

SATURN 2017

13th Software Engineering Institute Architecture
Technology User Network Conference

Cloud Detour Cloud Resources Resiliency

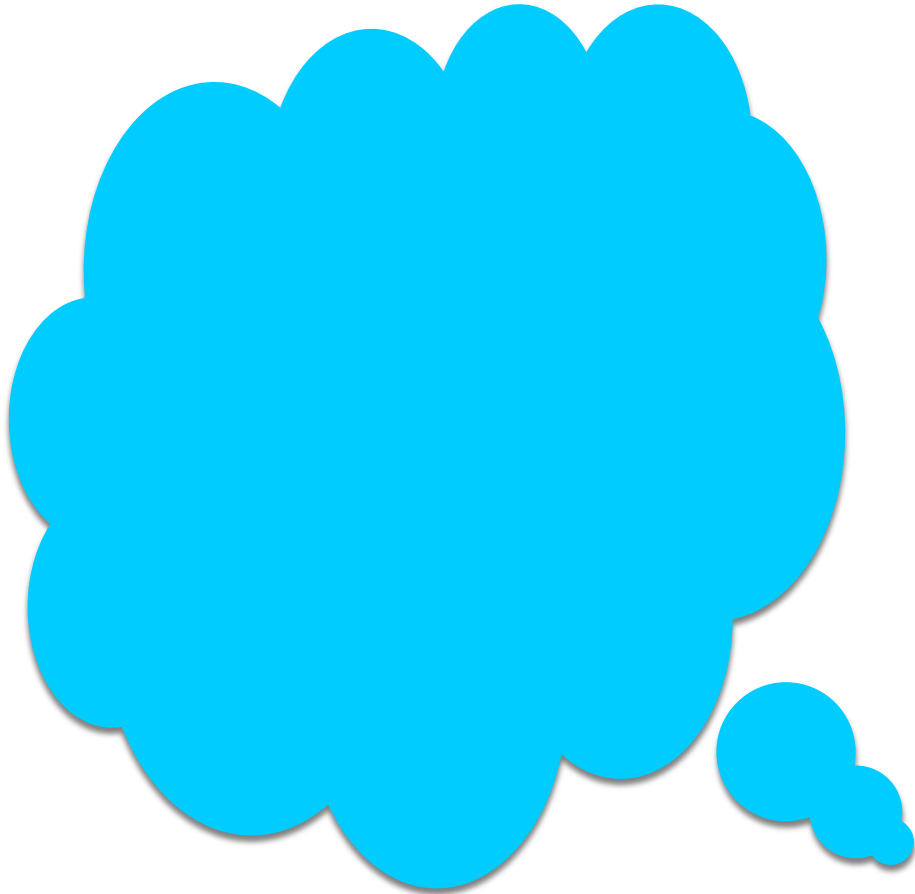
Gnani Dathathreya, Capital One

Sathiya Shunmugasundaram, Capital One





Cloud is ubiquitous, but failures are unavoidable and unpredictable raising uncertainty and risk to the systems



Disks Fail

Latency

Software Issues

Instances Reboot

Human Errors

Network Outages



Traditional approaches can't predict all failure modes

Fault tolerance

Look aside

Fault isolation

Degraded experience

Automated recovery

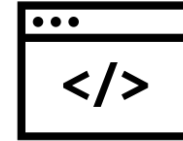
Extended test suites to simulate all failure modes



Existing chaos engineering tools are good at creating disorder, but they have limitations



Use Archaic technologies



Customization of code required to work behind enterprise proxy



Do not support application level disruption schedule



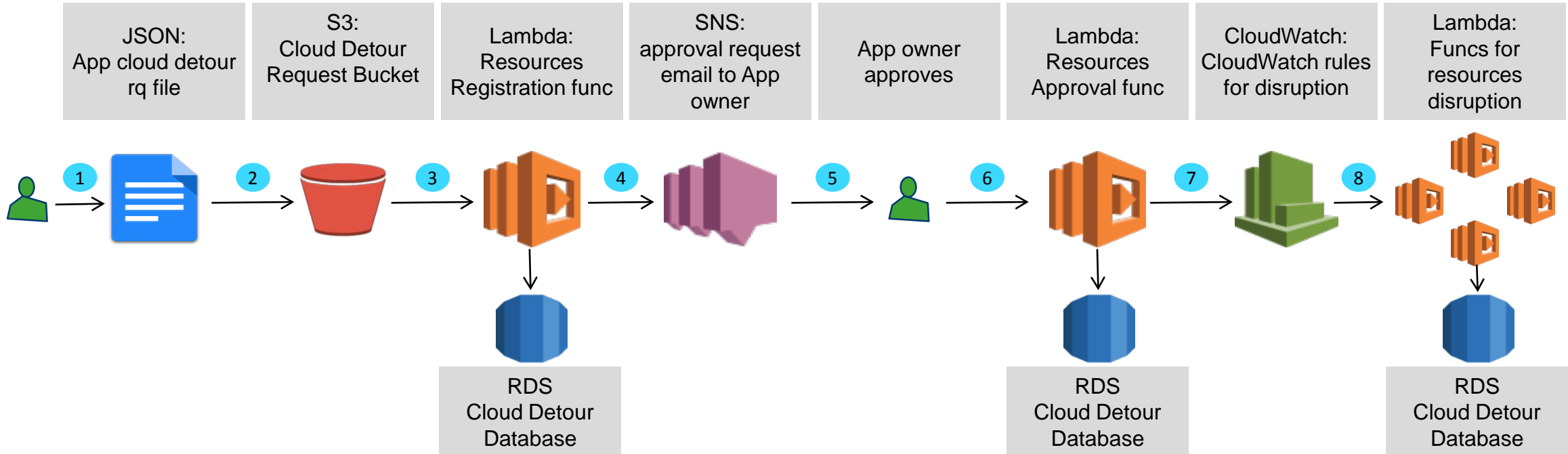
Limited to a small segment of cloud components



