



# SberBank story: moving Istio from PoC to production

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# Sber position across key areas

## Best client experience

### In financial services

In financial services

**98+ mn** retail clients

**2.7 mn** corporates

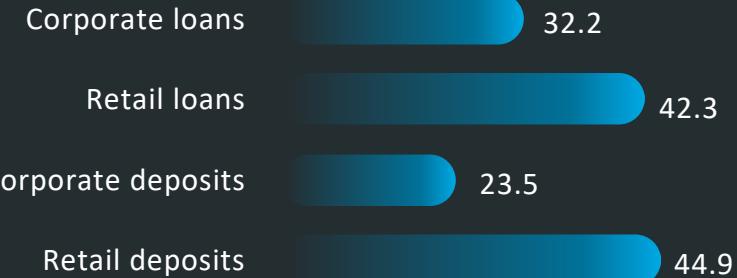
The leader in digital services  
and sales

### In non-financial services by 2023

**10+ mn** SberPrime subscribers

**~500+ bn RUB** e-commerce GMV

## Market shares in Russia, %



## Technological leadership

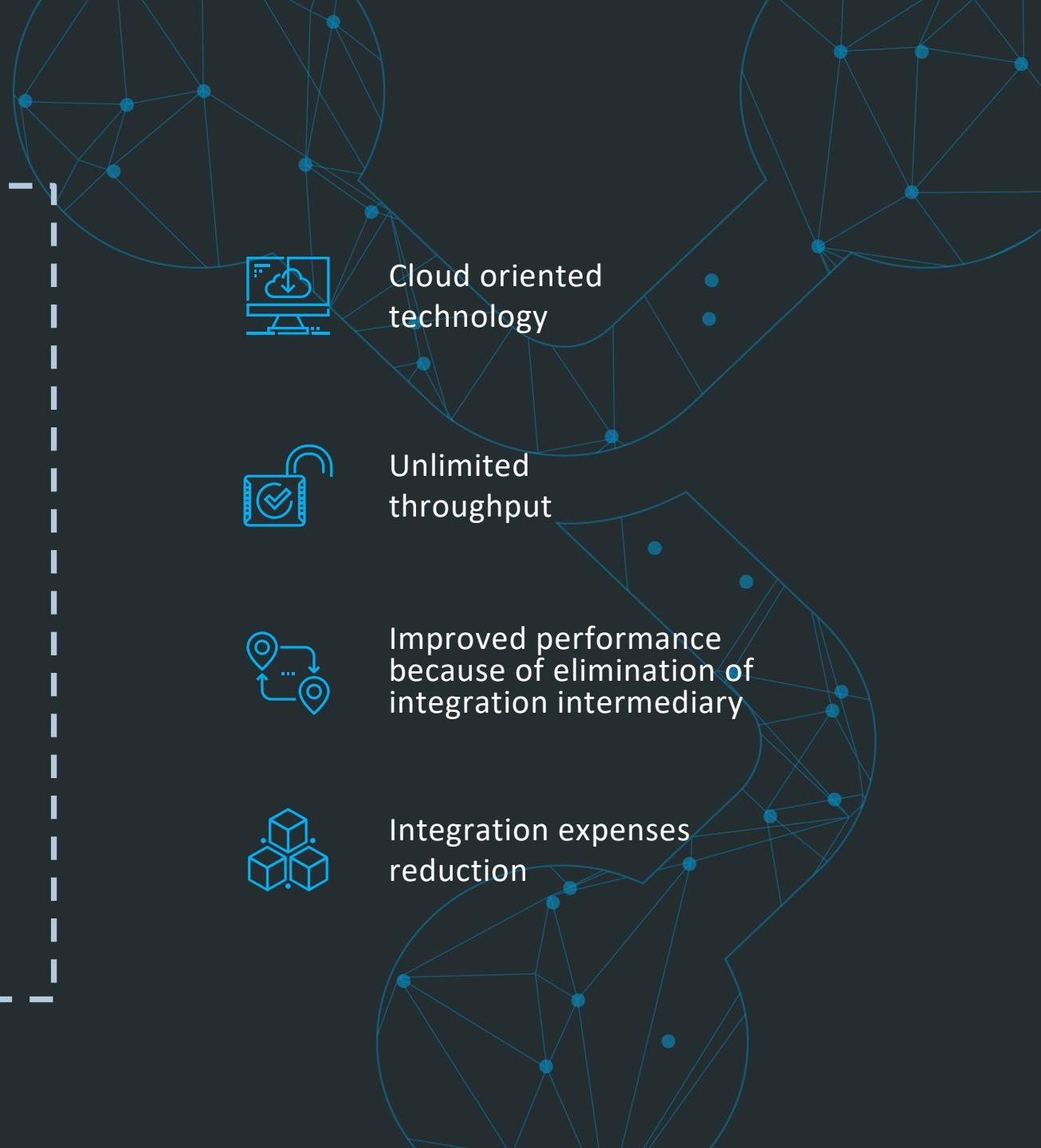
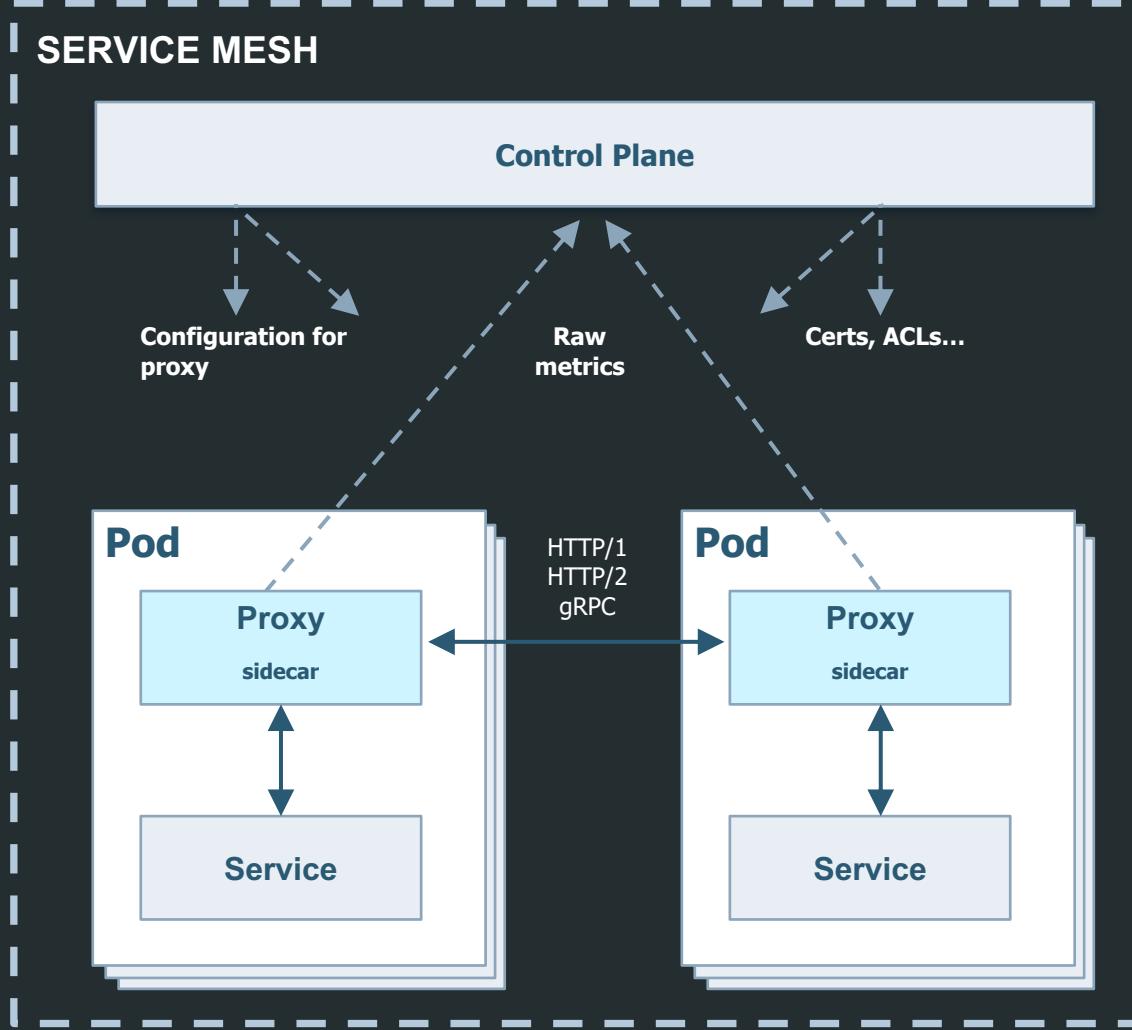
**New IT Platform**

