



solstice

KIN + CARTA

PROVING WHAT HUMANITY IS CAPABLE OF

SPRING CLOUD: CIRCUIT BREAKER

Spring Cloud now provides an abstraction layer access to a **Circuit Breaker**. These Circuit breakers allow for micro-service architectures to introduce fault tolerance and isolation in order to fail gracefully during a critical downtime event.

CIRCUIT BREAKER IMPLEMENTATIONS

Spring Cloud Circuit Breaker is an abstraction layer. Providing common API access to any of the following circuit breaker tools.

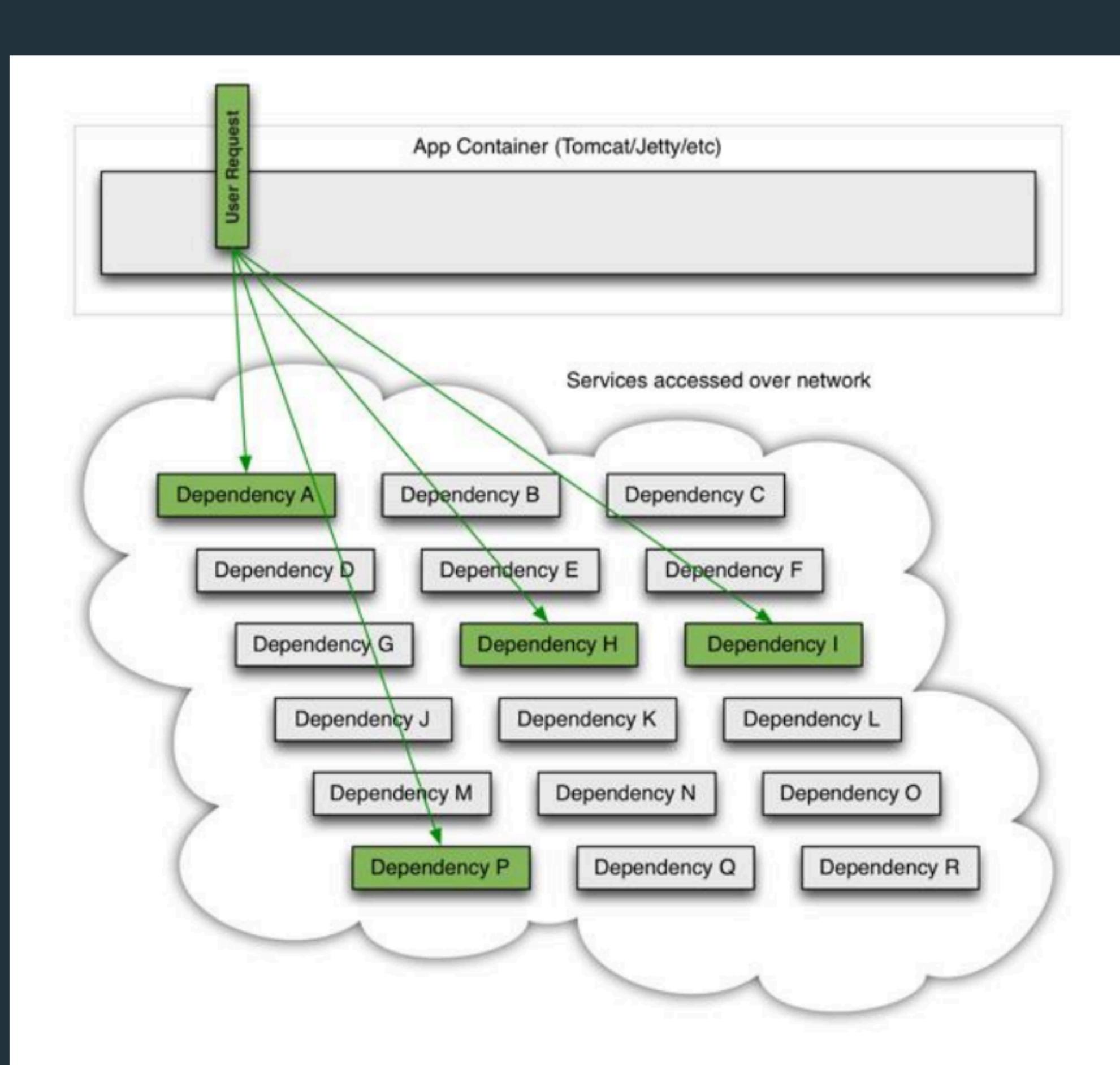
- Resilience4J
- Alibaba Sentinel
- Spring Retry
- Netflix Hystrix

