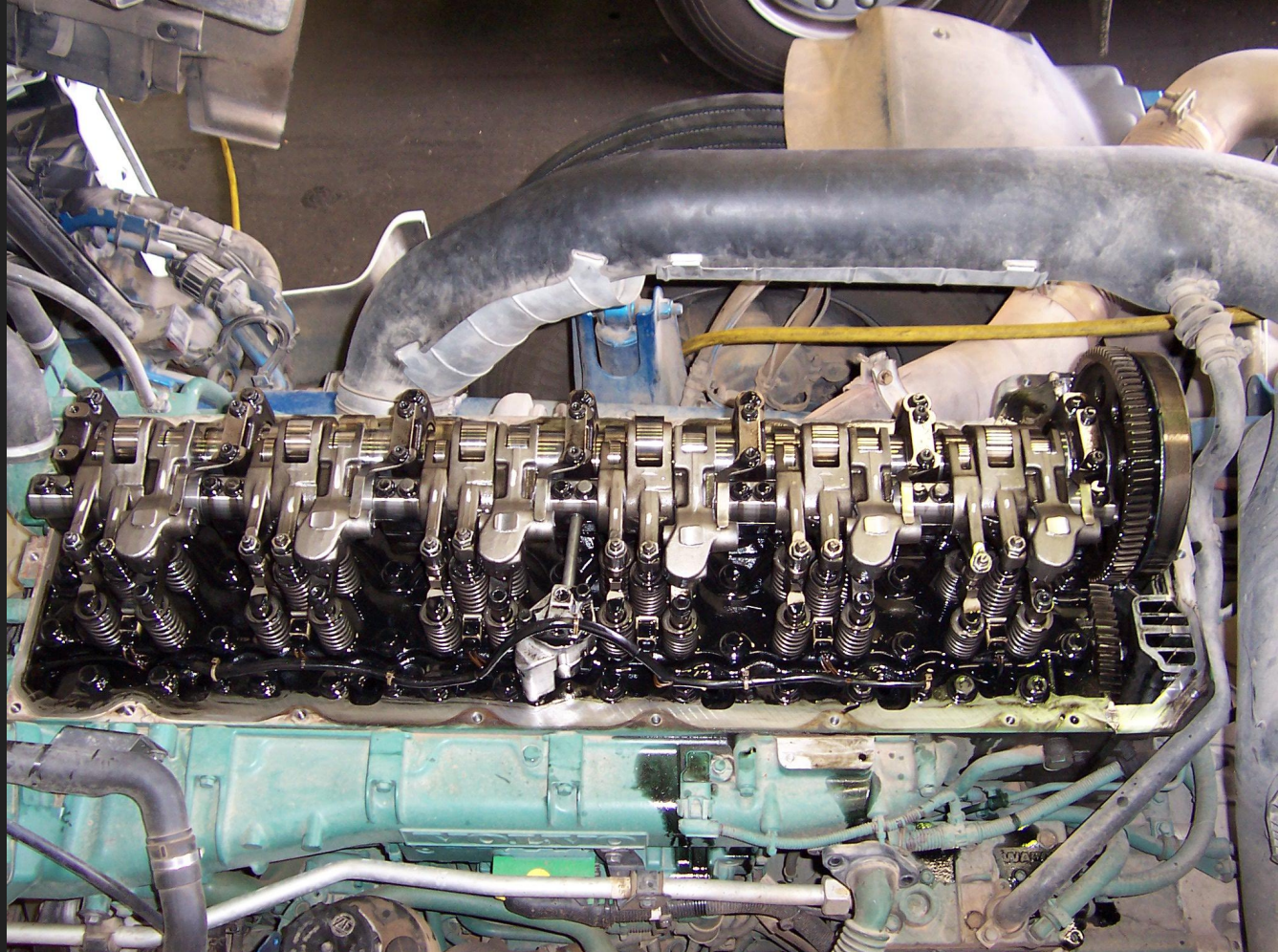


# Building better software together

Thomi Richards  
@thomir

# Complicated Model



Panoha ([CC BY-SA 3.0](#))

# Complicated Problems



[Max Pixel](#) (CC-0)