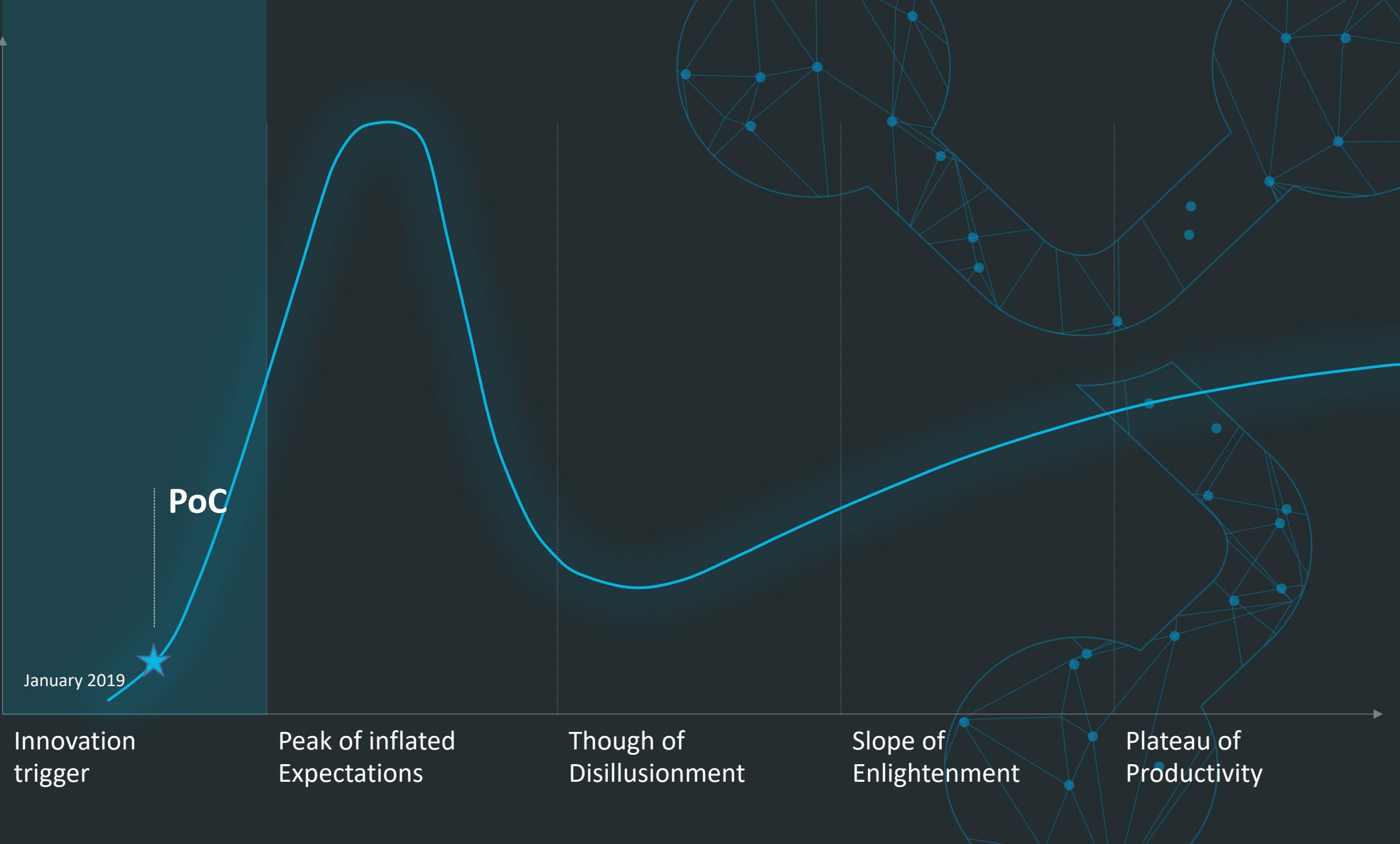
**Reliability 99.99%**

**0 loses, 0 downtime**

