



A tool to test resiliency with random shutdowns

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Motivation and Objective

- Cloud is here to stay
- 83% of the enterprise workloads are expected to be in cloud by 2020 (Columbus, 2018)
- Need to ensure system is stable in Cloud
- One of the Cloud Characteristics is to provide resiliency through redundancy
- However, it is critical for Cloud Consumers to know how resilient their system is when the redundancy instances are killed

Approach

- Offer cheap on-demand tool to test resiliency by leveraging Chaos Monkey, an open source application developed by Netflix
- Uses the concept of Chaos Engineering – A discipline of experimenting on a system in order to build confidence in the system's capability to withstand turbulent conditions in production
- Provide monitoring service which constantly monitors the customers target system to detect outage
- Show statistics such as the time taken to recover in case of failure

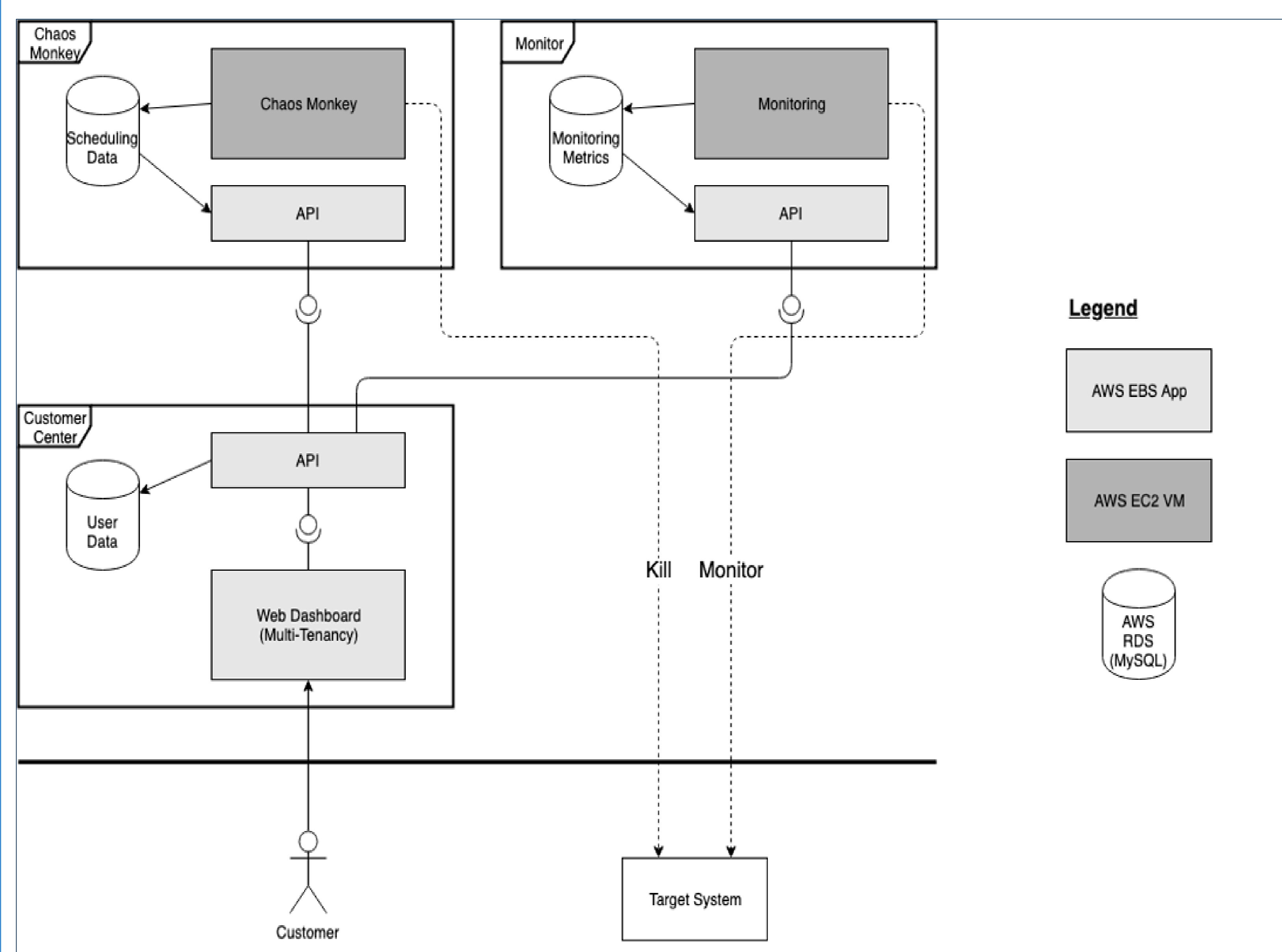
Target Users

- IT Service Providers
- Companies hosting enterprise system in Cloud

Limitations

- Only provide instance shutdown. Introduce additional forms of resilient test such as randomly inject latency to API calls to stimulate service degradation
- Does not provide recovery capabilities

Implementation



CHAOS MONKEY (Schedules the Random Activity)

- **Cloud Components**
- Chaos Monkey – AWS EC2 VM (Linux)
- API – AWS Elastic Beanstalk web app (Node.js)
- Scheduling database – AWS RDS (MySQL)

MONITOR (Detects outages in target system)

- **Cloud Components**
- Zabbix – AWS EC2 VM (Linux)
- API – AWS Elastic Beanstalk web app (Node.js)
- Monitoring database – AWS RDS (MySQL)

CUSTOMER CENTER (Configure target systems and visualize system health)

- **Cloud Components**
- Dashboard – AWS Elastic Beanstalk web app (React.js, Node.js, Express.js)
- API – AWS Elastic Beanstalk web app (Node.js)
- User data database – AWS RDS (MySQL)

Revenue Model



30-Day Free Trial

WHAT'S INCLUDED

- 1 Target system
- Intuitive UI
- Monitoring Service
- Training and Guides



Standard
\$0.05/Hour

WHAT'S INCLUDED

- Up to 4 Target system
- Intuitive UI
- Monitoring Service
- Statistics
- Training and Guides
- Expert Support
- Automatic Upgrades



Advanced
\$0.045/Hour

WHAT'S INCLUDED

- 5 – 10 Target system
- Intuitive UI
- Monitoring Service
- Statistics
- Training and Guides
- Expert Support
- Automatic Upgrades

A customer requiring chaos monkey service for 5 target systems over a 14-day period would be charged \$75.60 based on the Advanced subscription charges

Price = 0.045/Hour * 24 Hours * 14 Days * 5 Target Systems = \$ 75.60