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Service Mesh on Multi-Cloud Environments

PRESENTED BY:

F5 Networks

@ Red Hat Users Group, Twin Cities

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SMARTER.
SAFER.

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 @Dylen_Turnbull





Multi - Cloud

The Goal

- Deliver a Multi-Cloud web application architecture, using F5 BIG-IP, DNS, F5 BIG-IP Controller for OpenShift, and F5 Aspen Mesh – Istio.
- Deploy OpenShift Clusters and F5 Infrastructure with Ansible Tower running on premises, in Azure, and in AWS.

RHEL Atomic Host

BIG-IP DNS

Ansible Tower

On Premises Private Cloud

Microsoft Azure

BIG-IP

Multi-Cloud

TMSH2iApp

OpenShift Container Platform

BIG-IP Controller for OpenShift

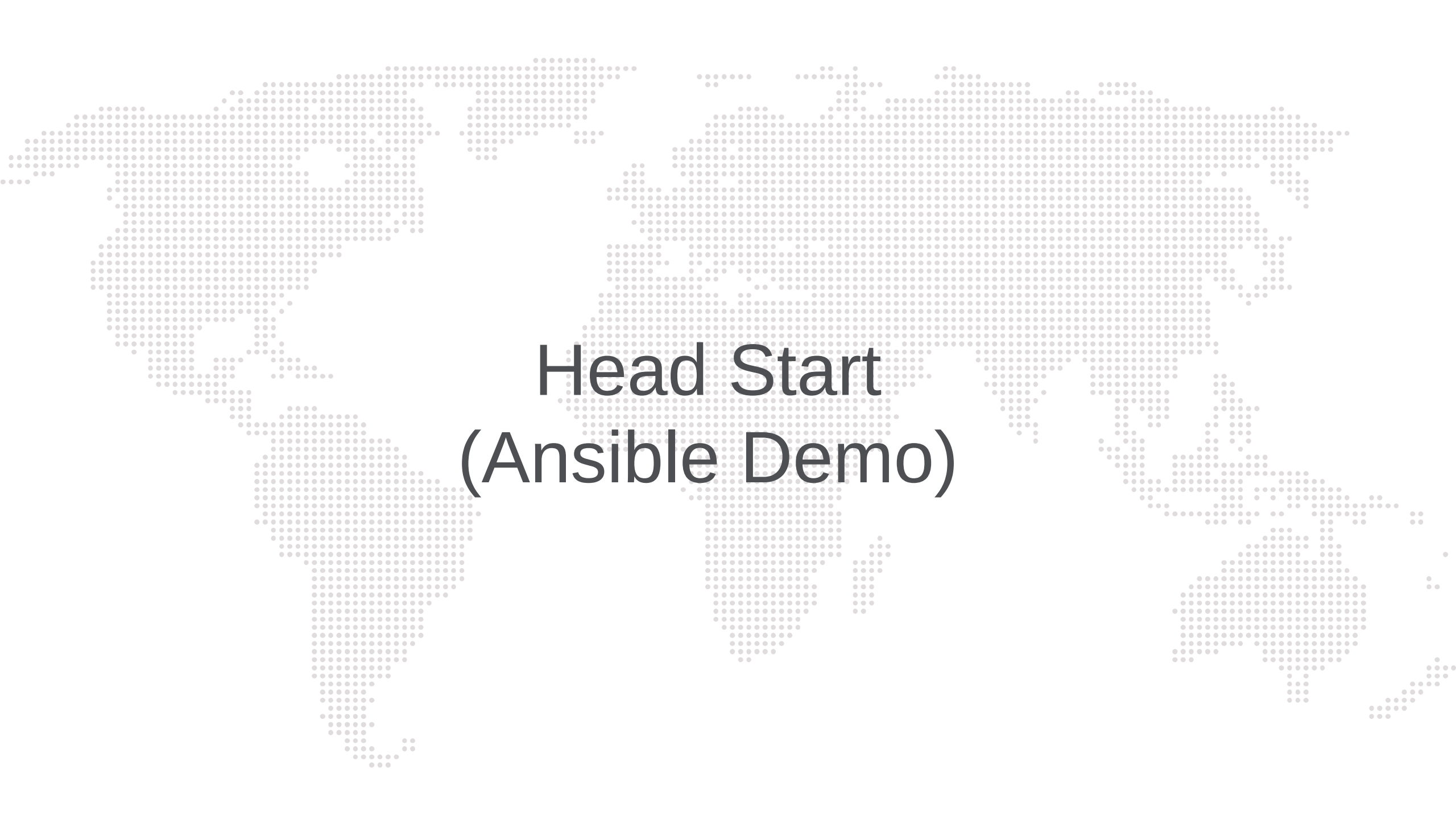
iRulesLX

iApps

Enterprise eCommerce app

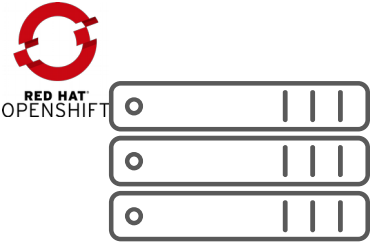
AWS

Aspen Mesh - F5 Incubation of an Istio Service Mesh

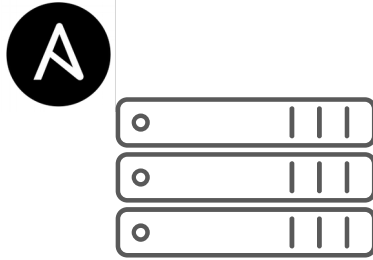


Head Start (Ansible Demo)

Applications



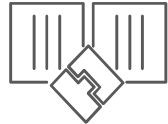
OpenShift
RHEL Atomic



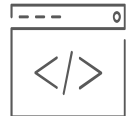
Ansible
Tower



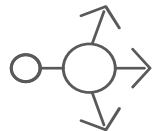
BIG-IP
VE



BIG-IP Controller for
OpenShift



Ansible
Playbook



Dynamic Application
Services

Build



Click



Deployed



Video 1



Architecture

Applications & Infrastructure



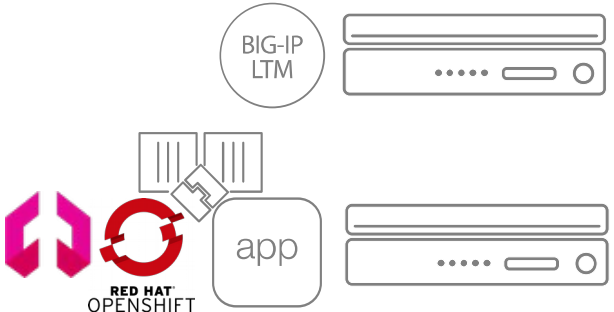
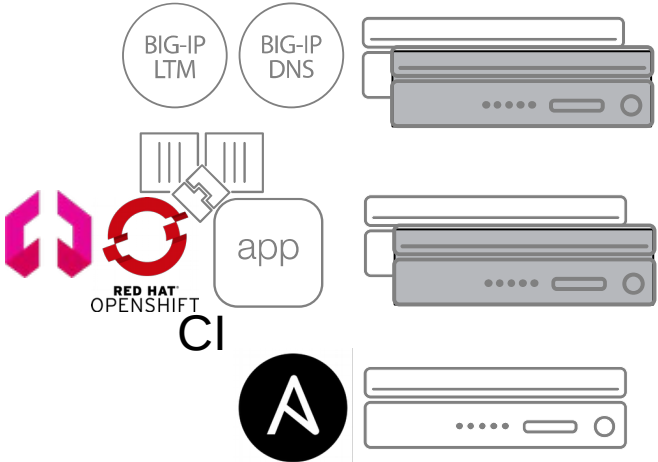
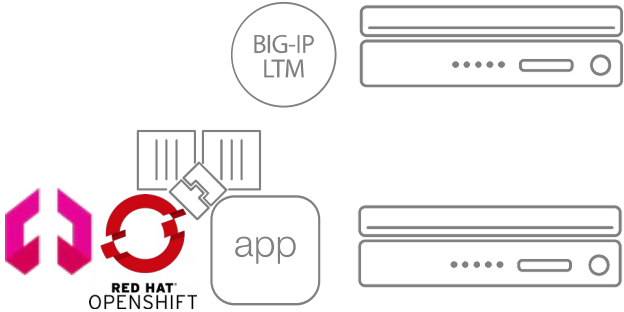
Azure
dc-azr