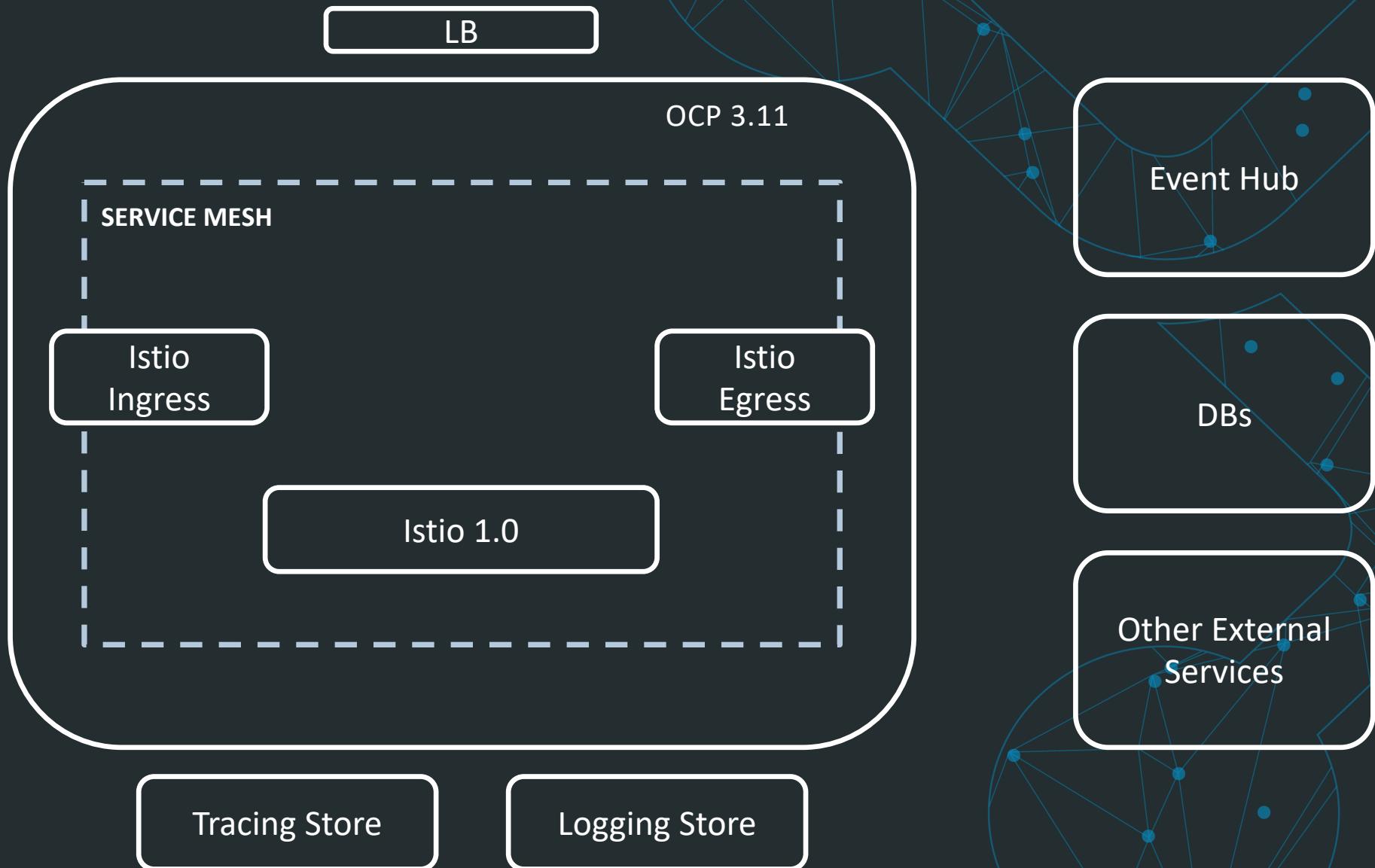
**AI Platform** launched and gives  
significant additional revenues  
and cost savings