$99.99^{30} = 99.7\%$ uptime

0.3% of 1 billion requests = 3,000,000 failures

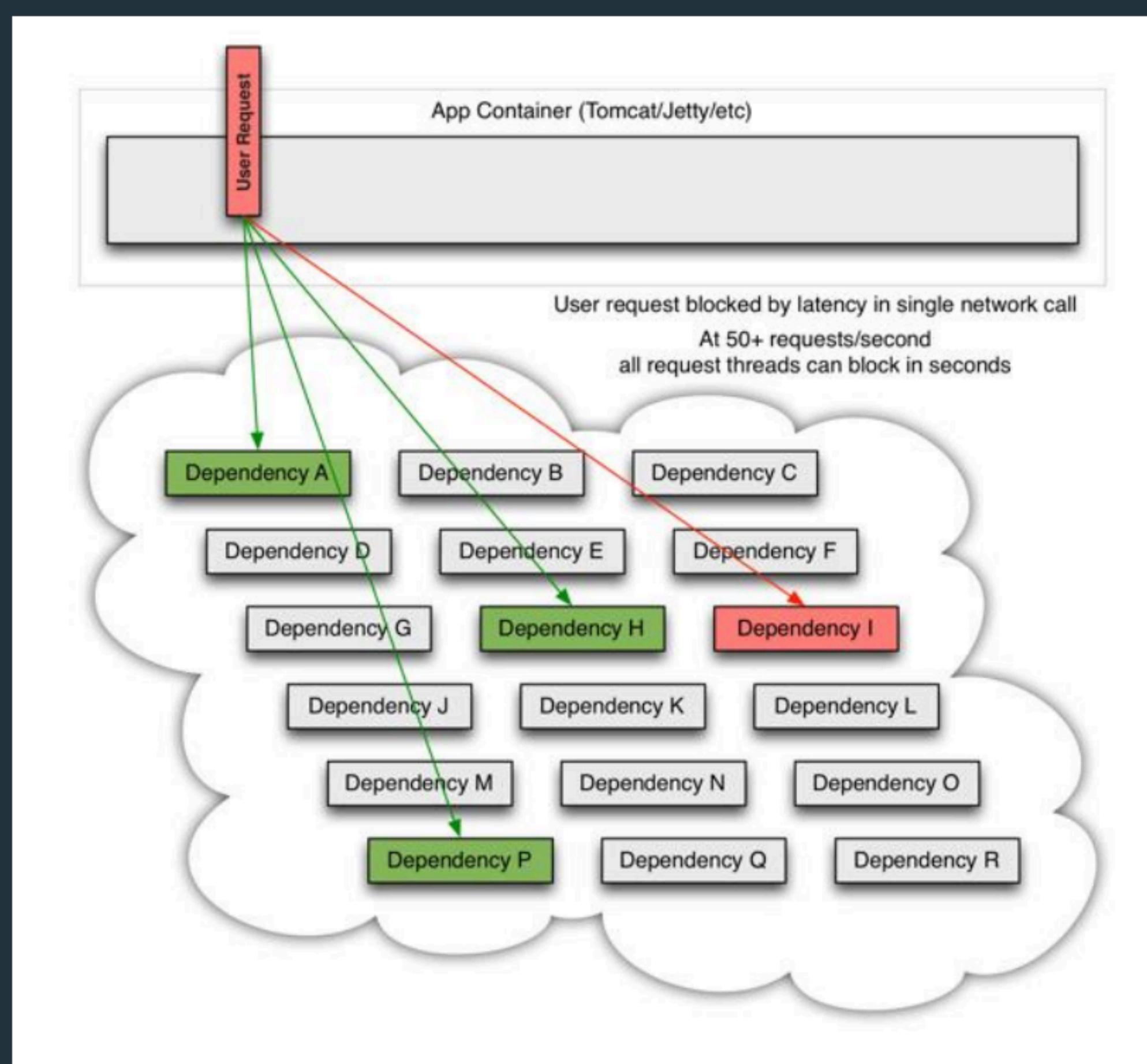
2+ hours downtime/month even if all dependencies have excellent uptime.

