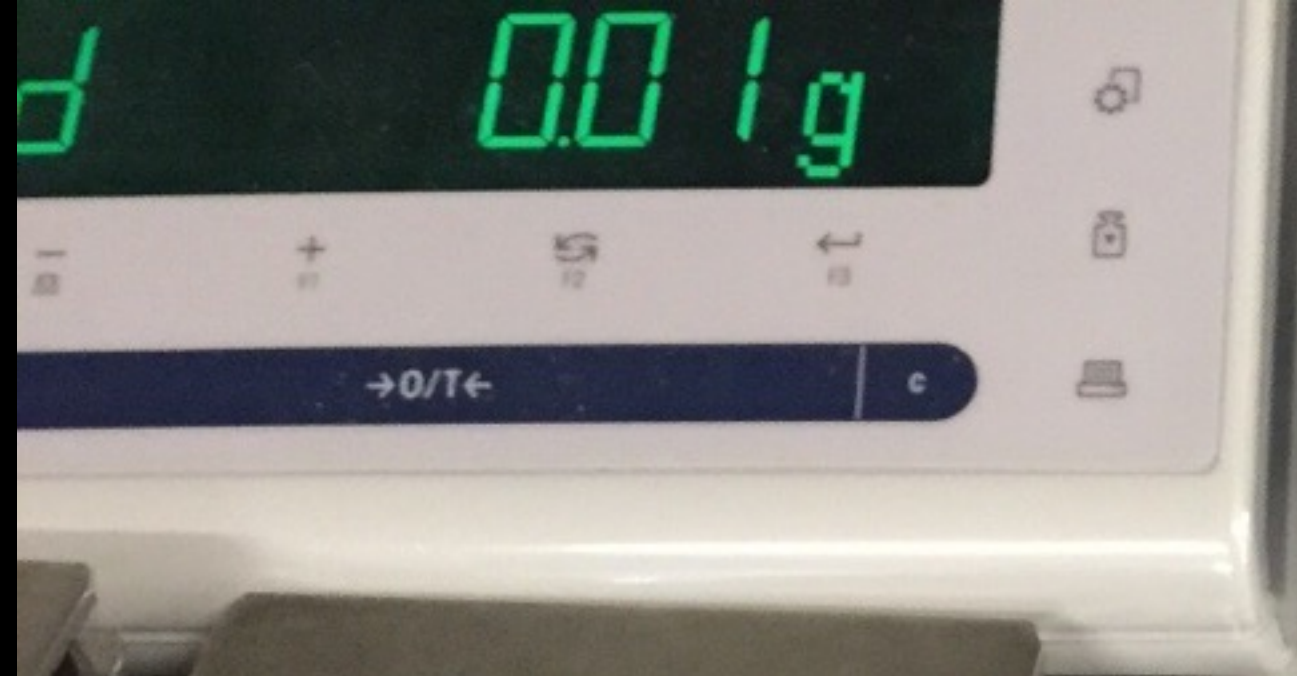
@OpenStack Swift has indeed
been great to make adrift.org.au
more robust to high load.