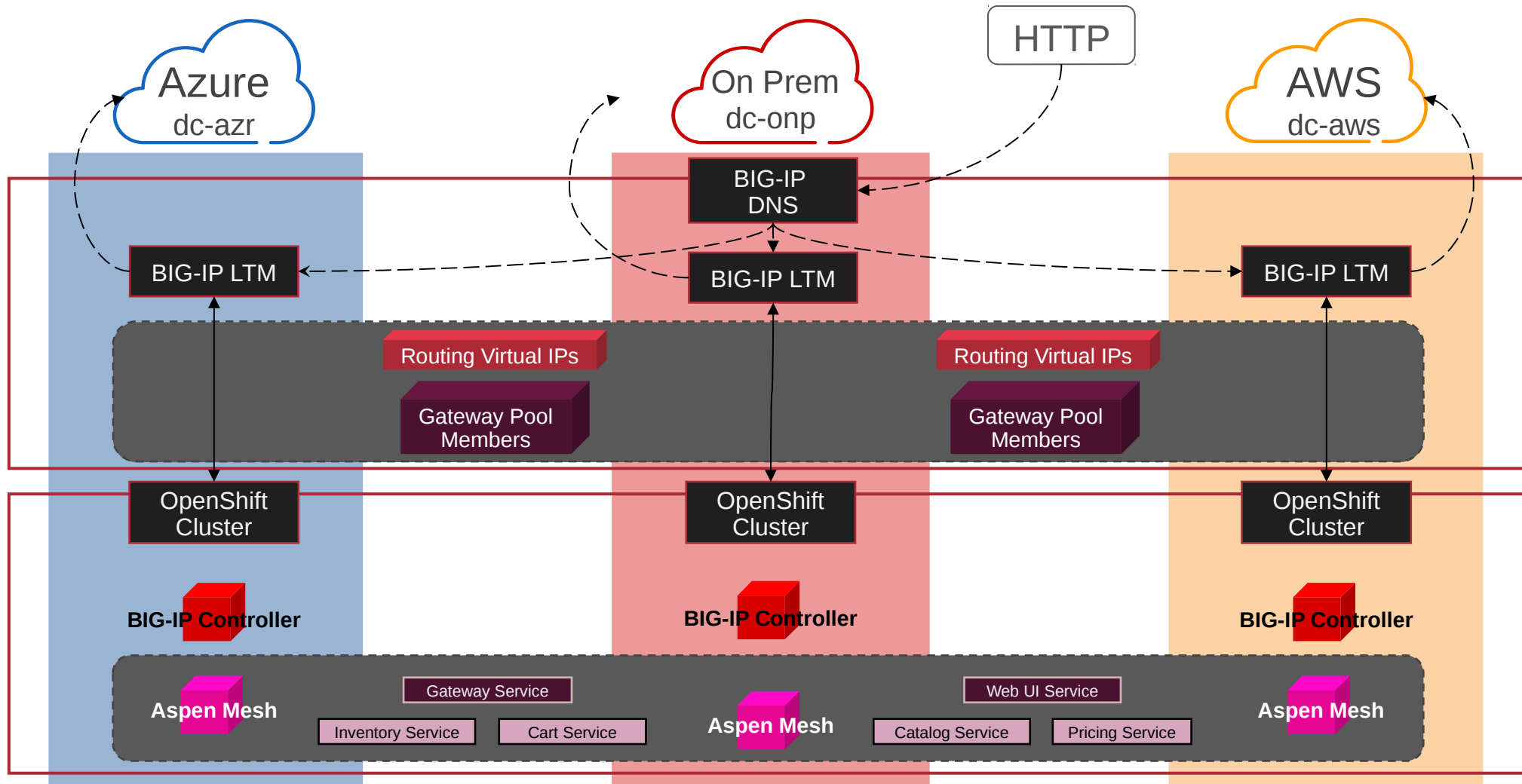
On Premises
dc-onp