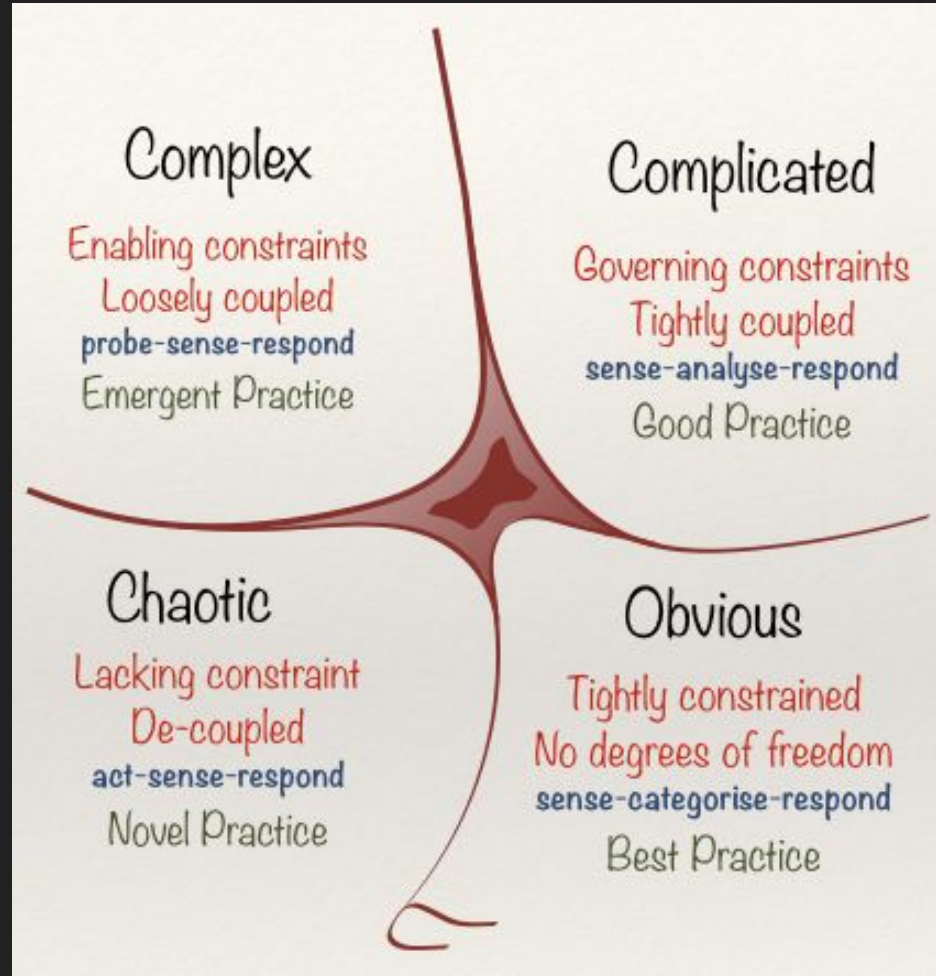


# On Blame



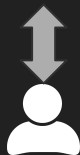
[Max Pixel](#) (CC-0)

# Cynefin Framework

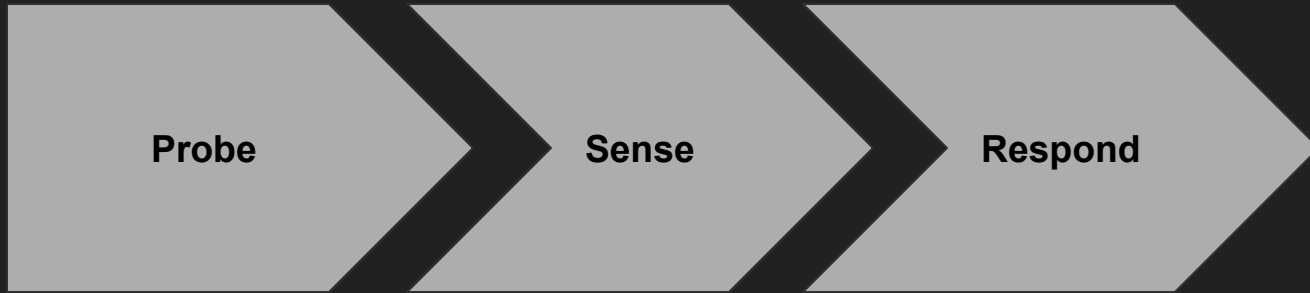


# Complex software

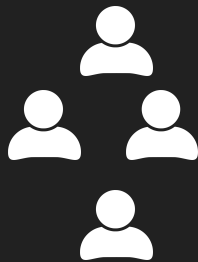
```
503         message =
504         if not hasattr(self, '_headers_buffer'):
505             self._headers_buffer = []
506             self._headers_buffer.append((" %s %d %s\r\n" %
507                                         (self.protocol_version, code, message)).encode(
508                                             'latin-1', 'strict'))
509
510     def send_header(self, keyword, value):
511         """Send a MIME header to the headers buffer."""
512         if self.request_version != 'HTTP/0.9':
513             if not hasattr(self, '_headers_buffer'):
514                 self._headers_buffer = []
515             self._headers_buffer.append(
516                 ("%s: %s\r\n" % (keyword, value)).encode('latin-1', 'strict'))
517
518         if keyword.lower() == 'connection':
519             if value.lower() == 'close':
520                 self.close_connection = True
521             elif value.lower() == 'keep-alive':
522                 self.close_connection = False
523
```



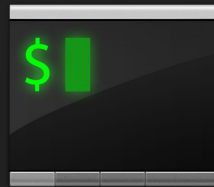
# Cynefin Complex Domain



Complex analysis



Read *the* Docs





How should I run my own post-mortem process?