@Erikvanseville

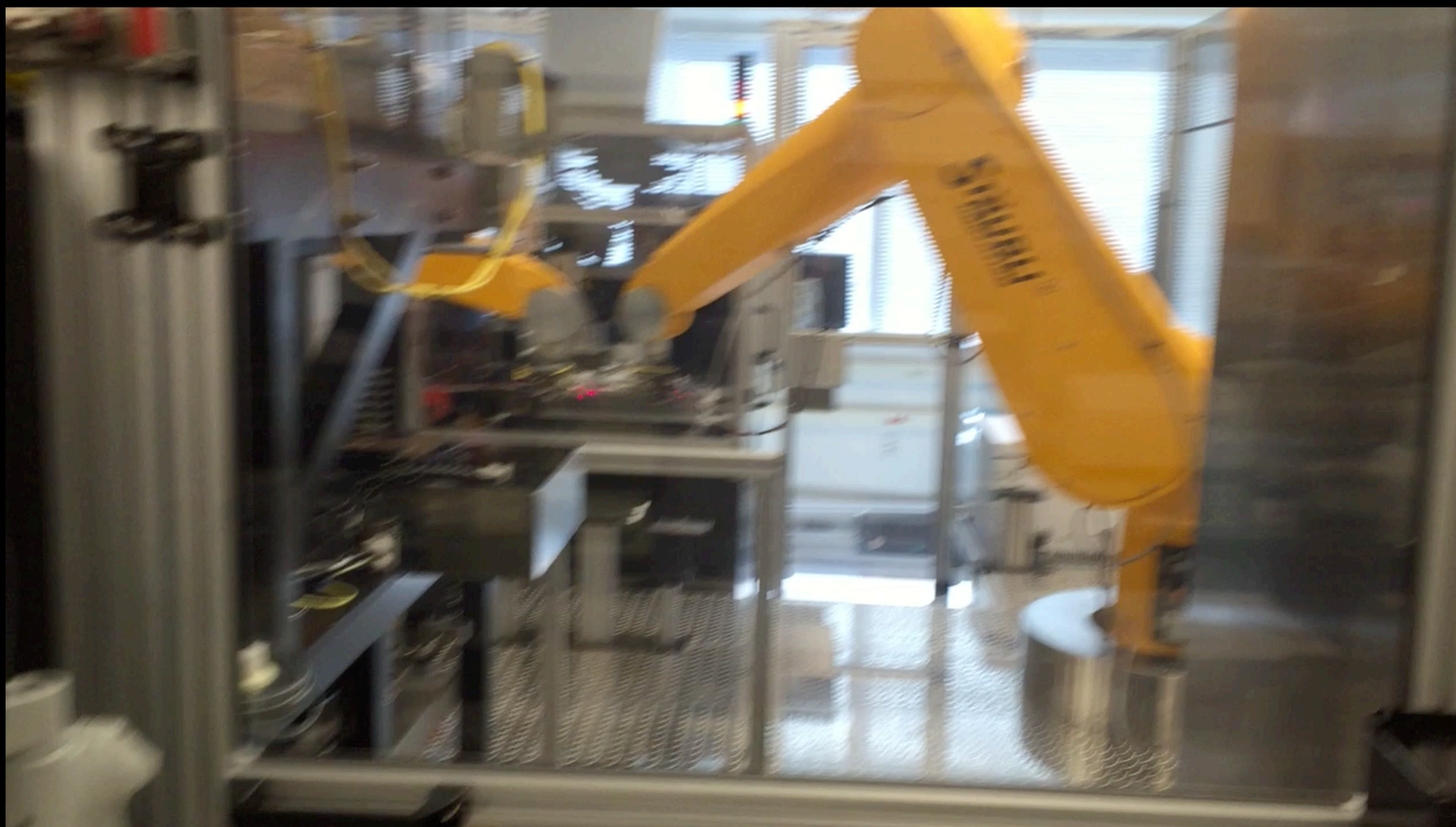


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The Swift API

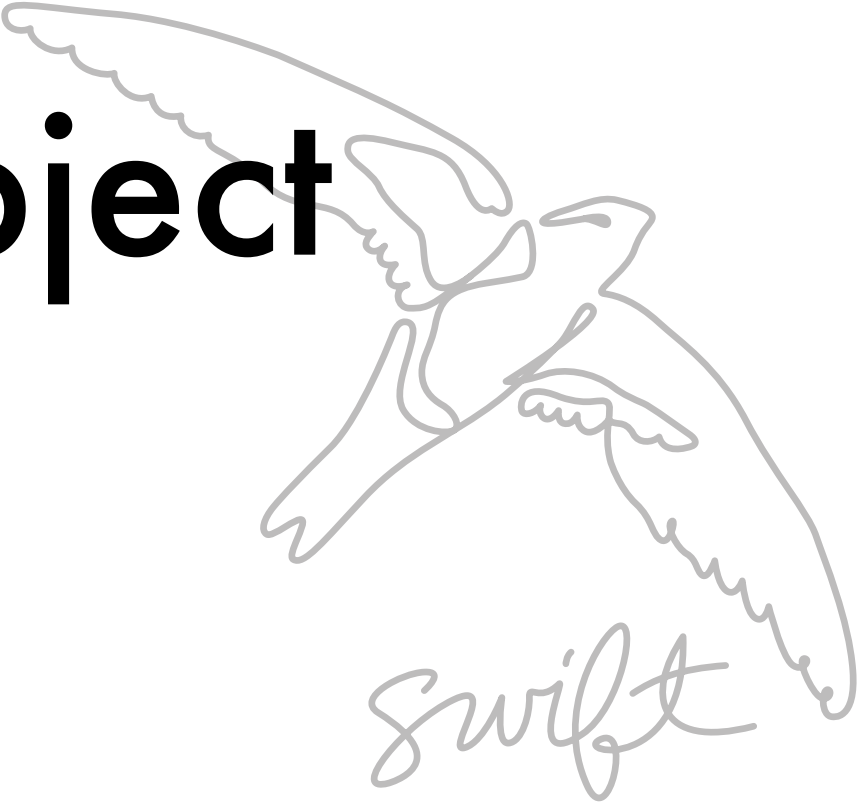
Prefix API version

https://swift.example.com/v1/AUTH_acct/cont/obj

Account

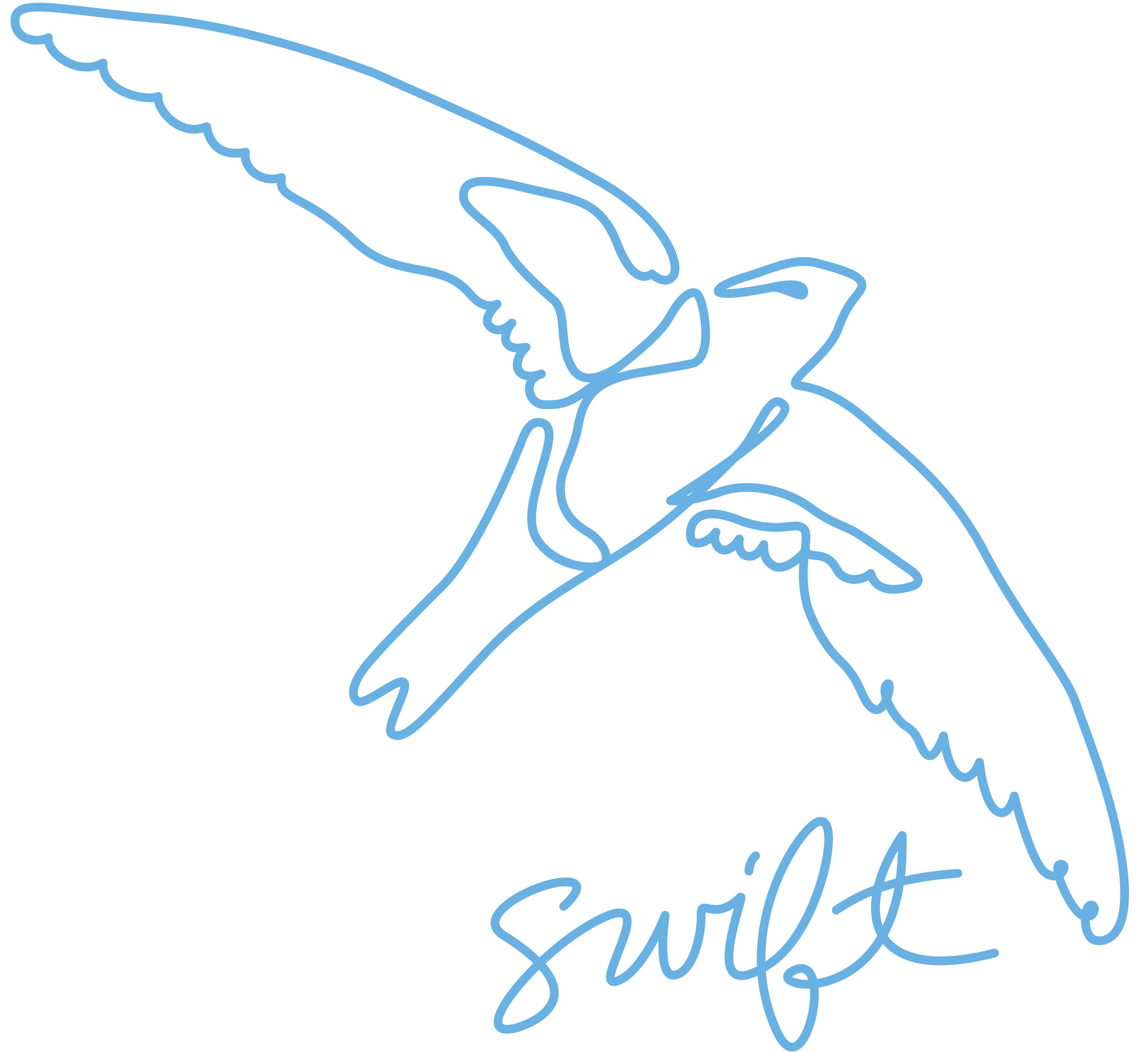
Container

Object



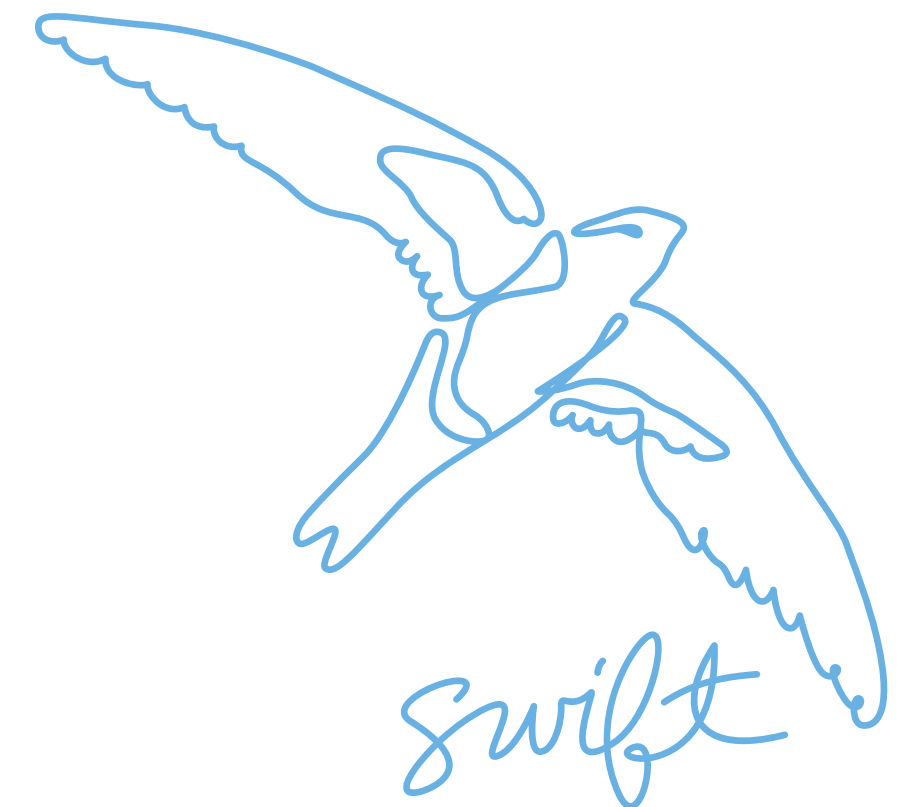
Ready? Let's go fast...

Listings



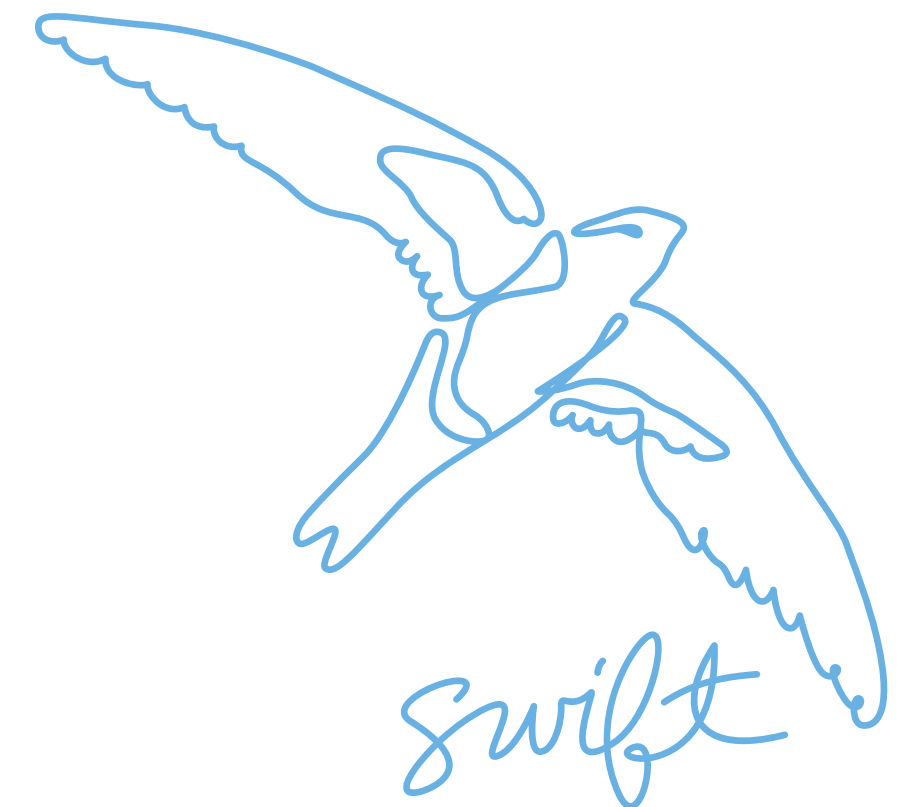
I've got some books...

- The Pit and the Pendulum, Poe, Horror
- The Masque of the Red Death, Poe, Horror
- Pride and Prejudice and Zombies, Grahame-Smith, Horror
- The Far Side Gallery, Larson, Comics
- Something Under the Bed Is Drooling, Watterson, Comics
- It's A Magical World, Watterson, Comics



...in Swift

- AUTH_john/**horror**/poe/pit_and_pendulum
- AUTH_john/**horror**/poe/masque_of_the_red_death
- AUTH_john/**horror**/grahame-smith/pride_prejudice_zombies
- AUTH_john/**comics**/larson/far_side_gallery
- AUTH_john/**comics**/watterson/drool
- AUTH_john/**comics**/watterson/magical_world



