Introduction to Spring Cloud

Summary

LXFT LISTED NYSE

Prepared by Orkhan Gasimov
Feb. 2017

LUXOFT

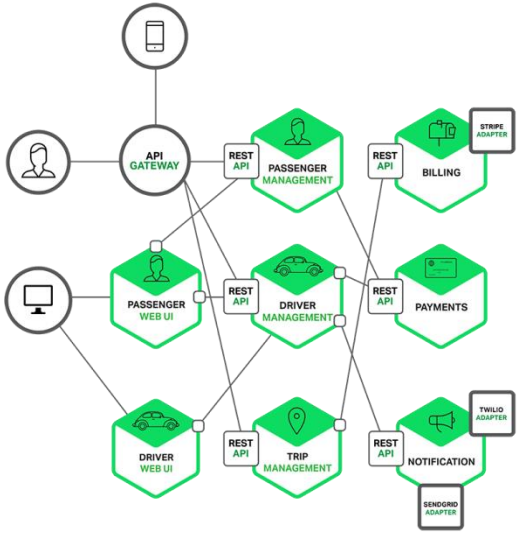
What We Covered

What We Covered

- Basic patterns and principles adopted in service oriented architectures:
  - Single Responsibility Principle
  - Share-Nothing Architecture
  - Asynchronous Message-Passing
  - Microservice Architecture
  - Service Discovery Pattern

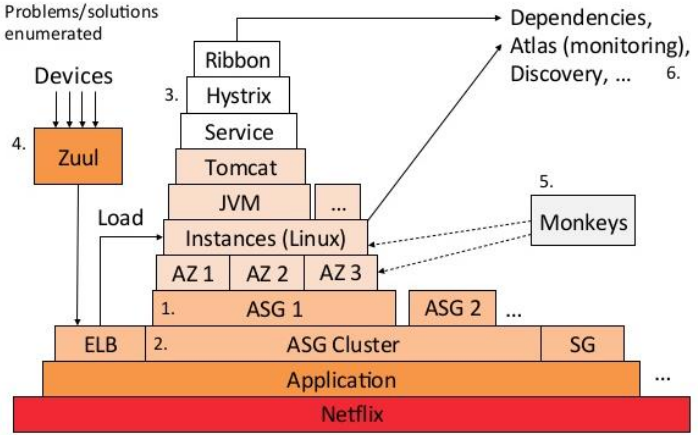
What We Covered

- Microservices
  - Discovery Servers
    - Bottlenecks, Network Partitioning, Zones & Regions
  - REST APIs
  - Client-Side Load Balancing
  - Circuit Breakers
  - API Gateways
  - External Centralized Configuration