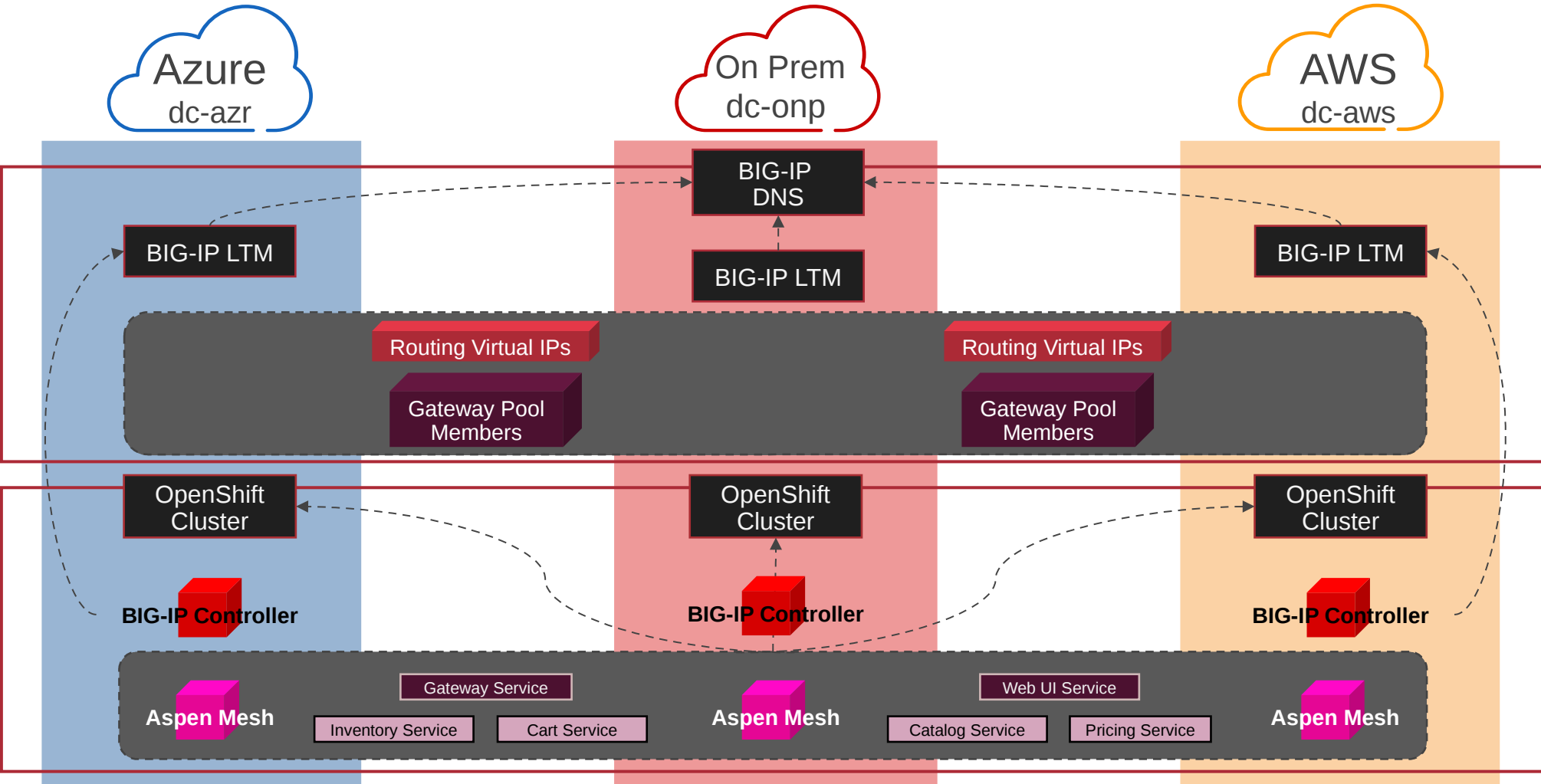
AWS
dc-aws

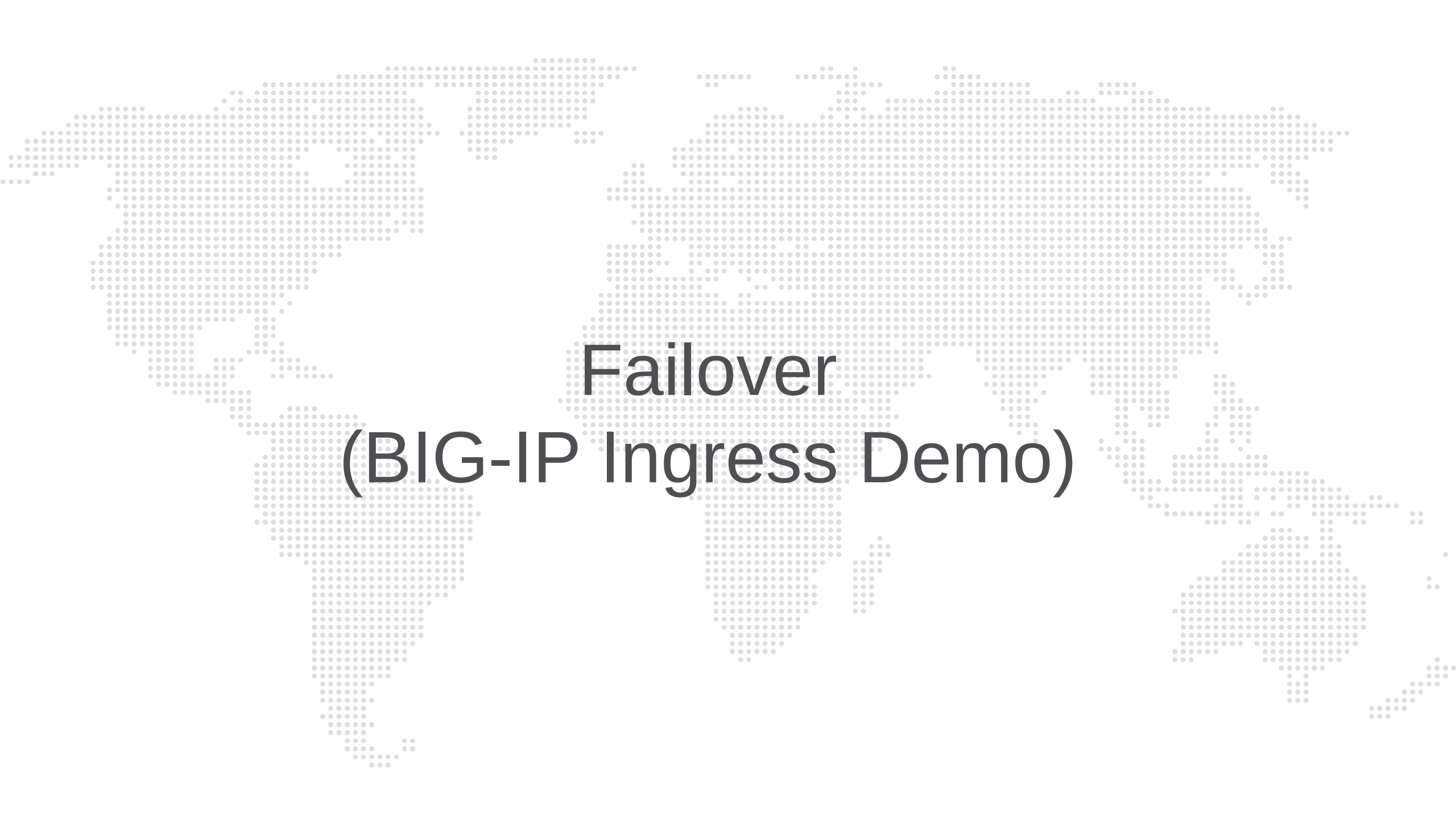


Ingress



Data Plane





Failover (BIG-IP Ingress Demo)