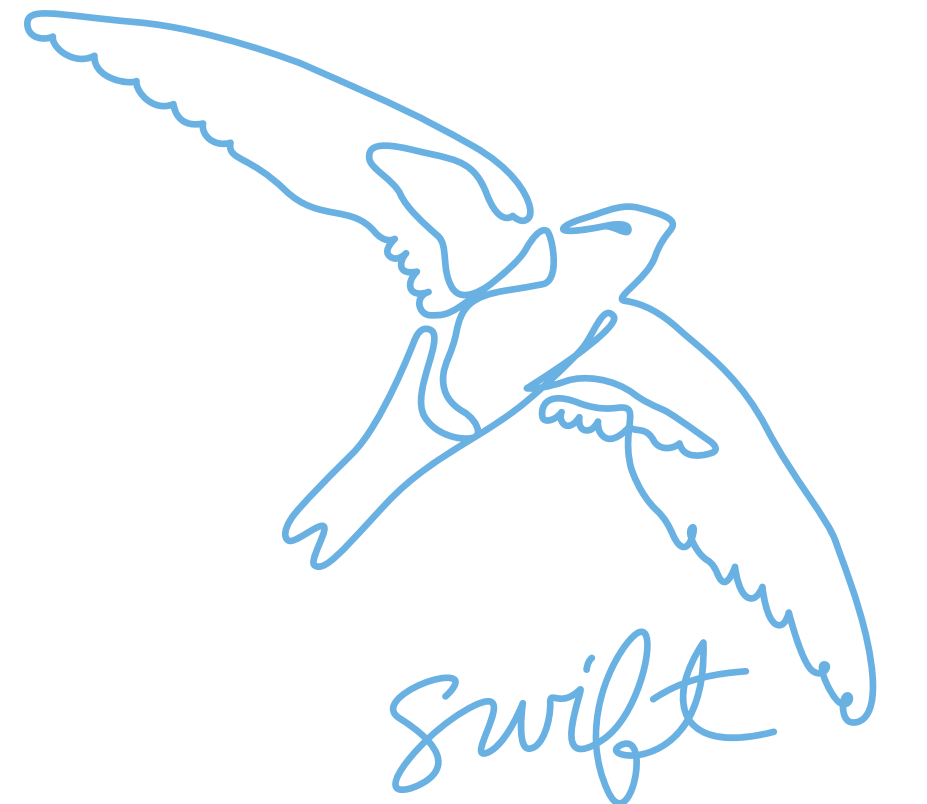
Listing

GET ...AUTH_john/horror

grahame-smith/pride_prejudice_zombies

poe/masque_of_the_red_death

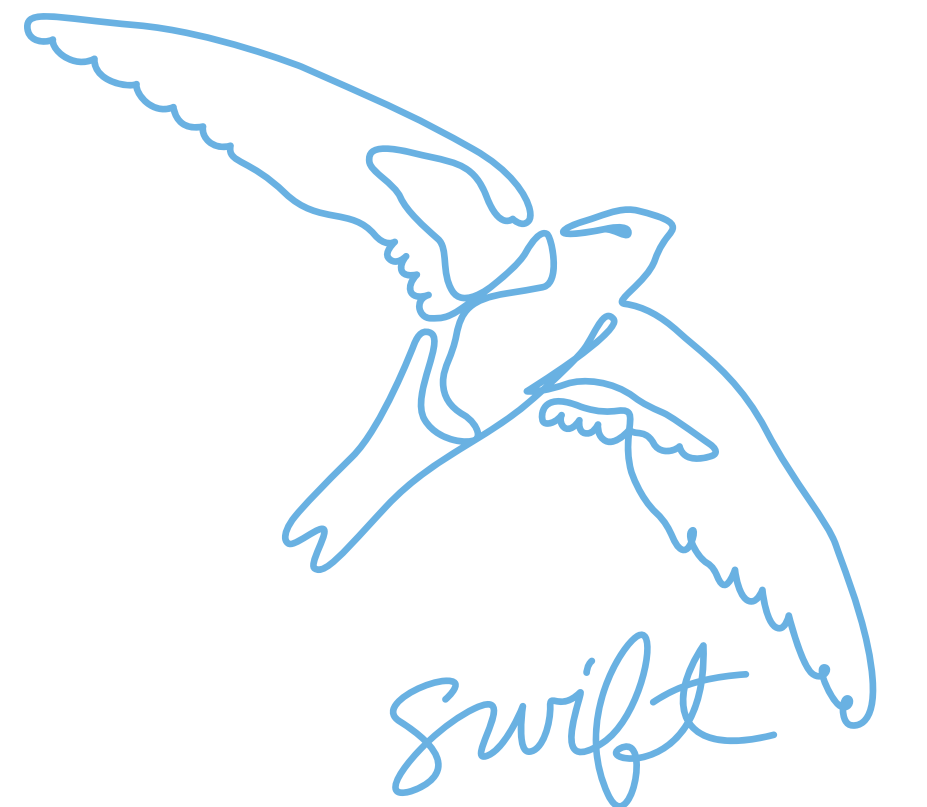
poe/pit_and_pendulum



Listing: limit

GET ...AUTH_john/horror?limit=2

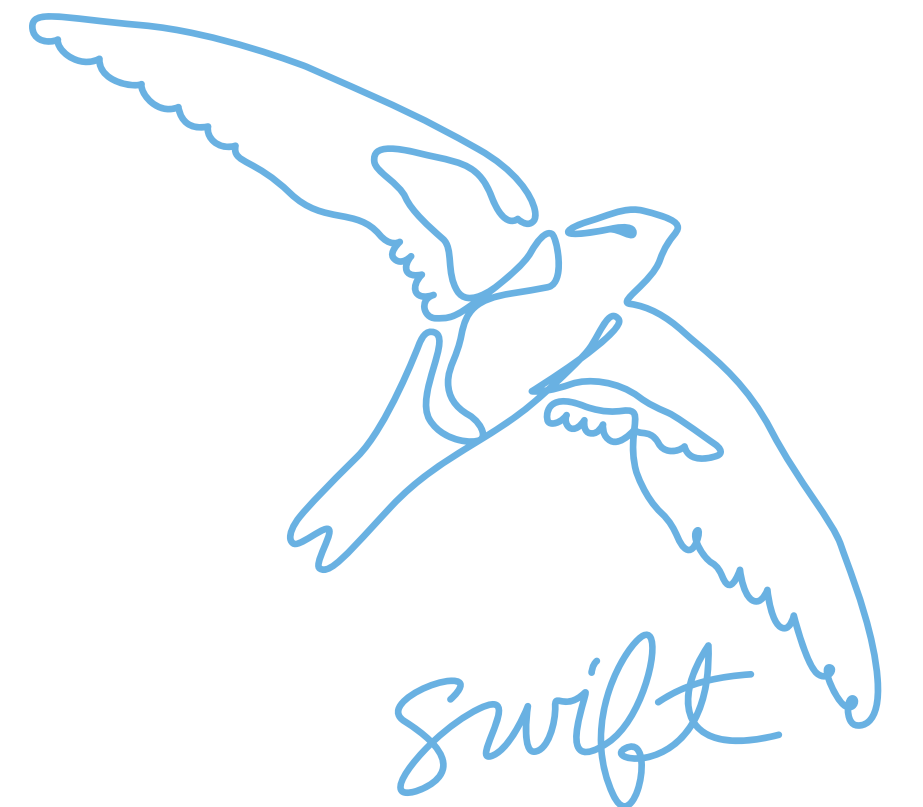
grahame-smith/pride_prejudice_zombies
poe/masque_of_the_red_death



Listing: marker

GET ...AUTH_john/horror?marker=ohenry

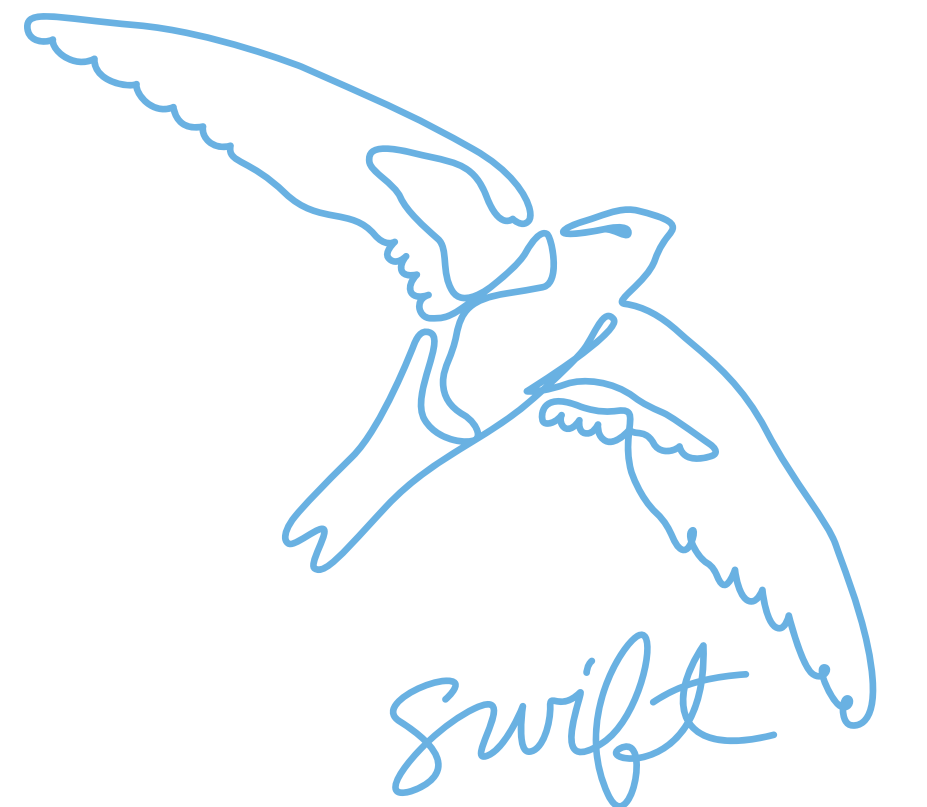
poe/masque_of_the_red_death
poe/pit_and_pendulum



Listing: end_marker

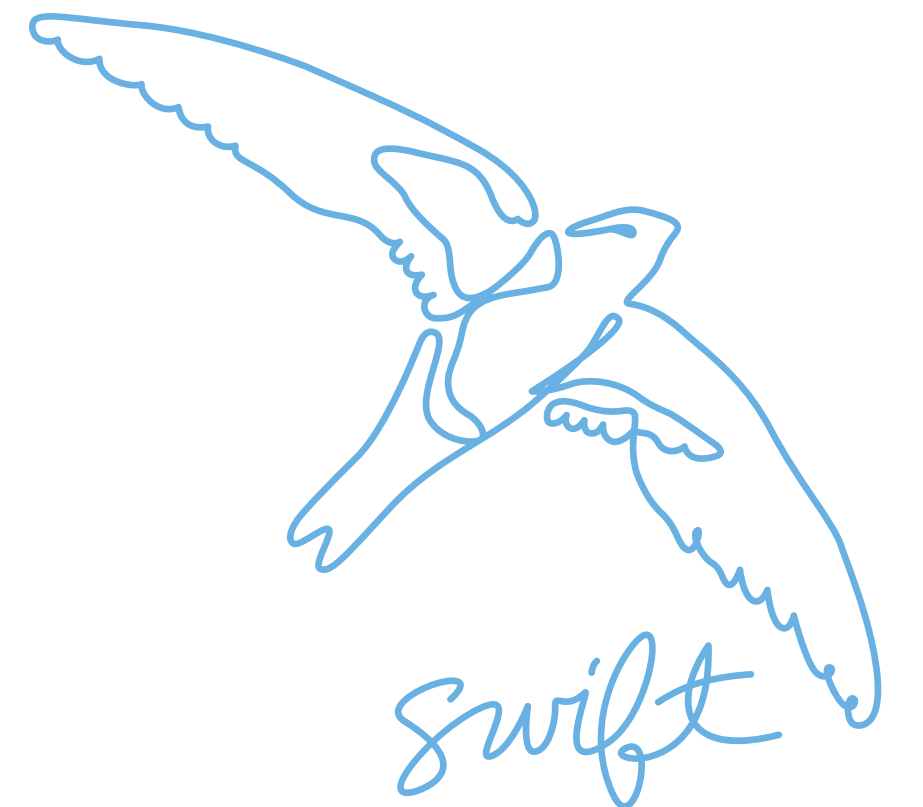
GET ...AUTH_john/horror?end_marker=poe/n

grahame-smith/pride_prejudice_zombies
poe/masque_of_the_red_death



Listing: delimiter

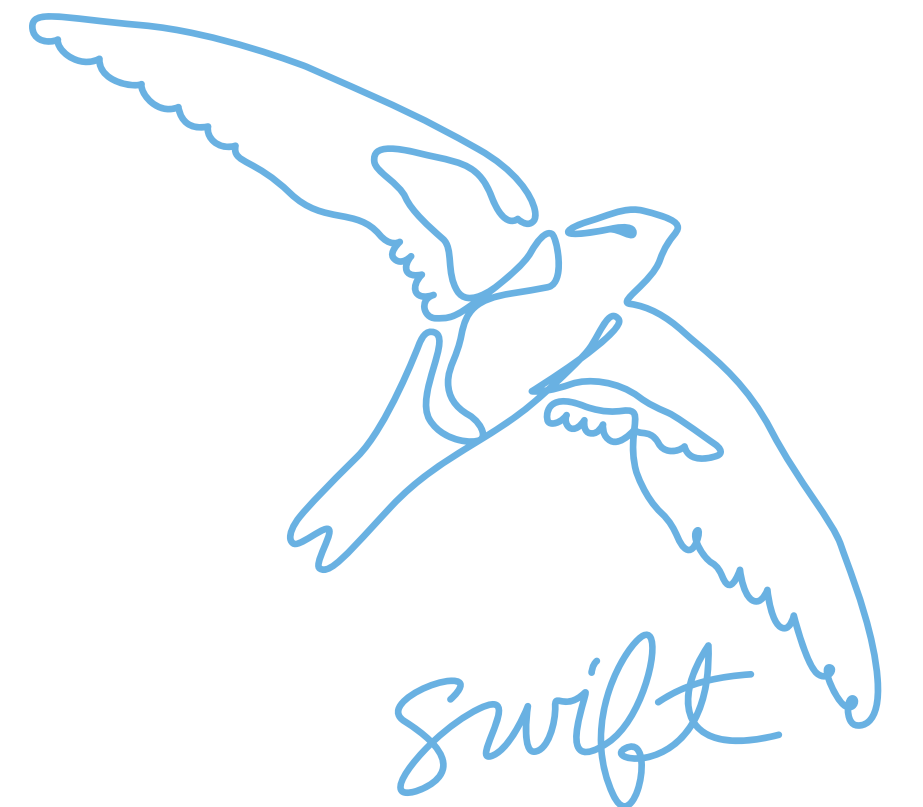
```
GET ...AUTH_john/horror?delimiter=/  
  
grahame-smith/  
poe/
```