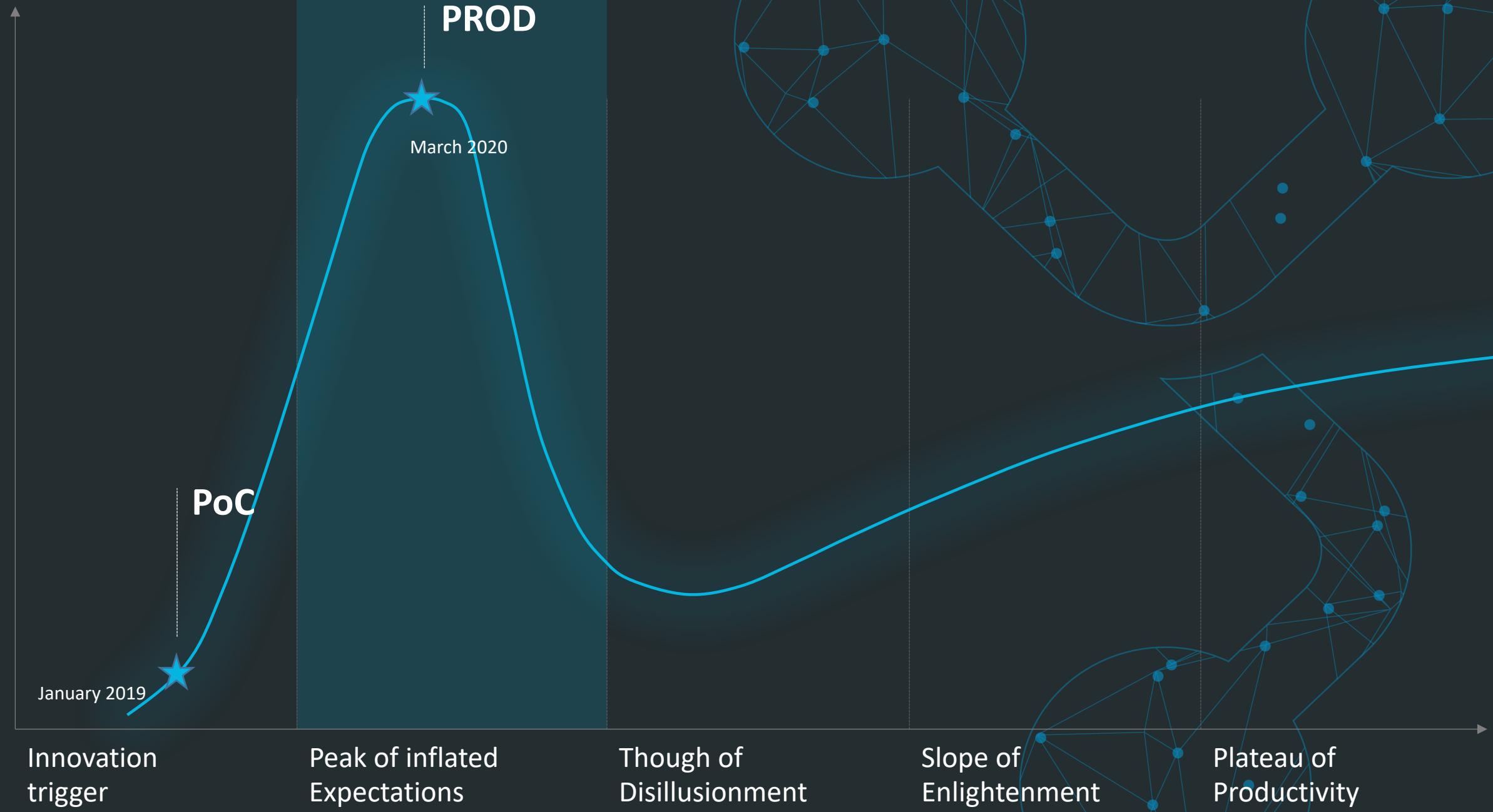
# Why?