Service Uptime dependencies in a distributed system



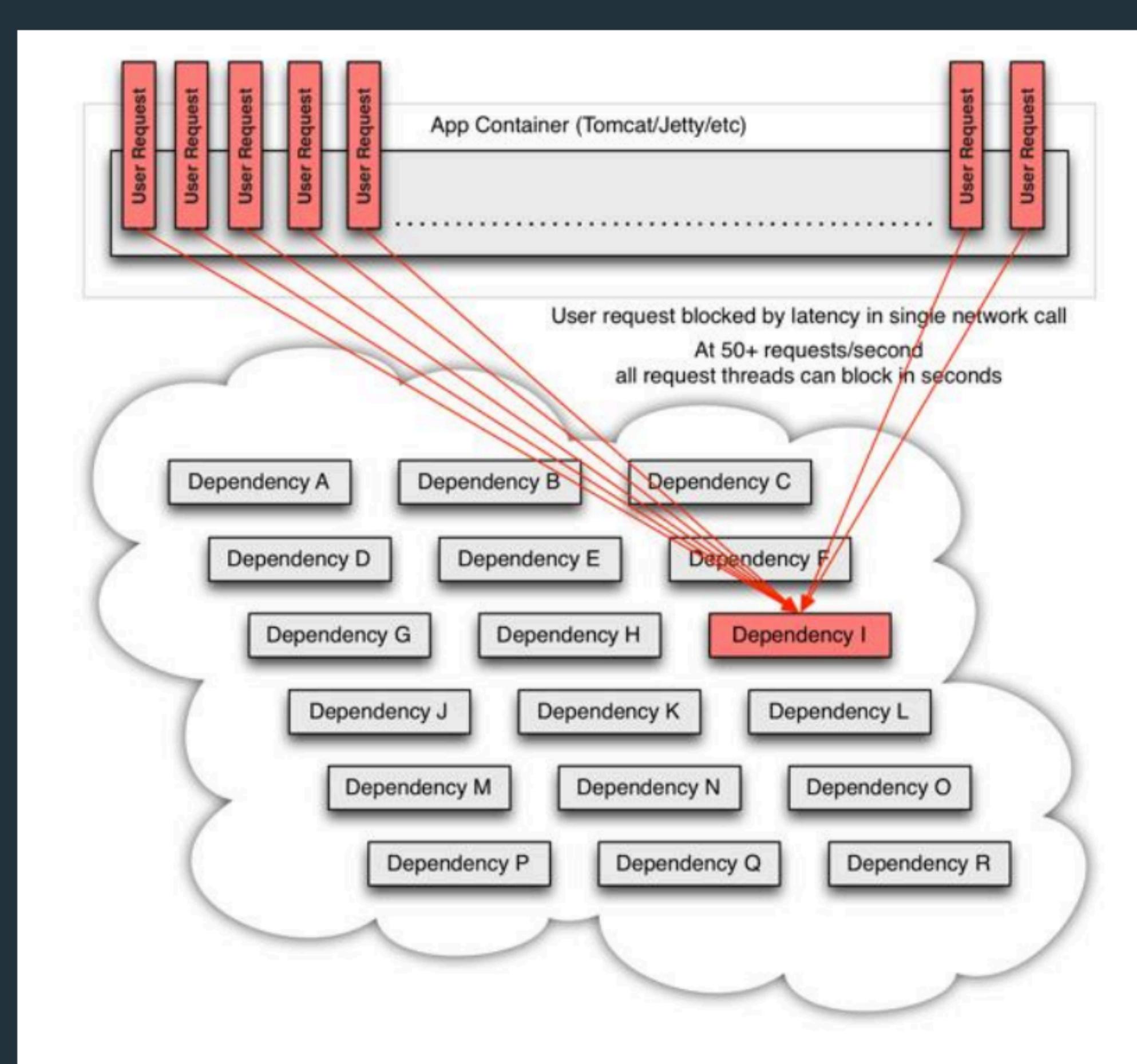
Source: <https://github.com/Netflix/Hystrix/wiki>