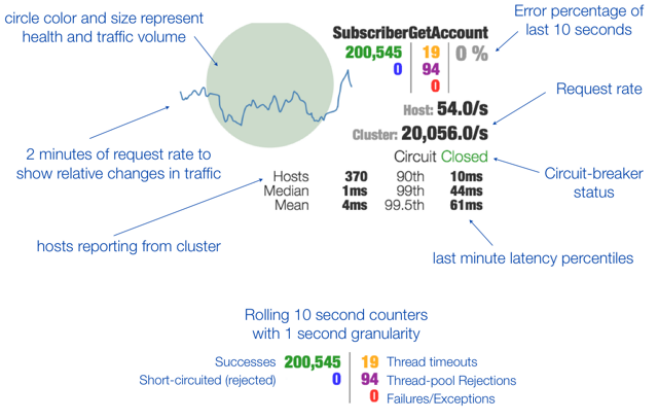
What We Covered

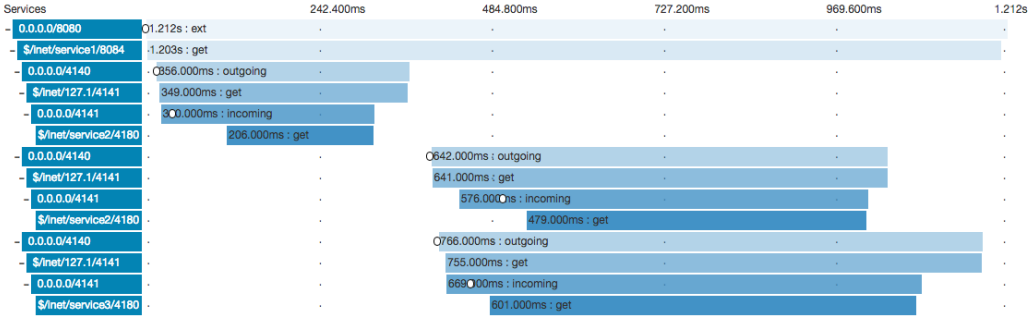
- Netflix Stack
  - Eureka
  - Ribbon
  - Feign
  - Hystrix
  - Zuul



What We Covered

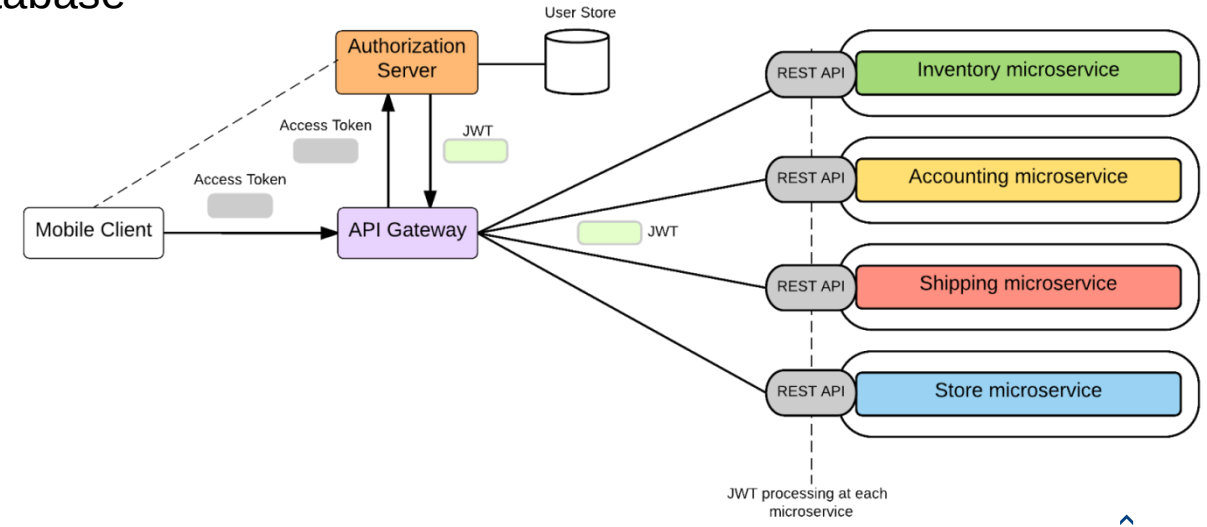
- Fault Tolerance
  - Hystrix Command
  - Hystrix Stream
  - Turbine Stream
  - Turbine Stream AMQP
  - Distributed Tracing
  - Zipkin





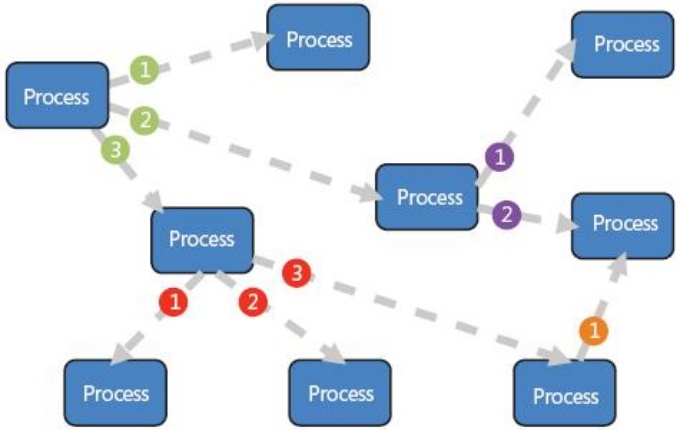
What We Covered

- Microservices Security
  - API Gateway / Perimeter Security
  - Everybody Can Auth (With HTTP Basic)
  - Basic + Central Auth Database
  - Sessions Everywhere
  - API Tokens
  - SAML
  - OAuth2 + JWT
  - OpenID Connect