Video 2



Istio, Service Mesh,
&
Aspen Mesh

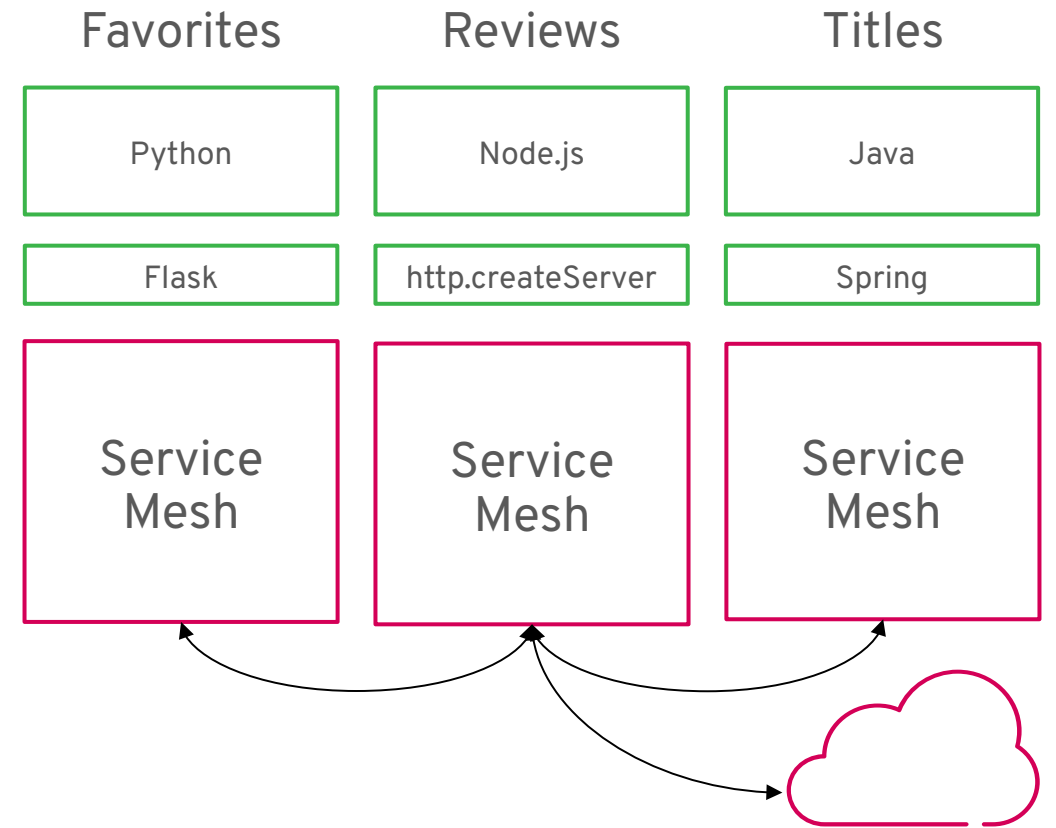
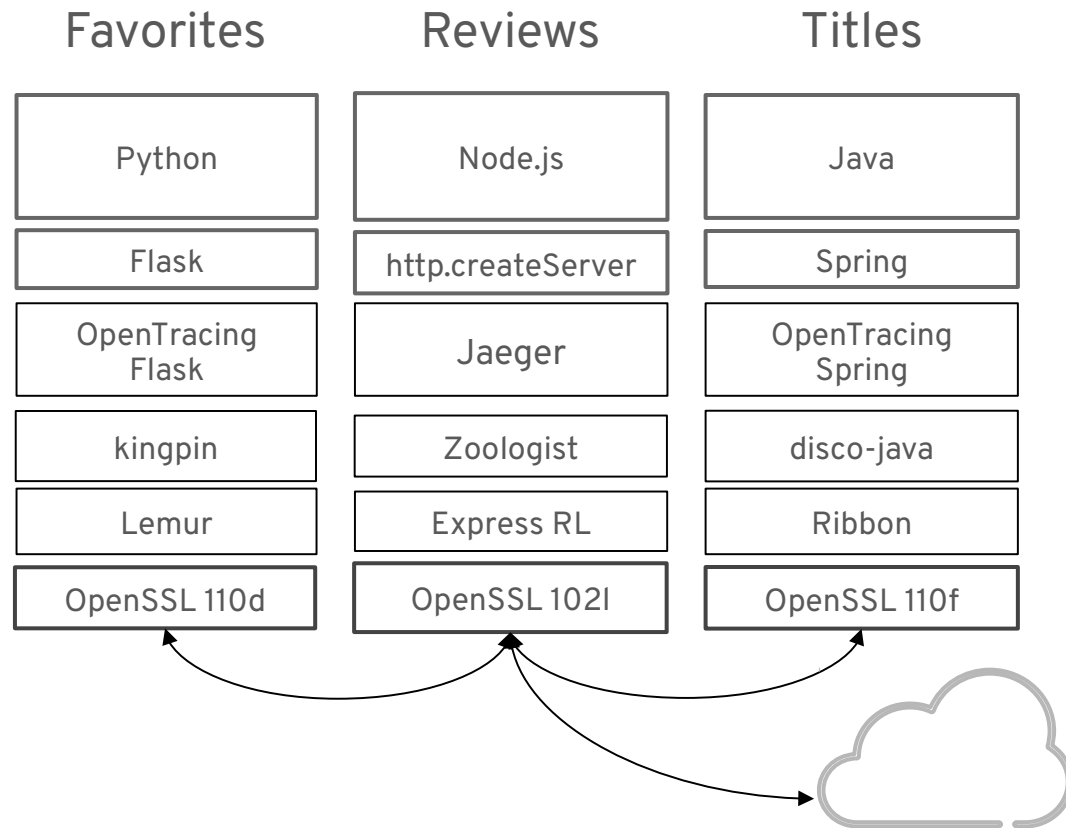
Service Mesh