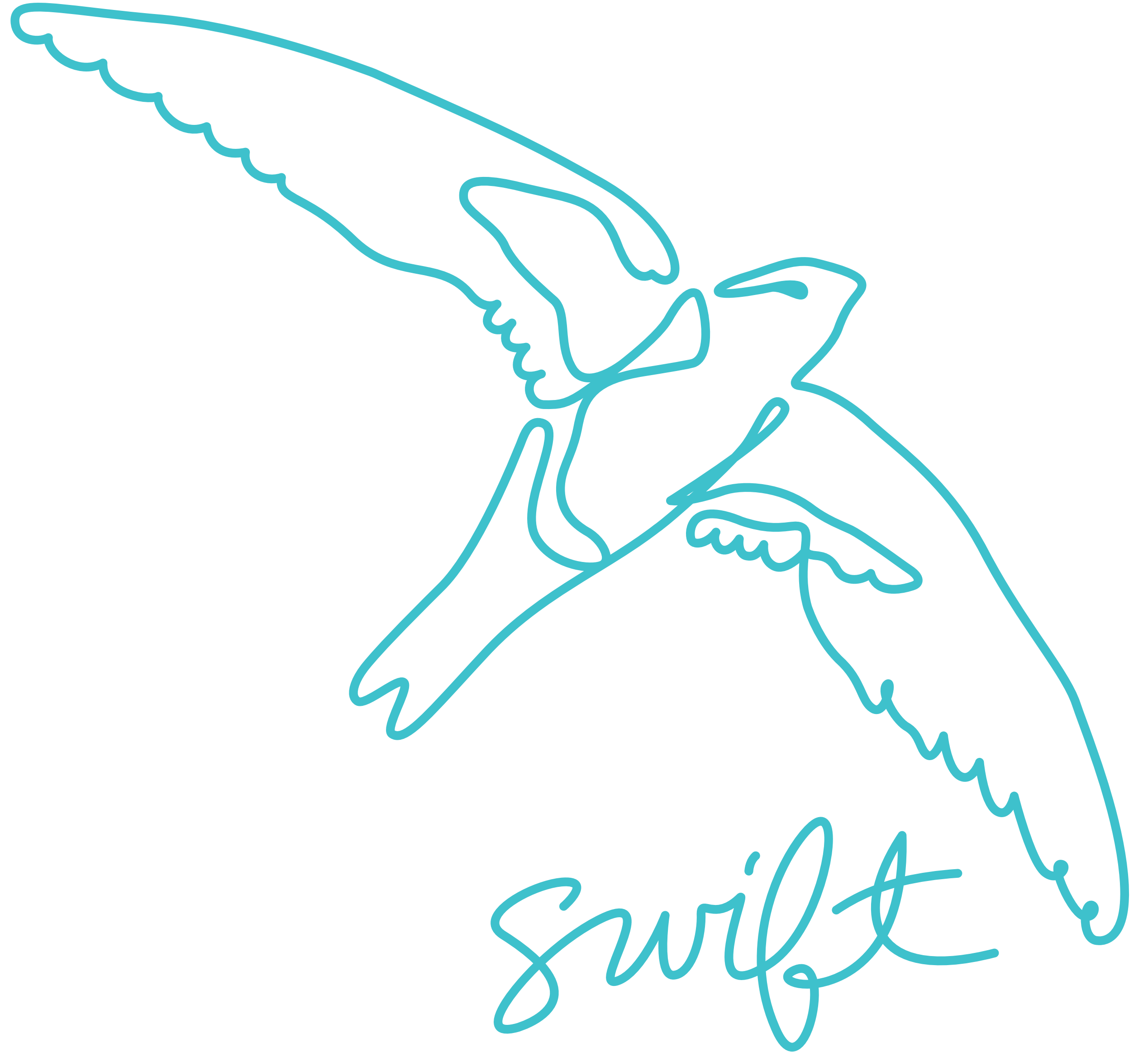
Listing: prefix

...AUTH_john/horror?prefix=g

grahame-smith/pride_prejudice_zombies



TempURLs



Signed

x

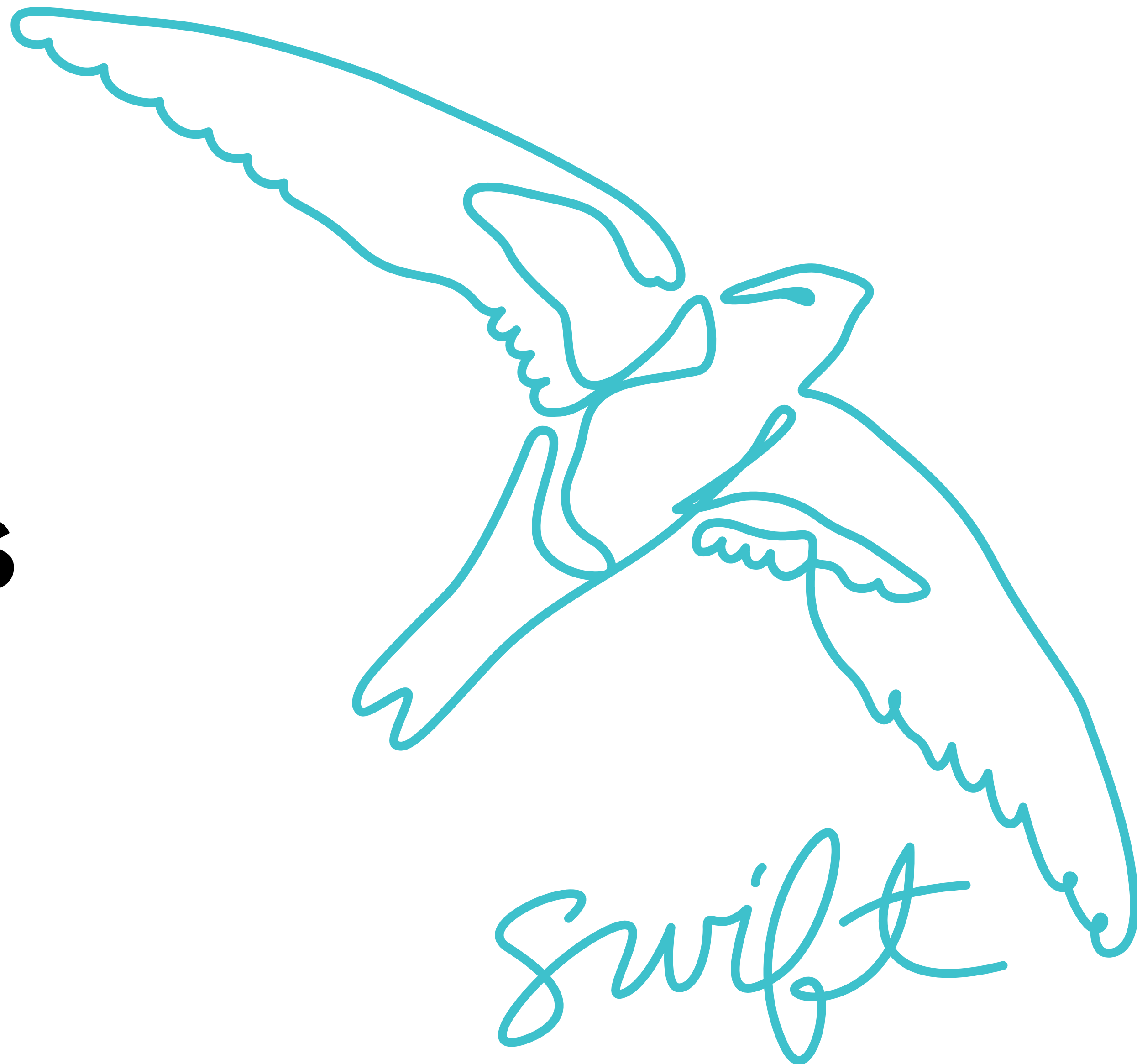





```
$ swift tempurl GET 30 /v1/AUTH_test/c/myobj.dat secr3te
```


/v1/AUTH_test/c/myobj.dat?
temp_url_sig=0c5e6baf08eac2f223bcfb504c46611333180946
&temp_url_expires=1431842413

Extract Archives




```
tar czf - * | \  
curl -i -H "X-Auth-Token: XYZ" -T - \  
http://swift/v1/AUTH_test/c?extract-archive=tar.gz
```

desktop_images/

desktop_images/00353tendrill1920x12009ce.jpg

desktop_images/01018_neutronrevolver_1920x1200.jpg

desktop_images/01707_spectrumofthesky_1920x1200.jpg

desktop_images/01737_elemental_1920x1200.jpg

desktop_images/01848_flow_2560x1600.jpg

desktop_images/03801_glacierpointsunset_3840x2400.jpg

c/desktop_images/

c/desktop_images/00353tendrill1920x12009ce.jpg

c/desktop_images/01018_neutronrevolver_1920x1200.jpg

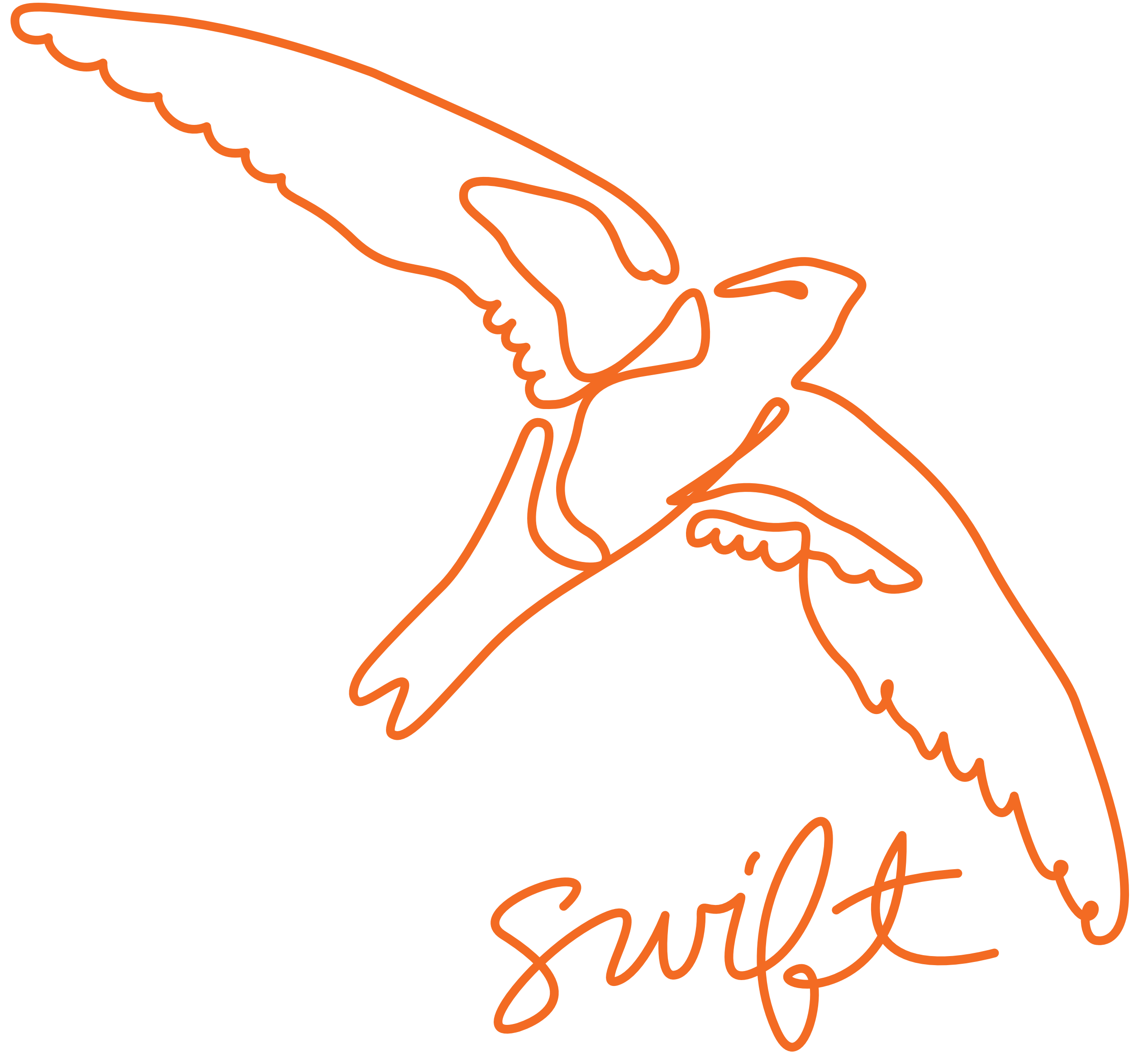
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c/desktop_images/03801_glacierpointsunset_3840x2400.jpg

