

Chaos Engineering Report

12 September 2020

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Summary

This report aggregates 1 experiments spanning over the following subjects:

http, k8s, istio

Experiment

What happens if we abort responses

If responses are aborted, the dependant application should retry and/or timeout requests

Summary

Status	completed
Tagged	k8s, istio, http
Executed From	Aashishs-MacBook-Pro.local
Platform	macOS-10.14.6-x86_64-i386-64bit
Started	Sat, 12 Sep 2020 11:21:51 GMT
Completed	Sat, 12 Sep 2020 11:21:53 GMT
Duration	2 seconds

Definition

The experiment was made of 1 actions, to vary conditions in your system, and 0 probes, to collect objective data from your system during the experiment.

Steady State Hypothesis

The steady state hypothesis this experiment tried was “**The app is healthy**”.

Before Run

The steady state was verified

Probe	Tolerance	Verified
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True

After Run

The steady state was verified

Probe	Tolerance	Verified
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True
app-responds-to-requests	200	True

Method

The experiment method defines the sequence of activities that help gathering evidence towards, or against, the hypothesis.

The following activities were conducted as part of the experimental's method:

Type	Name
action	abort-failure

Result

The experiment was conducted on Sat, 12 Sep 2020 11:21:51 GMT and lasted roughly 2 seconds.

Action - abort-failure

Status	succeeded
Background	False
Started	Sat, 12 Sep 2020 11:21:52 GMT
Ended	Sat, 12 Sep 2020 11:21:52 GMT
Duration	0 seconds
Paused After	1s

The action provider that was executed:

Type	python
Module	chaosistio.fault.actions
Function	add_abort_fault
Arguments	{'virtual_service_name': 'twflix-microservice', 'http_status': 500, 'routes': [{'destination': {'host': 'twflix-microservice', 'subset': 'primary'}}], 'percentage': 50, 'version': 'networking.istio.io/v1alpha3', 'ns': 'twflix-microservice'}

Appendix

Action - abort-failure

The *action* returned the following result:

```
{'body': {'apiVersion': 'networking.istio.io/v1alpha3',
  'kind': 'VirtualService',
  'metadata': {'annotations': {'kubect1.kubernetes.io/last-applied-configuration': '
    'creationTimestamp': '2020-09-12T10:49:34Z',
    'generation': 8,
    'name': 'twflix-microservice',
    'namespace': 'twflix-microservice',
    'resourceVersion': '368008',
    'selfLink': '/apis/networking.istio.io/v1alpha3/namespaces/twflix-mi
    'uid': 'a01494bf-7a4c-4dbb-8446-c9f3ae38a655'},
  'spec': {'hosts': ['twflix-microservice'],
    'http': [{'fault': {'abort': {'httpStatus': 500,
      'percentage': {'value': 50}}},
      'route': [{'destination': {'host': 'twflix-microservice',
        'port': {'number': 80},
        'subset': 'primary'}}]]]}],
  'headers': {'Cache-Control': 'no-cache, private',
    'Content-Length': '1030',
    'Content-Type': 'application/json',
    'Date': 'Sat, 12 Sep 2020 11:21:52 GMT'},
  'status': 200}
```