A Healthy Distributed System



Source: <https://github.com/Netflix/Hystrix/wiki>

Single failing dependency from user call



Source: <https://github.com/Netflix/Hystrix/wiki>

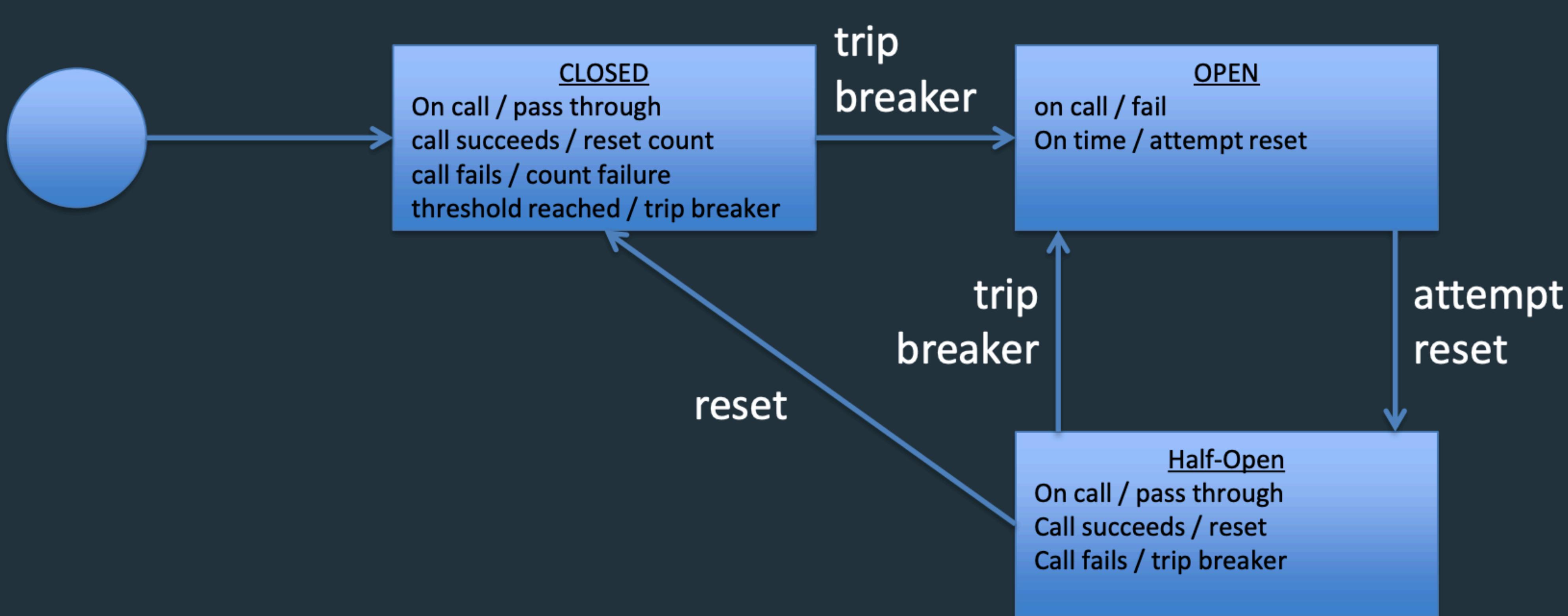
Within seconds, failures can bring down upstream systems with latency and thread blockage.