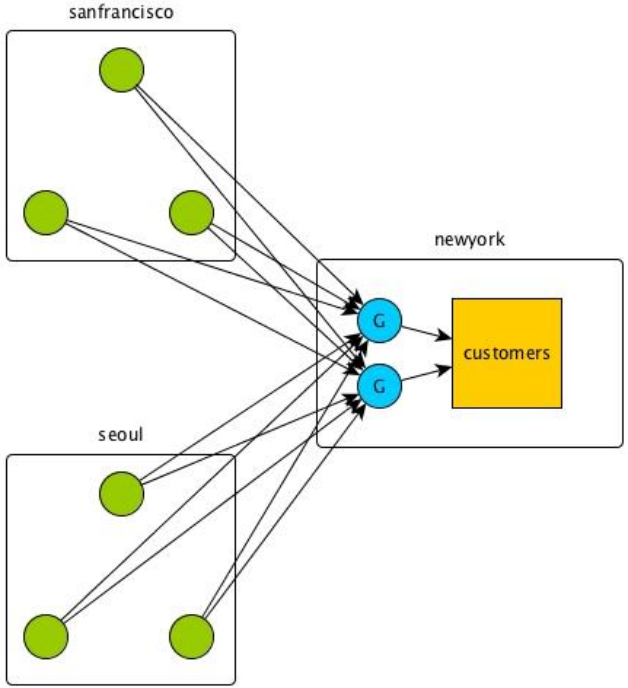
What We Covered

- Cloud Bus
  - Distributed Event Bus
  - Configuration Push Notifications
    - /bus/*
    - /monitor
    - automatic



What We Covered

- Cloud Streams
  - Publish-Subscribe
  - Binders API
  - Consumer Groups
  - Durability
  - Partitioning
  - Stream Aggregation



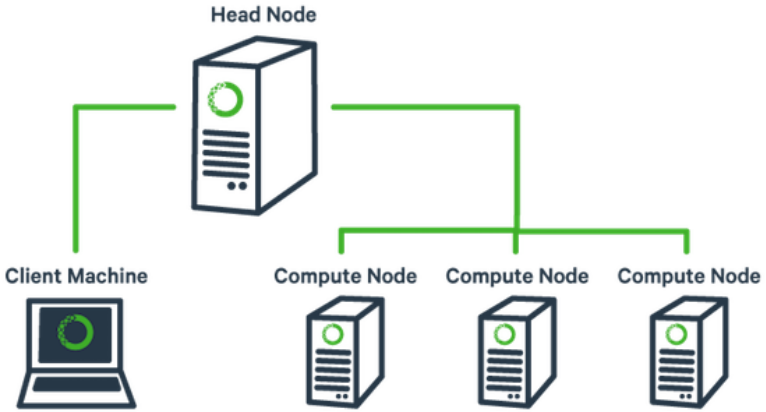
What’s Next

What's Next

- Spring Cloud Data Flow
  - Spring Cloud Data Flow offers a collection of patterns and best practices for microservices-based distributed streaming and task/batch data pipelines.
    - Spring Cloud Data Flow is the cloud-native redesign of Spring XD – a project that aimed to simplify the development of Big Data applications.
    - The stream and batch modules from Spring XD are refactored as Spring Boot based stream and task/batch microservice applications respectively.
    - These applications are now autonomous deployment units and they can "natively" run in modern runtimes such as Cloud Foundry, Apache YARN, Apache Mesos, and Kubernetes.

What’s Next

- Spring Cloud Task
  - Spring Cloud Task allows a user to develop and run short lived microservices using Spring Cloud and run them locally, in the cloud, even on Spring Cloud Data Flow.



Thank You!

LXFT
LISTED
NYSE

LUXOFT