Practicing Chaos Engineering at Walmart

Vilas Veeraraghavan

Chaos conf.


Resiliency is the goal !

Practicing ~~Chaos~~ Engineering at Walmart

Vilas Veeraraghavan

Chaos conf.

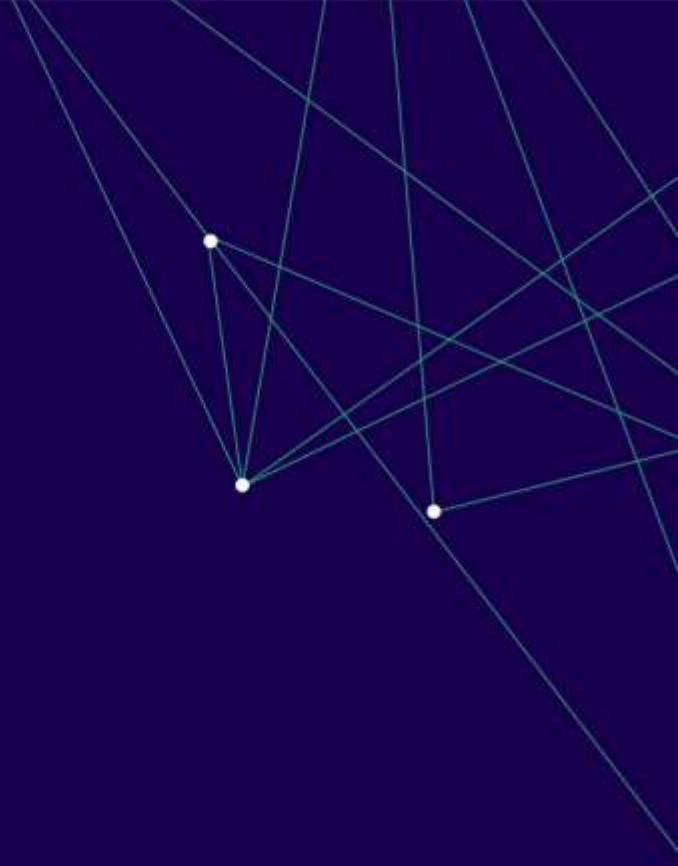
Practicing Resilience Engineering at Walmart

Vilas Veeraraghavan

Chaos conf.

My goals

- Customer comes first
- Teams OWN resiliency
- Fail fast, fail often



Role of Cloud Platform team

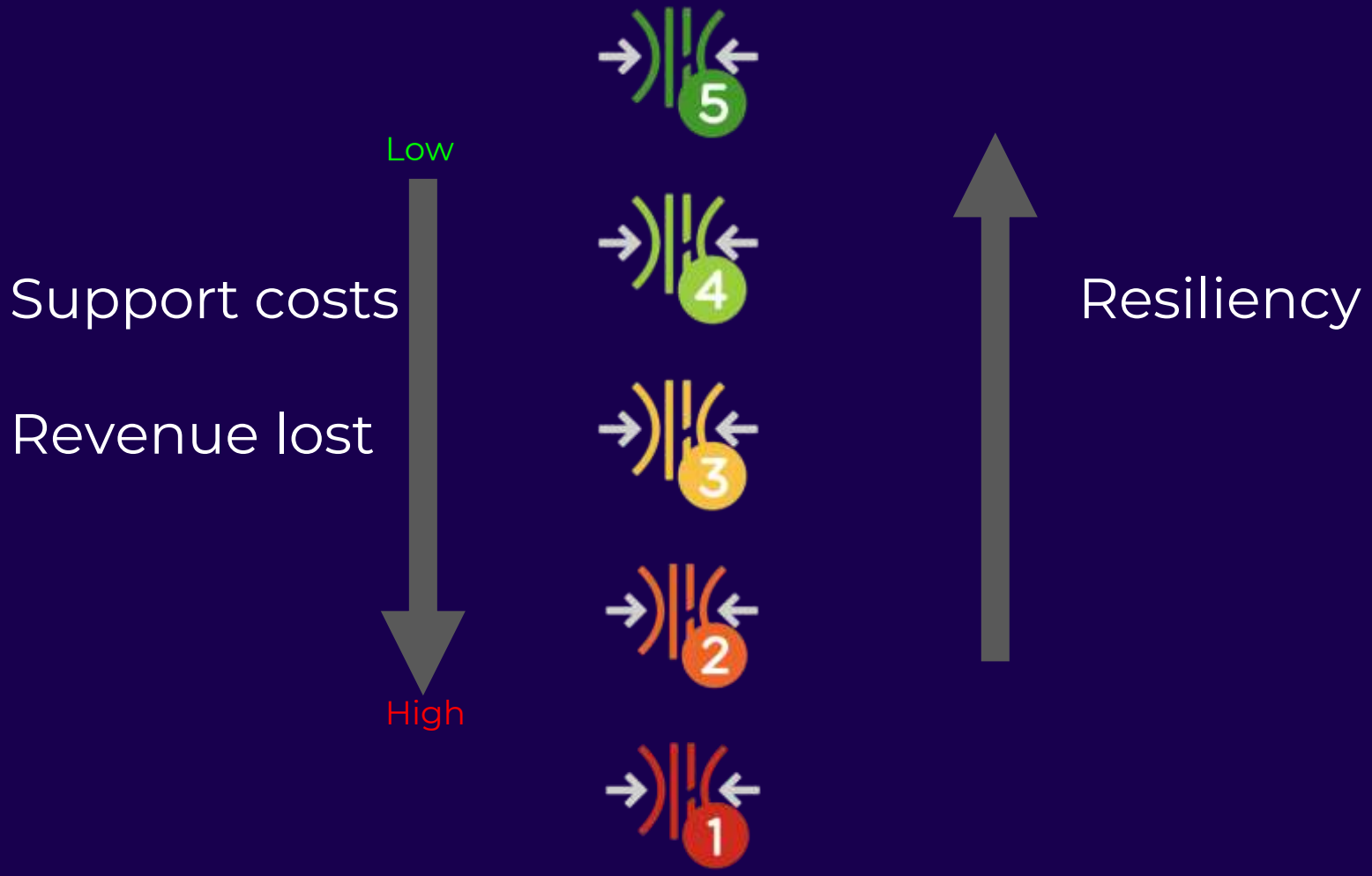
- Centralize the best practices, tools and techniques
- Enforce and facilitate gamedays
- Create tools for every phase of the CD pipeline
- Monitor acceptable levels of resiliency and call out “risks”