“But, how do we protect ourselves from systems we may not have control over?”

The Answer:

Circuit Breakers and Fallbacks.

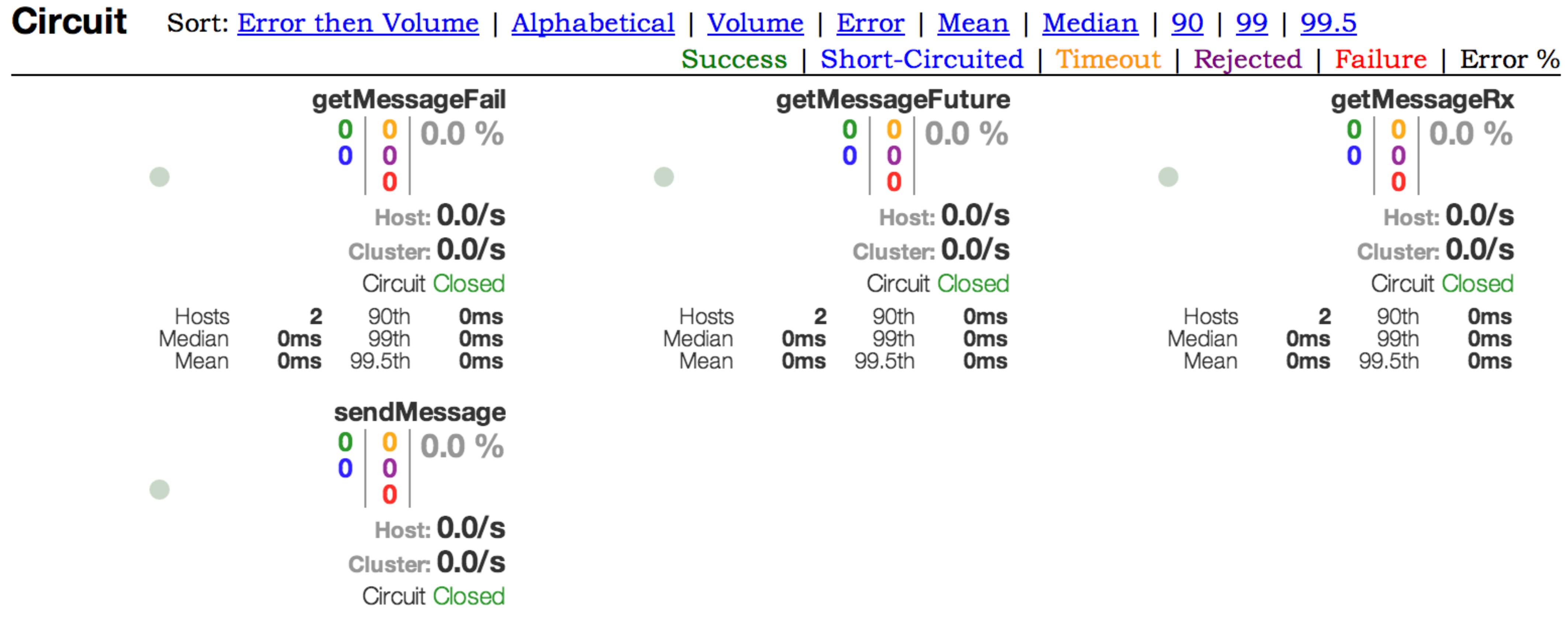
By wrapping downstream dependencies in a circuit breaker, you can instantly detect failures and quarantine the system at fault. Providing a control pattern and monitoring system for high volume distributed systems.