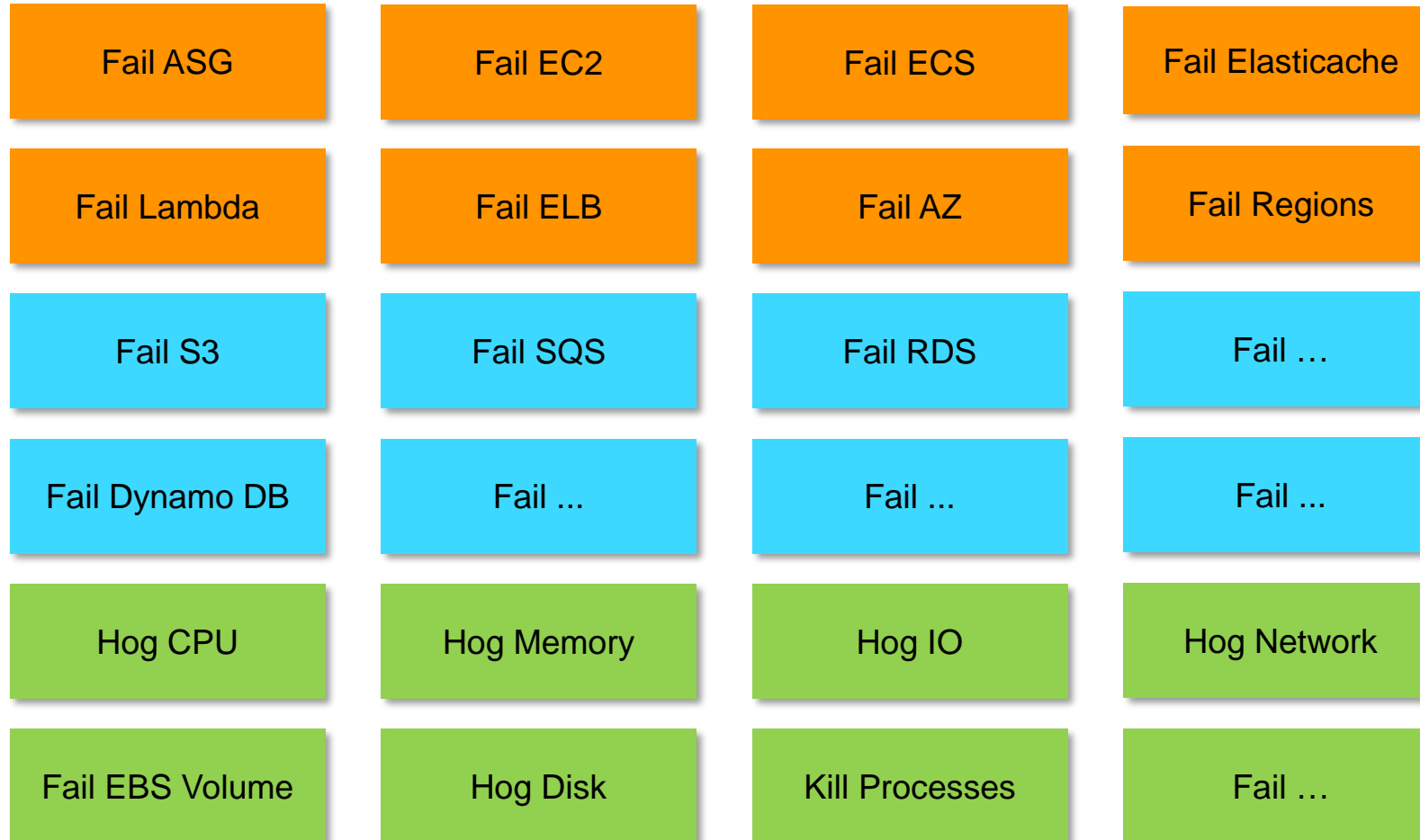
Require engineer managed compute to create a disruption of choice



Cloud Detour leverages Serverless architecture to cause disruption to cloud resources



Cloud Detour tests applications' resiliency by causing disruptions to cloud compute resources, managed services and VM processes.



Register your Application with Cloud Detour for resiliency testing by describing the cloud resources



```
{
  "description": "My Application Cloud Detour Request",
  "cloudDetourRq": {
    "action": "register",
    "appName": "My application name",
    "appId": " MYAPP1",
    "appOwner": "appowner@address.com",
    "requesterContact": "requester@address.com",
    "cloudResources": [
      {
        "resourceType": "autoscalinggroup",
        "resourceId": [
          {
            "name": "name",
            "value": "myapp-webtier-asg"
          }
        ],
        "disruptionType": "random-stop",
        "disruptionSchedule": "0 14 * * MON-FRI",
        "resourceContact": "arn:aws:sns:region:accountnum:topic-name"
      }
    ]
  }
}
```




Cloud Detour CLI provides full lifecycle management for application resiliency testing

```
c9r> help
```

```
Clour Detour commands (type help <command>):
```

- o get_app_ids
- o get_resource_events
- o get_resource_logs
- o get_resources
- o help
- o register
- o resume
- o suspend
- o unregister

Future Developments

- Comprehensive features coverage
- Open Sourcing
- Amazon DynamoDB and API GW support
- Multi-Cloud Abstraction



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Questions?

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