“It depends”

# Analysis != Response

1. Incident response - fix production
2. Incident analysis - improve resiliency

# Analysis facilitators



# Call time!



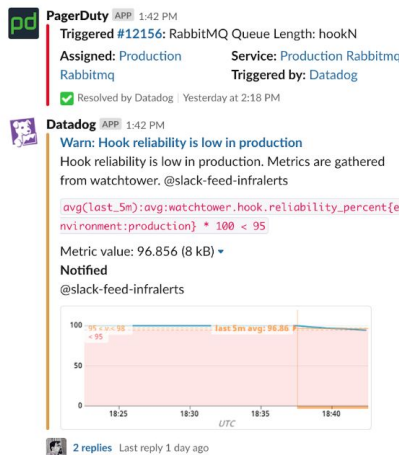
# Call: objective record

- <18:43 Z>: Noticed DataDog warning and attributed it to rotating http\_hooks\_v2 instances - [REDACTED]  
[https://zapier.slack.com/archives/\[REDACTED\]](https://zapier.slack.com/archives/[REDACTED])
- <18:44 Z>: Last new instance was launched
- <18:46 Z>: Datadog alarm on hook publish volume drop  
[https://zapier.slack.com/archives/\[REDACTED\]](https://zapier.slack.com/archives/[REDACTED])
- <18:51 Z>: [REDACTED] says "let's roll back Terraform config change, switching back to the old AMI"
- <18:53 Z> Terraform change created for rolled back  
[https://github.com/\[REDACTED\]](https://github.com/[REDACTED])
- <18:54 Z> Terraform change approved by [REDACTED]



# Call: systems analysis

- The PagerDuty and DataDog #infra-alerts posts arrived roughly simultaneously. The PagerDuty triggered was red. The DataDog warn was orange, and bigger, overshadowing the importance of the first. Two minutes later, a DataDog triggered alert occurred:



- This kind of PagerDuty RabbitMQ queue length alert sometimes appears for benign reasons. It doesn't necessarily require action.
- Let's tweak levels so there's no warning anymore - either green or red.
- Check LoadBalancer health checks - how do we make it obvious to do this at that point in time?
  - We could add actionable things into DD alerts

# Call: Action items

Improvement name	Owner	Details	Bug/ticket link
Investigate [REDACTED]	[REDACTED]	<ul style="list-style-type: none"><li>• [REDACTED]</li><li>• [REDACTED]</li><li>• [REDACTED]</li><li>• [REDACTED]</li></ul>	<a href="https://zapierorg.atlassian.net/browse/IE-1457">https://zapierorg.atlassian.net/browse/IE-1457</a>
Why u no sentry?	[REDACTED]	<ul style="list-style-type: none"><li>• Did we get a sentry report? If not, why not?</li></ul>	<a href="https://zapierorg.atlassian.net/browse/SX">https://zapierorg.atlassian.net/browse/SX</a>
		<ul style="list-style-type: none"><li>• If so, why didn't we see it?</li></ul>	<a href="#">P-794</a>

# Communication & improvement

Hi everyone would love feedback on another postmortem we have conducted

[https://\[REDACTED\]/p/post-mortem-app-landing-pages-overlapped-between-role-and-secondaryslug-causing-404-2019-06-10](https://[REDACTED]/p/post-mortem-app-landing-pages-overlapped-between-role-and-secondaryslug-causing-404-2019-06-10)



**3 replies** Last reply 1 month ago

# References

## Cynefin

- [HBR introduction](#)
- [Kurtz & Snowden paper](#)

## Other Reading:

- [How complex systems fail](#)
- [Jessica Kerr on Symmathesy](#)
- [Faun on post-mortems](#)

## Post-mortem techniques

- [5 'why's](#)
- [Infinite Hows](#)

## Human Error Analysis

- [Woods, Dekker: 'Behind human error'](#)
- [Dekker: 'Drift into failure'](#)

# Thank you!



We're hiring! <https://zapier.com/jobs/>

## Talk slides

available here: