ISTIO

NILESH PATEL (SENIOR OFFERING MANAGER)
MICROSERVICES

- Decomposing an application into single function modules which are independently deployed and operated
- Accelerate delivery by minimizing communication and coordination between people
THE TRADE OFF

Improved delivery velocity in exchange for increased operational complexity

Hailo microservices
MICROSERVICES ARE HARD

- Applications aren’t running in green-field environments
- Network layer is hard to manage
- Tooling is nascent
THINGS TO CONSIDER

• Security
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• Canary deployments
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- A/B testing
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• Fault injection
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- Fault injection
- Policy management
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• Security
• Canary deployments
• A/B testing
• Circuit breaking
• Rate limiting
• Fault injection
• Policy management
• Many more....
It’s doable, but...
It’s doable, but...

Requires a lot of coding
Service Mesh

A dedicated infrastructure layer to make service-to-service communication fast, safe and reliable.
A service mesh designed to connect, manage and secure microservices
ISTIO

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Open Source
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A service mesh designed to connect, manage and secure micro services

Open Source

Zero Code Changes
FEATURES
INTELLIGENT ROUTING AND LOAD BALANCING

- Conduct traffic between services with dynamic route configuration
- A/B tests
- Canary releases
- Red/Black deployments
RESILIENCE ACROSS LANGUAGES AND PLATFORMS

- Increase reliability by shielding applications from flaky networks and cascading failures in adverse conditions.
FLEET-WIDE POLICY ENFORCEMENT

- Apply organizational policy to the interaction between services
- Ensure access policies are enforced
- Make sure resources are fairly distributed among consumers.
IN-DEPTH TELEMETRY AND REPORTING

- Understand the dependencies between services, the nature and flow of traffic between them, and quickly identify issues with distributed tracing.
ENVOY

- C++ based L4/L7 proxy
- Low memory footprint
- Battle tested at Lyft
  - Runs with 100+ services
  - 10K VMs
  - 2M requests/sec
COMMUNITY PARTNERS

- Tigera
- RedHat
- Pivotal
- Cisco
- Weave works
- Datawire
- Scytale (SPIFEE)
- Microsoft
- And more...
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USEFUL LINKS

- Web istio.io
- Twitter: @Istiomesh
- Traffic management using Istio: https://ibm.co/2F7xSnf
- Resiliency and fault-tolerance using Istio: https://bit.ly/2qStF2B
- Reliable application roll out and operations using Istio: https://bit.ly/2K9IRQX
THANK YOU!
BACK UP
ISTIO ANALYTICS