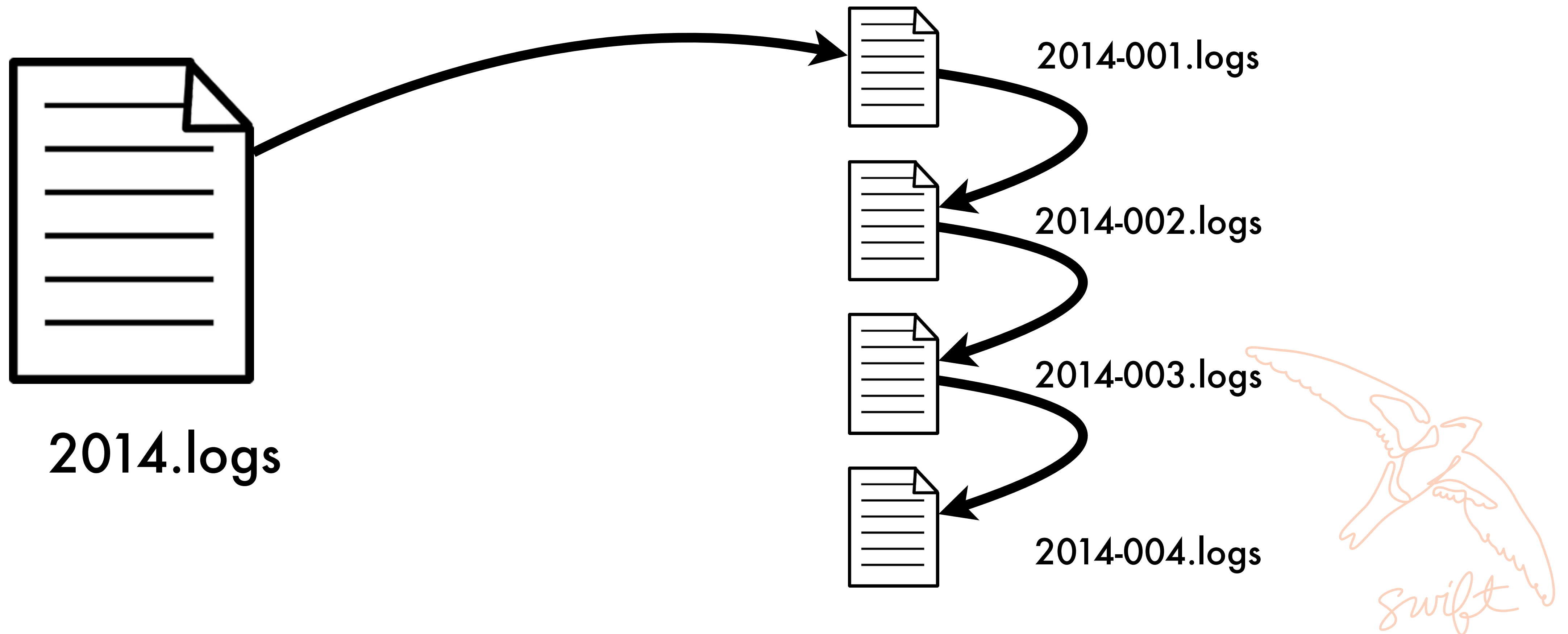
Large Objects



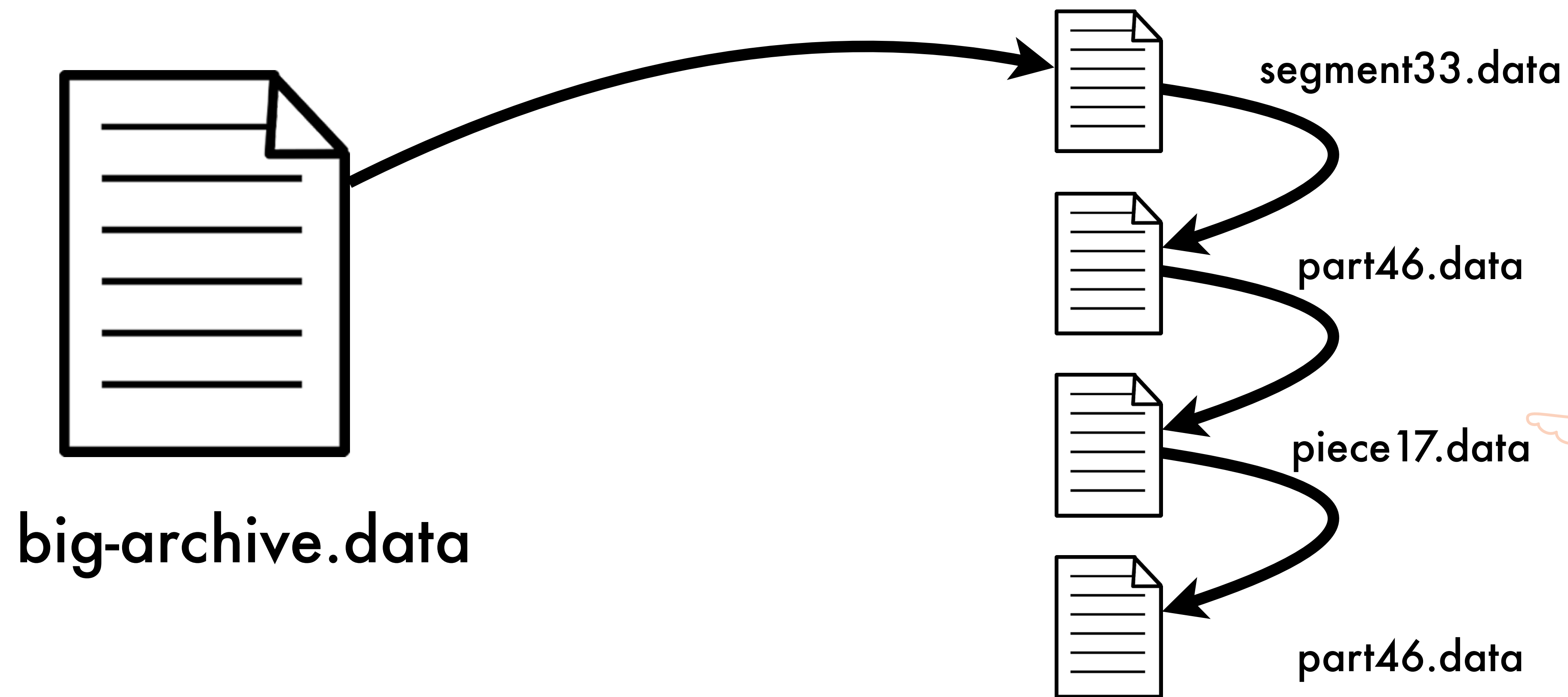
Indirection Objects



Dynamic Large Objects



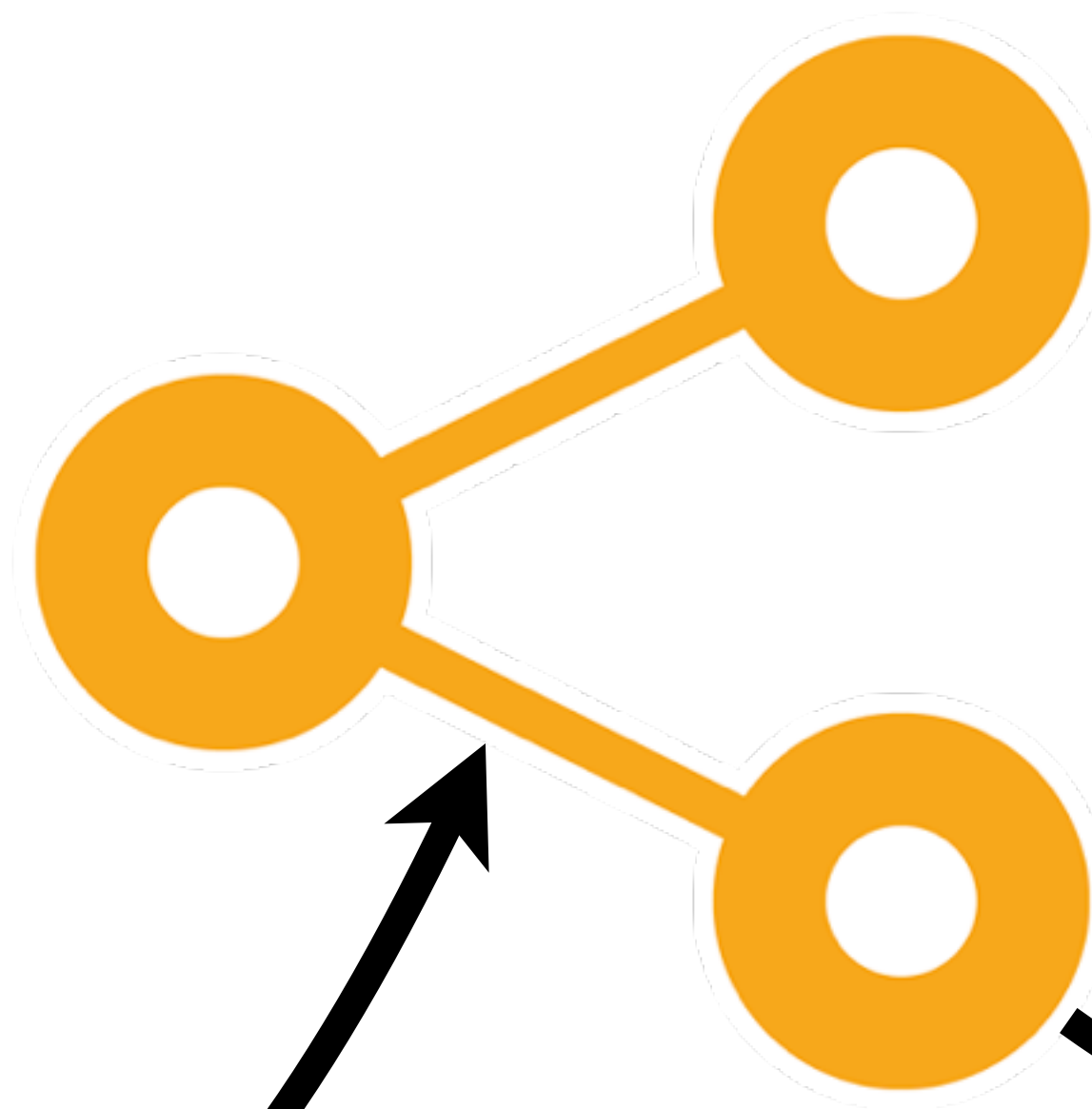
Static Large Objects