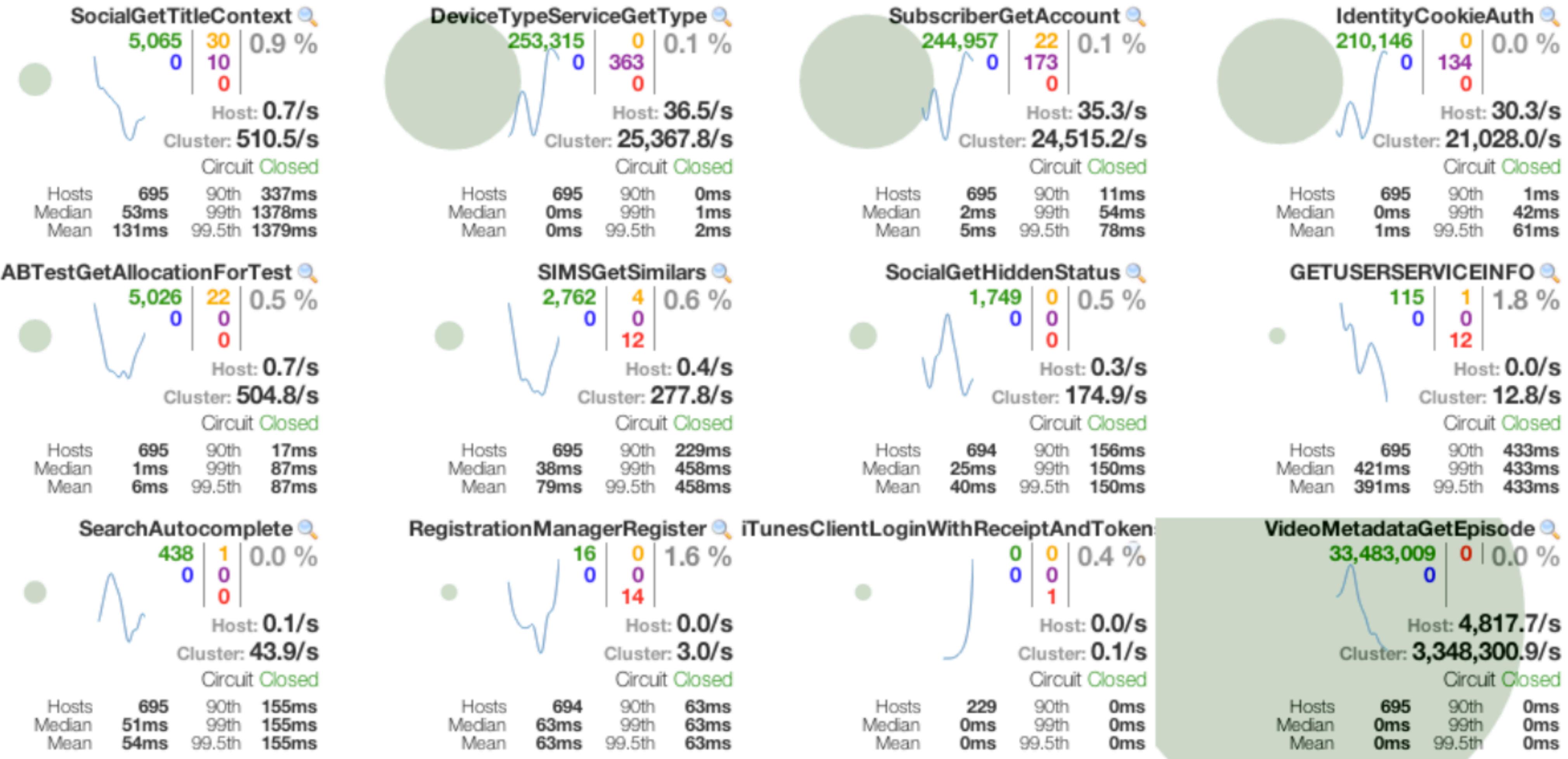
What happens with a circuit is tripped.

MONITORING

Hystrix Stream: Sample Apps



TURBINE- ALL THE METRICS



Source : <https://github.com/Netflix/turbine/wiki>

**DEMO
TIME**

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Thank You