ASPEN MESH

Before Service Mesh

After Service Mesh

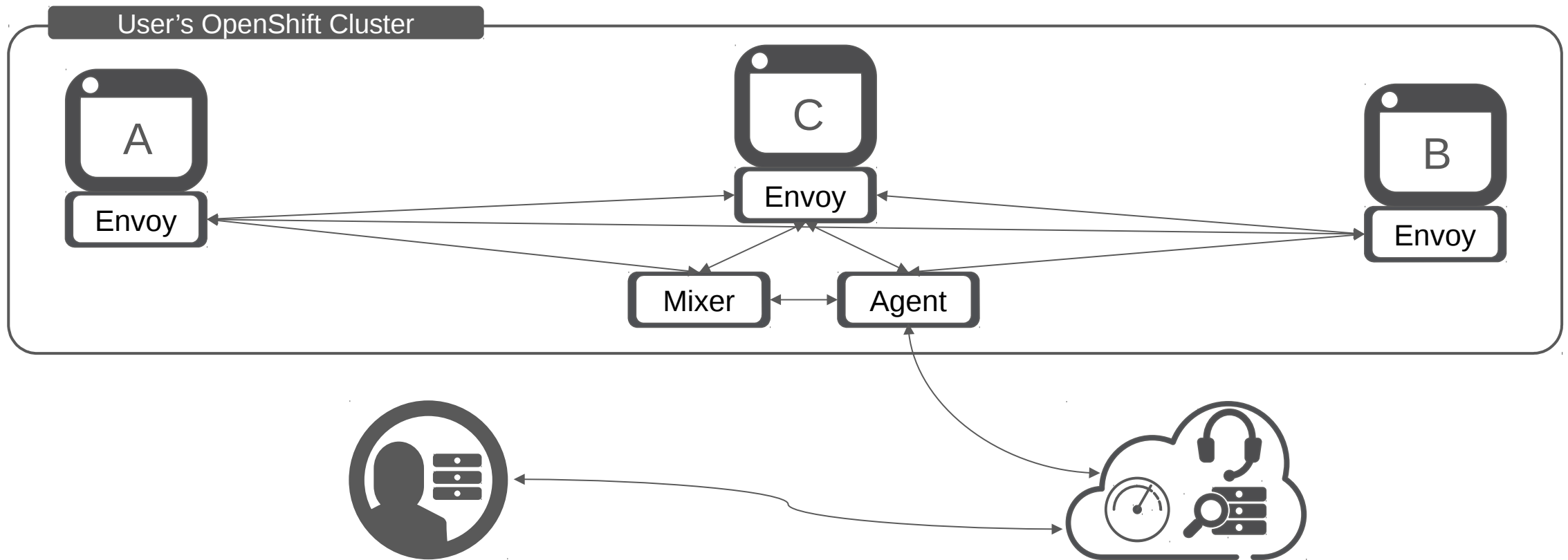


Service Mesh

Native Advanced L7 Policy

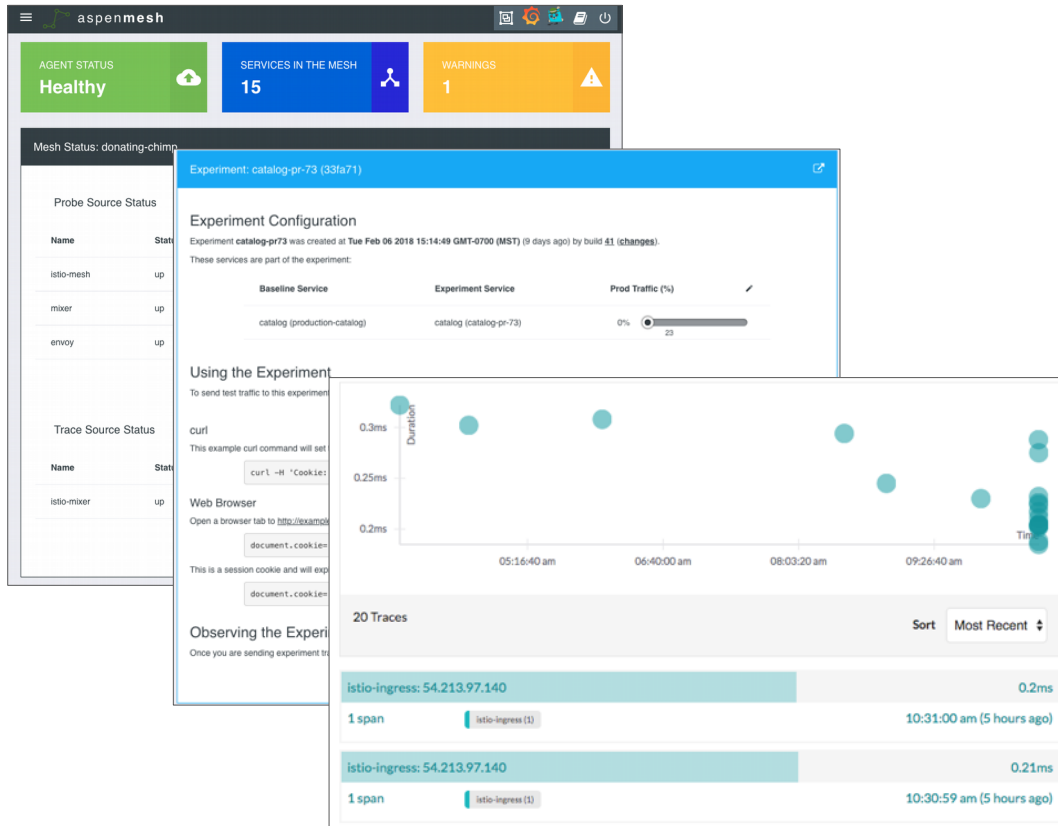


ASPEN MESH





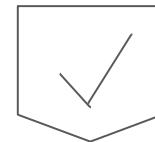
ASPEN MESH



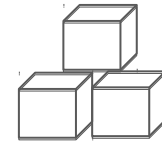
Visual Insights
Dashboard



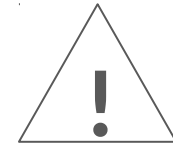
Hosted SaaS
Platform



Security and
Authentication



Logging and
Tracing



Customizable
alerts and events



Service and
Support



Istio
(Aspen Mesh Demo)

Video 3



Wrap Up

- Automation is table stakes
 - Always keep you automation lock step with your architecture and design
 - Write your roles to be versatile making good use of variables
- Multi-Cloud is here
 - Cost, failover, running services where best suited
 - Apps must be multi-cloud able.
- Istio based Aspen Mesh delivers consistency
 - Across cloud environments
 - Across multiple frameworks and languages

Q&A

- <https://github.com/aspenmesh>
- <https://github.com/f5networks/k8s-bigip-ctlr>
- <https://github.com/f5devcentral/f5-tmsh2iapp>
- <http://clouddocs.f5.com/containers/v2/openshift/>

F5 and Red Hat landing page: <https://f5.com/redhat>