What should apps be resilient to?

- Infrastructure issues - failures, glitches, faulty maintenance policies
- Dependency failures - changing versions of APIs, changing SLAs
- Deployment issues - Are you even deployed right?

Go Team!

Resiliency Levels



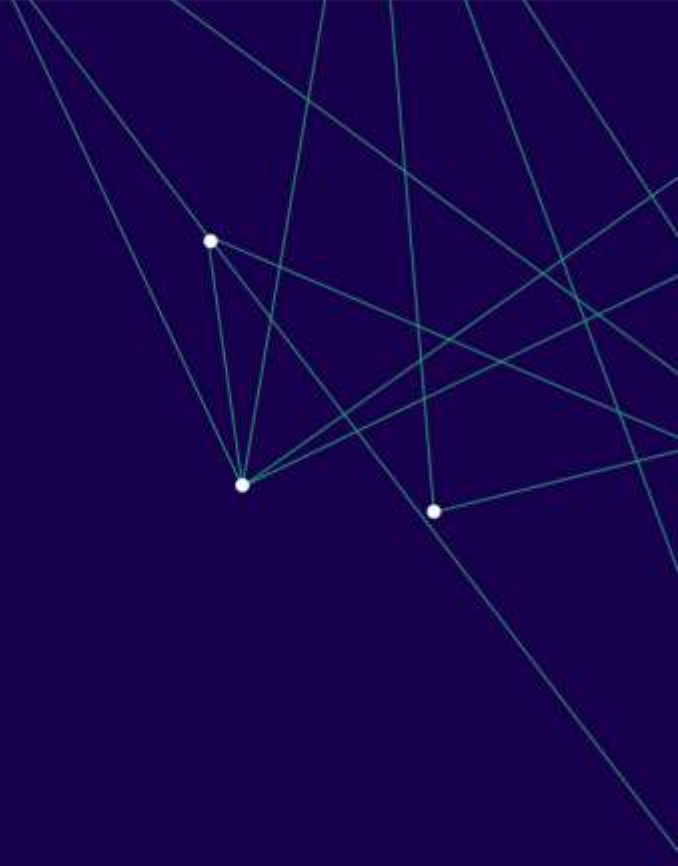
Chaos conf.

Pre-requisites

1. Create your DR failover playbook
2. Define critical dependencies
3. Compose playbook for critical dependency failures
4. Define non-critical dependencies
5. Define thresholds at which non-critical dependency failures will impact system

Get a check up.

Resiliency doctor



Debugging tool for your application deployment

- One page report for the entire hybrid cloud deployment
- Serves as a debug tool and an enforcement tool
- First step of every resiliency test

Level 1

- **All** of the pre-requisites stored in a single well-defined place.
- Agreement on playbooks to be used by Devs, Testers, Operations, stakeholders.
- Manual exercise that validates the DR failover playbook

Level 2

- **All** of level 1 requirements, plus
- Run a failure test for critical dependencies in a non-prod environment
- Publish test results to team, stakeholders
- Manual tests are acceptable

Level 3

- **All** of level 2 requirements, plus
- Run tests regularly on a cadence (atleast once every 4-5 weeks)
- Publish results to hygieia to track resiliency over time
- Run atleast one resiliency exercise (failure injection) in production environment

Level 4

- **All** of level 3 requirements, plus
- Automated resiliency testing in non-prod environment
- Semi-automated DR failover scripts (minimal human supervison required)

Level 5

- **All** of level 4 requirements, plus
- Automated resiliency testing fully integrated into CI/CD environment
- Resiliency failure results in build failure
- Automated resiliency testing and DR failover testing enabled in production environment

Long way to go...

Results

- Teams doing resiliency tests - 50+
- Actively using failover playbooks during outages
- Empowered teams - no more silos
- A culture of accountability

Thank you.


Chaos
conf.