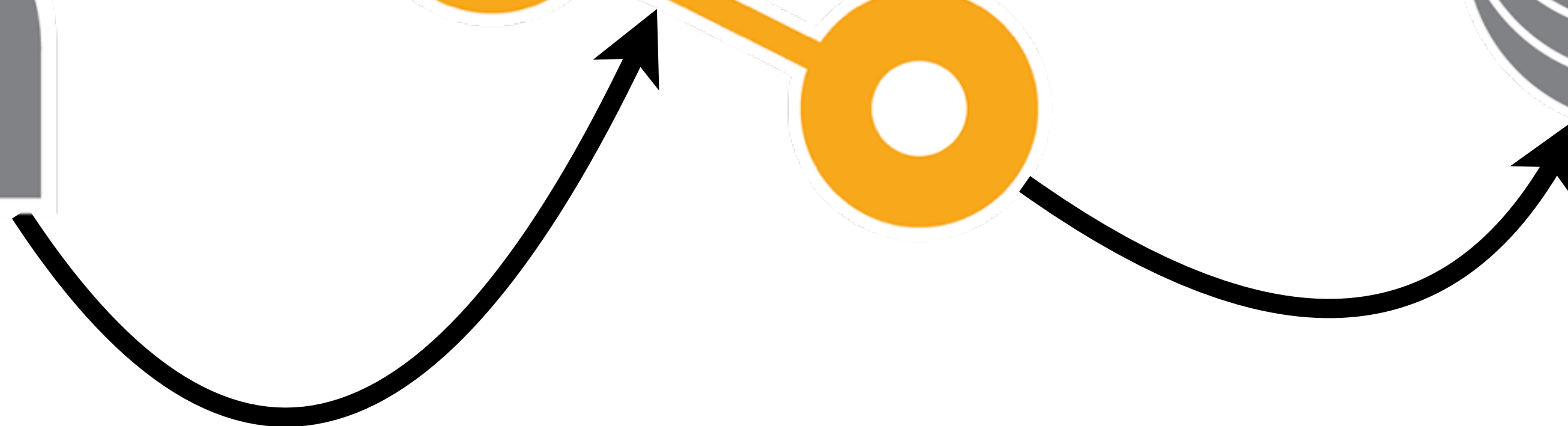
Client



Proxy



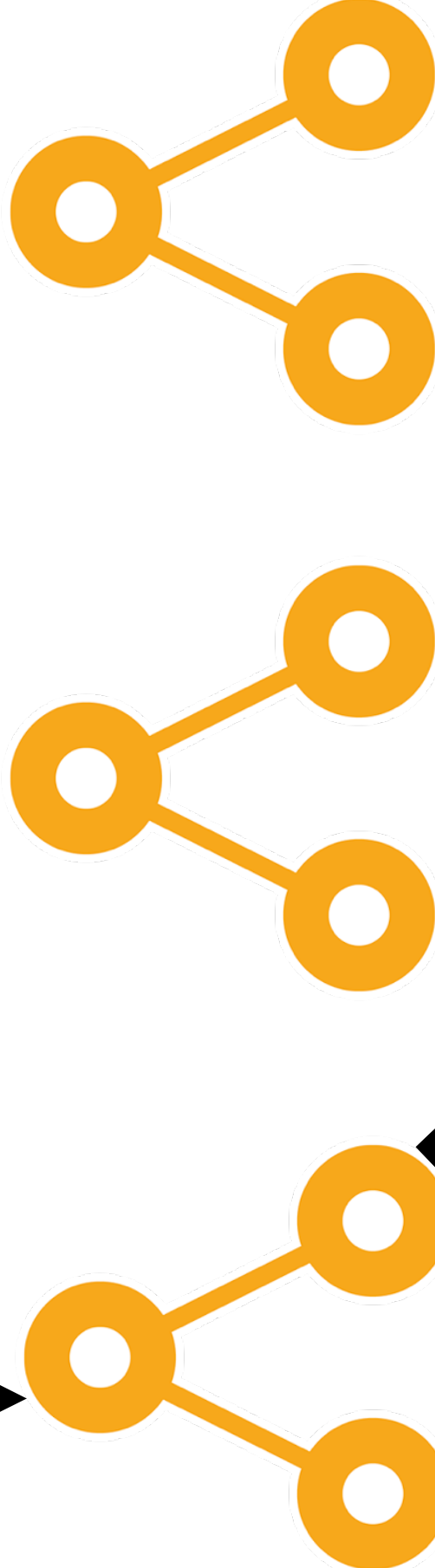
Storage Node



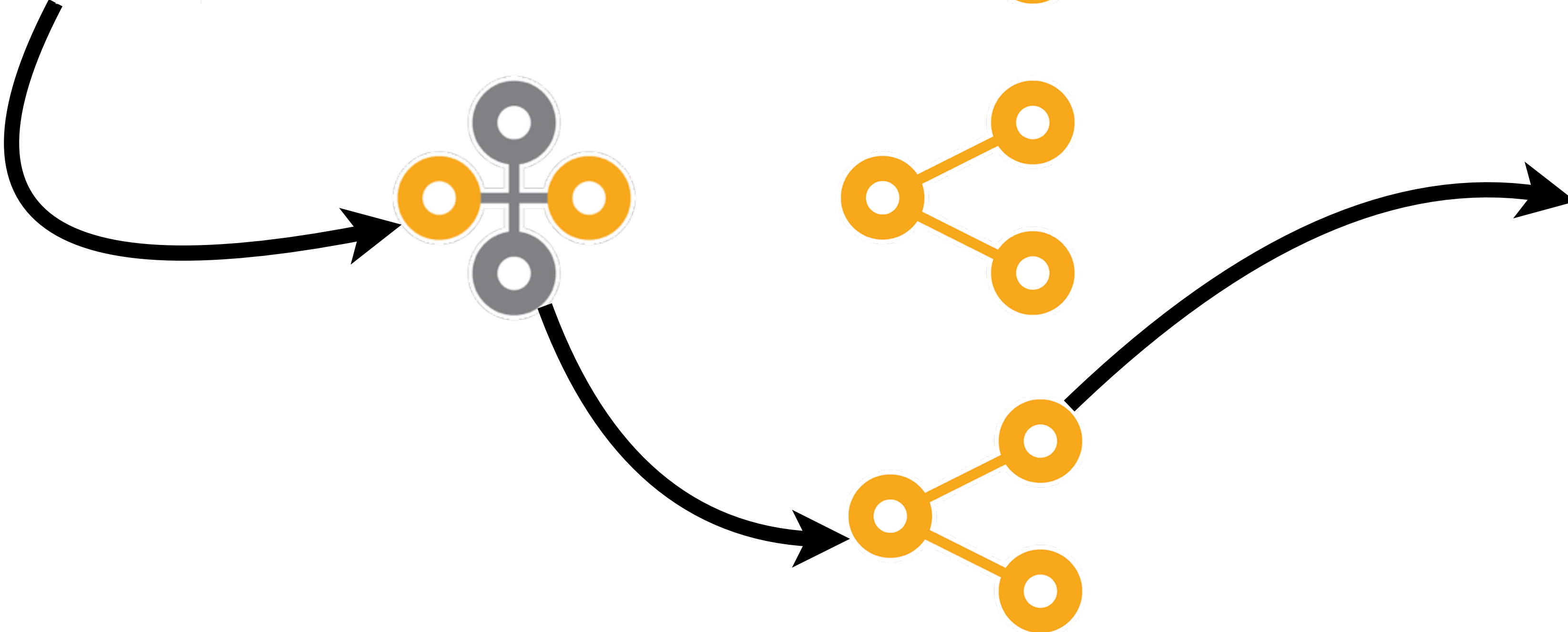
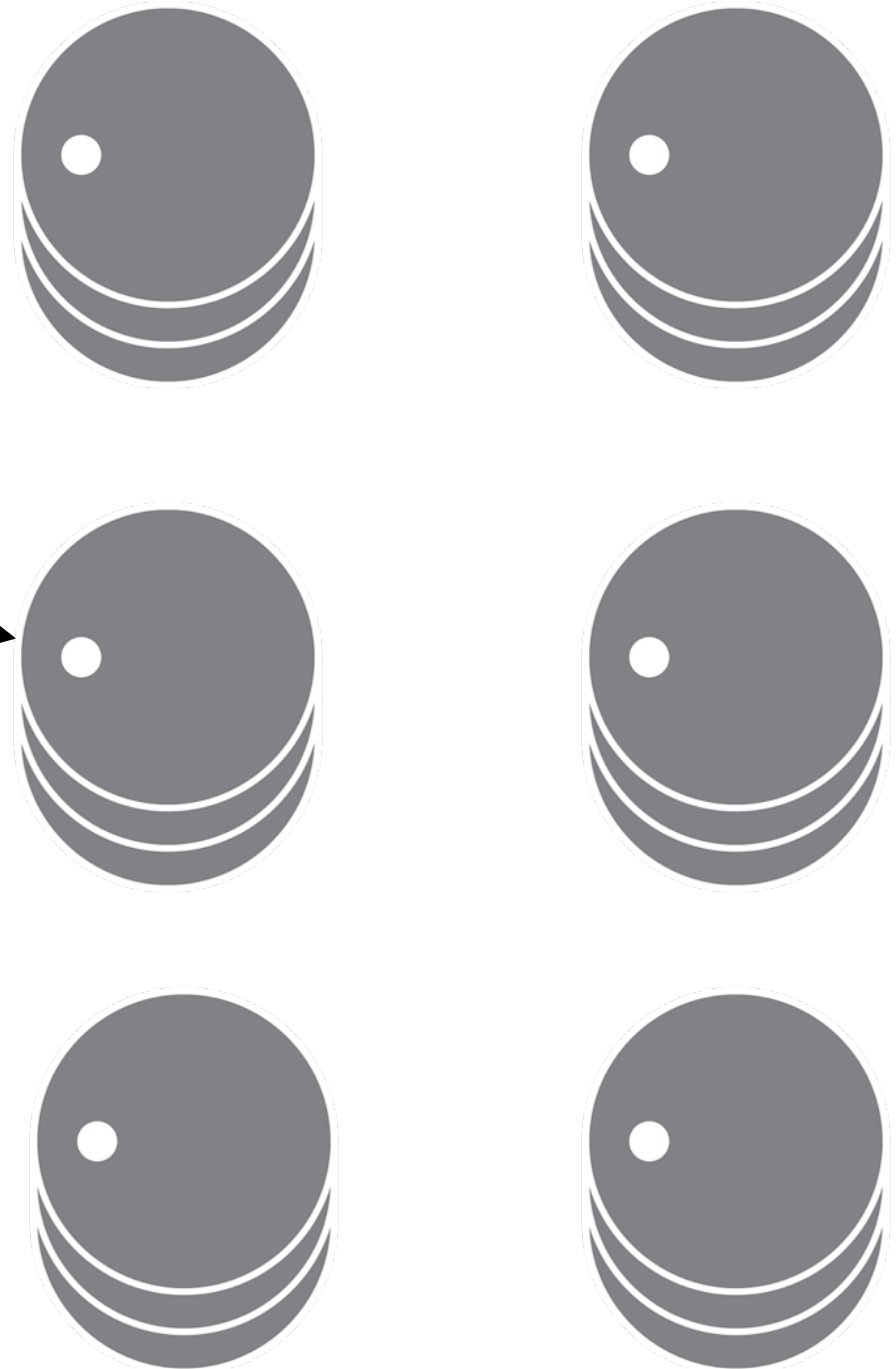
Client



Proxy



Storage Node



(really interesting) stuff not covered in this talk

Drive Failures



Corrupt Data

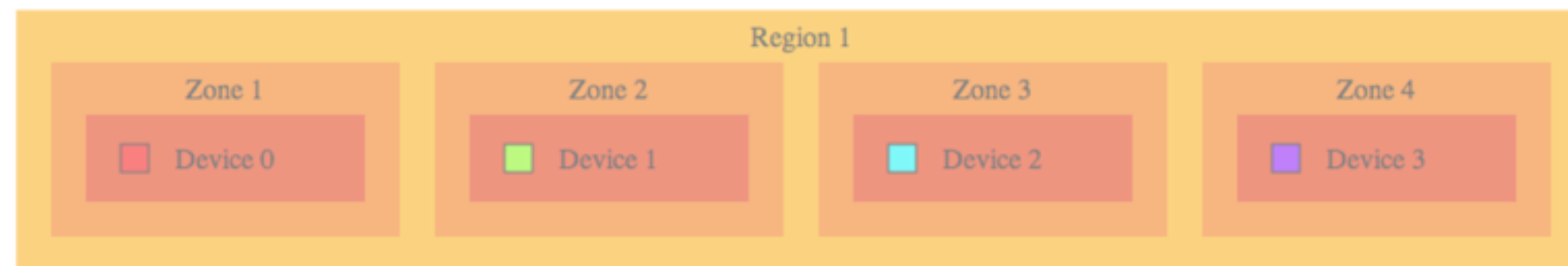


Service

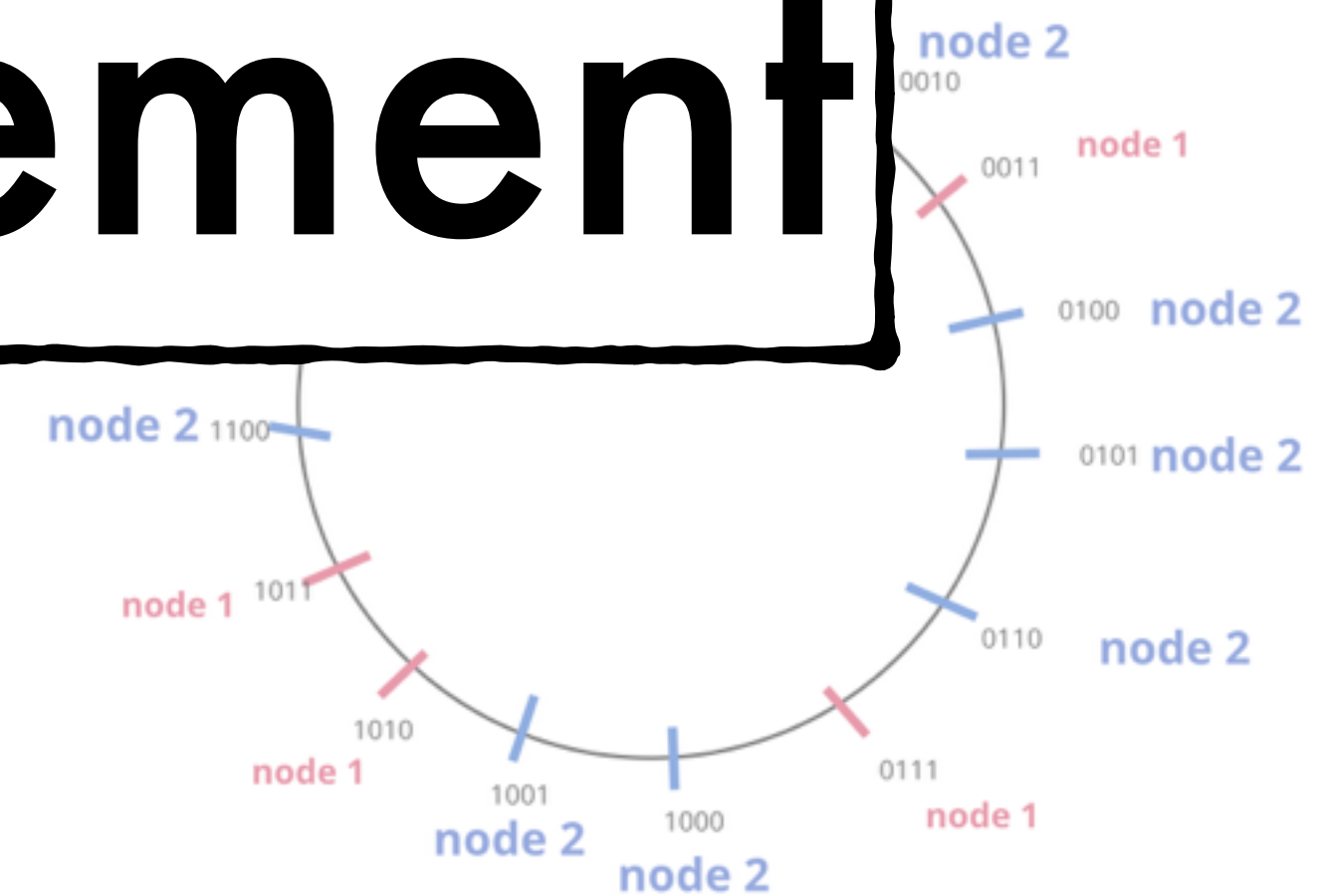
Failure Handling



Data Placement



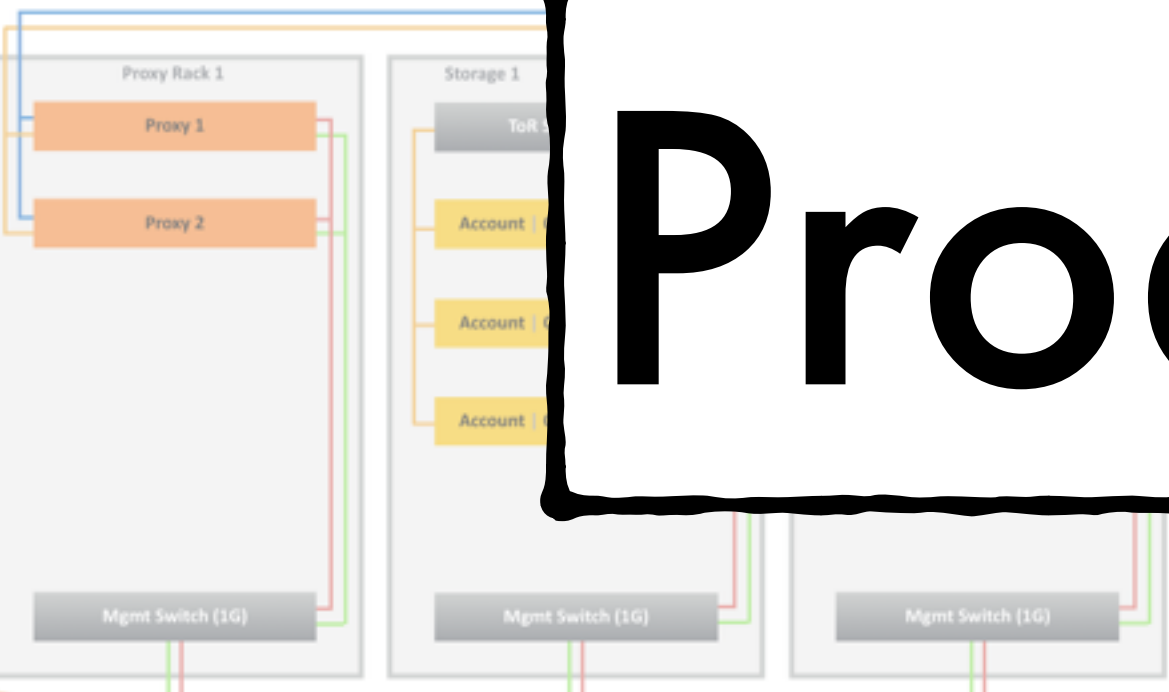
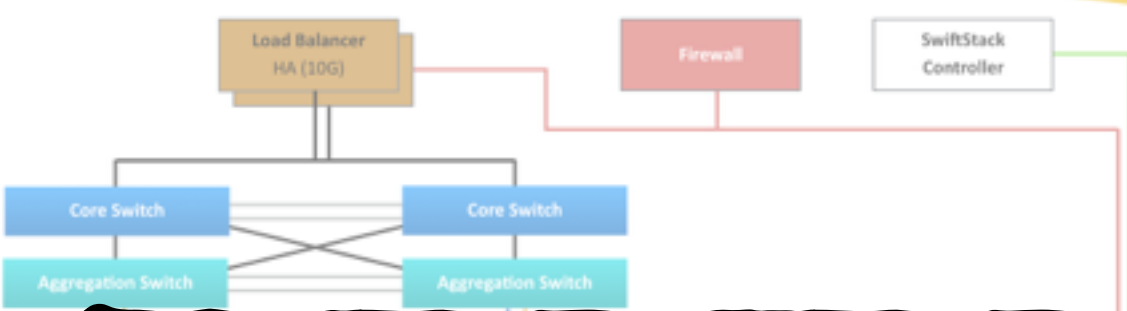
Data Placement



DNS

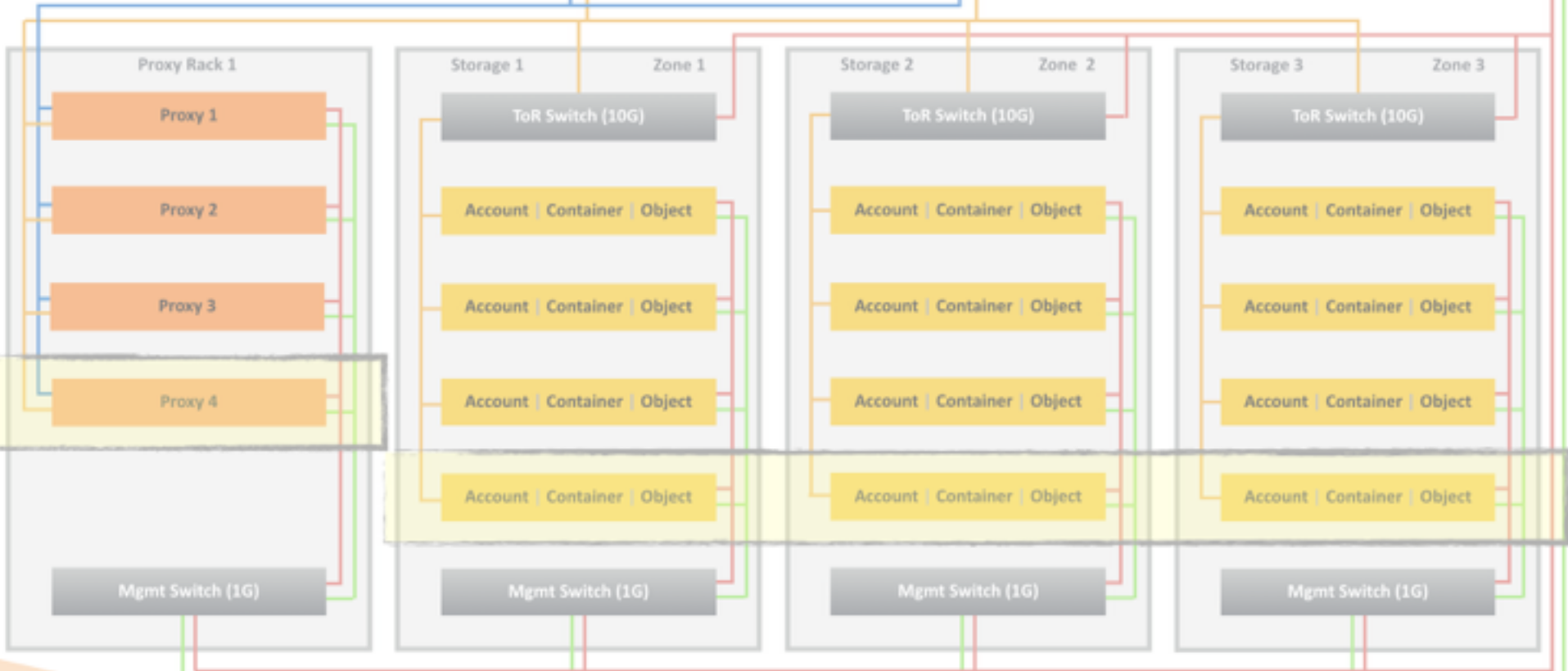
Network Overview

- LEGEND
- Outward-facing (10G)
 - Cluster-facing (10G)
 - Controller network (1G)
 - Out-of-band (1G)

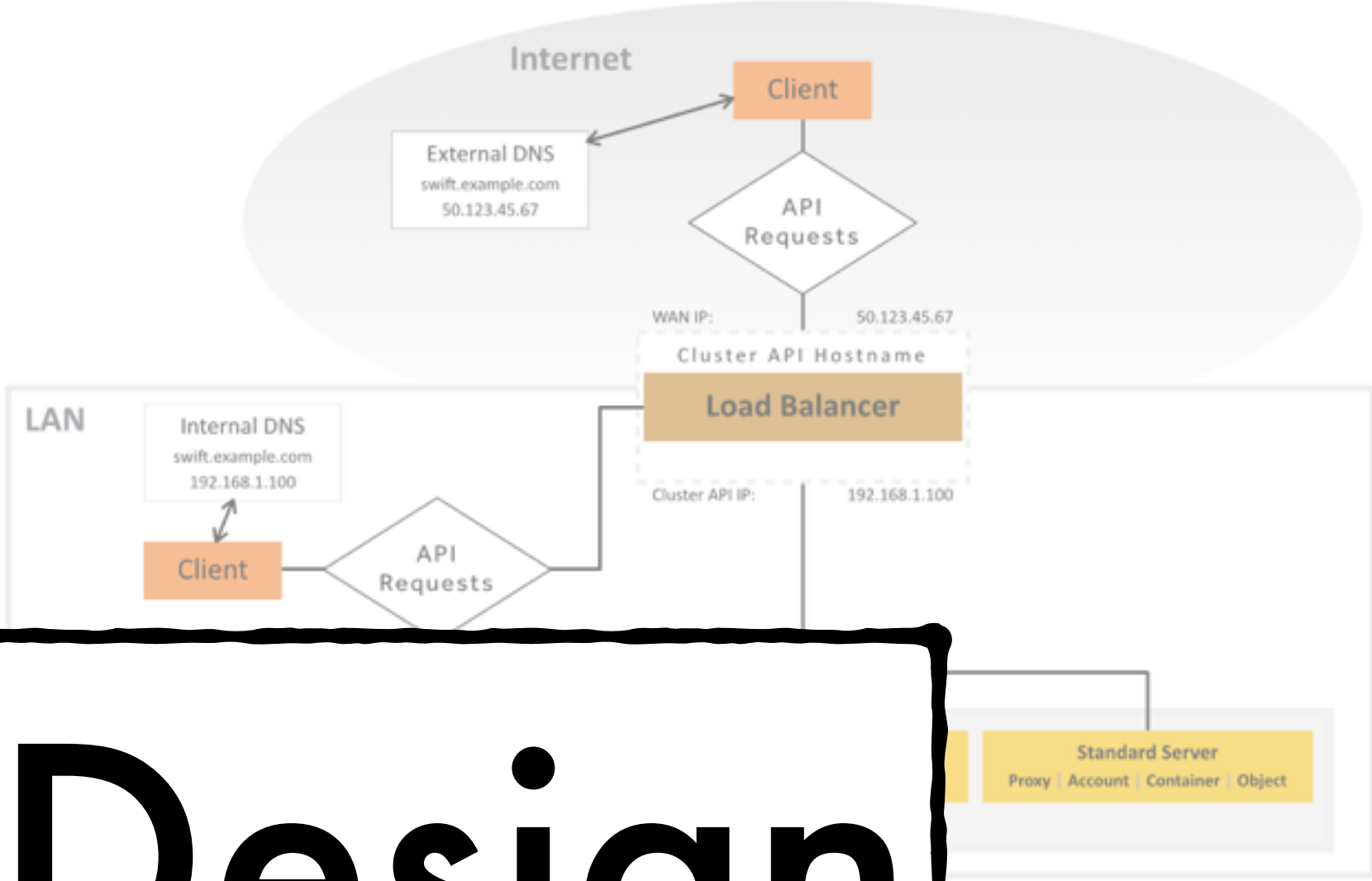


Out-of-band Management

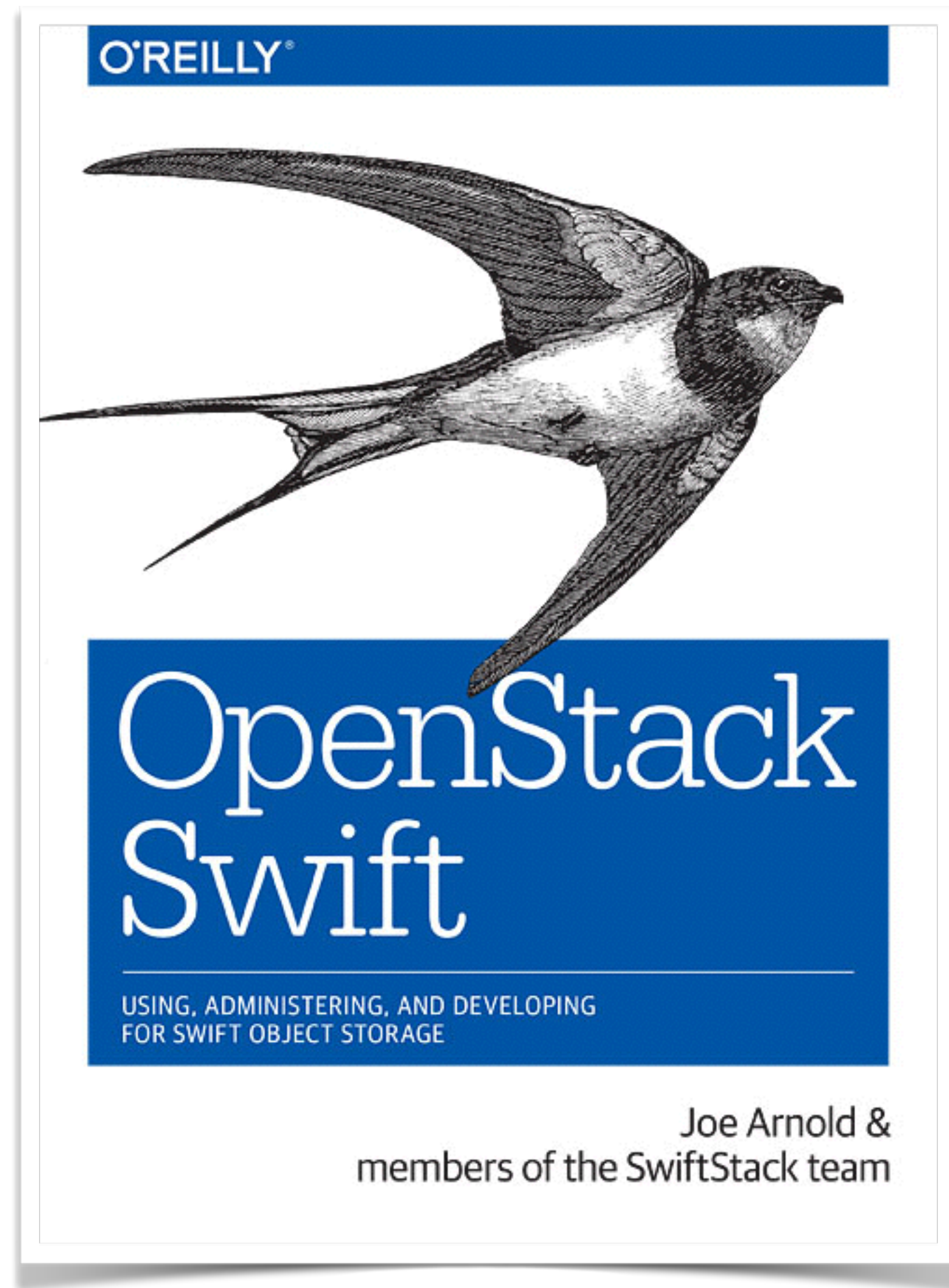
- Outward-facing (10G)
- Cluster-facing (10G)
- Controller network (1G)
- Out-of-band (1G)



Production Design



<http://swiftstack.com/book/>





SwiftStack

4.0

Watch Webinar



What We Do



SwiftStack enables you to do more with storage. Store more data, enable more applications and serve more users. We do this by delivering a proven object storage solution that's built on an open-source core and is fully enterprise ready. Our object storage software is an alternative to complex, expensive, on-premises hardware-based storage solutions.

SwiftStack delivers the features and flexibility you need to easily manage and scale object storage behind your firewall. Customers are demanding storage where they can pay as they grow, find it is easier to consume, and can infinitely scale. Today, our customers use SwiftStack for archiving active data, serving web content, building private clouds, sharing documents and storing backups.

SwiftStack Advantages



Questions?

John Dickinson

<http://swiftstack.com>

@notmyname