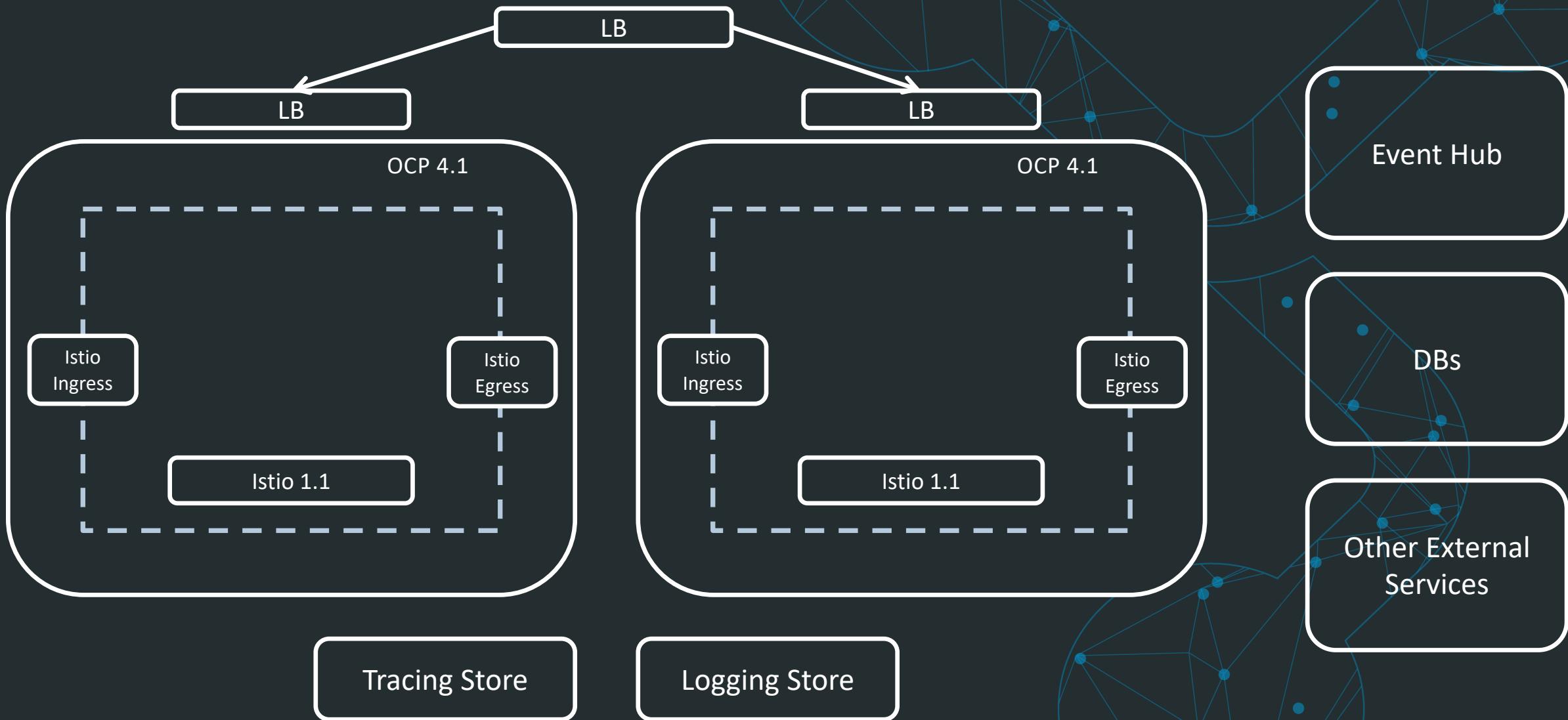


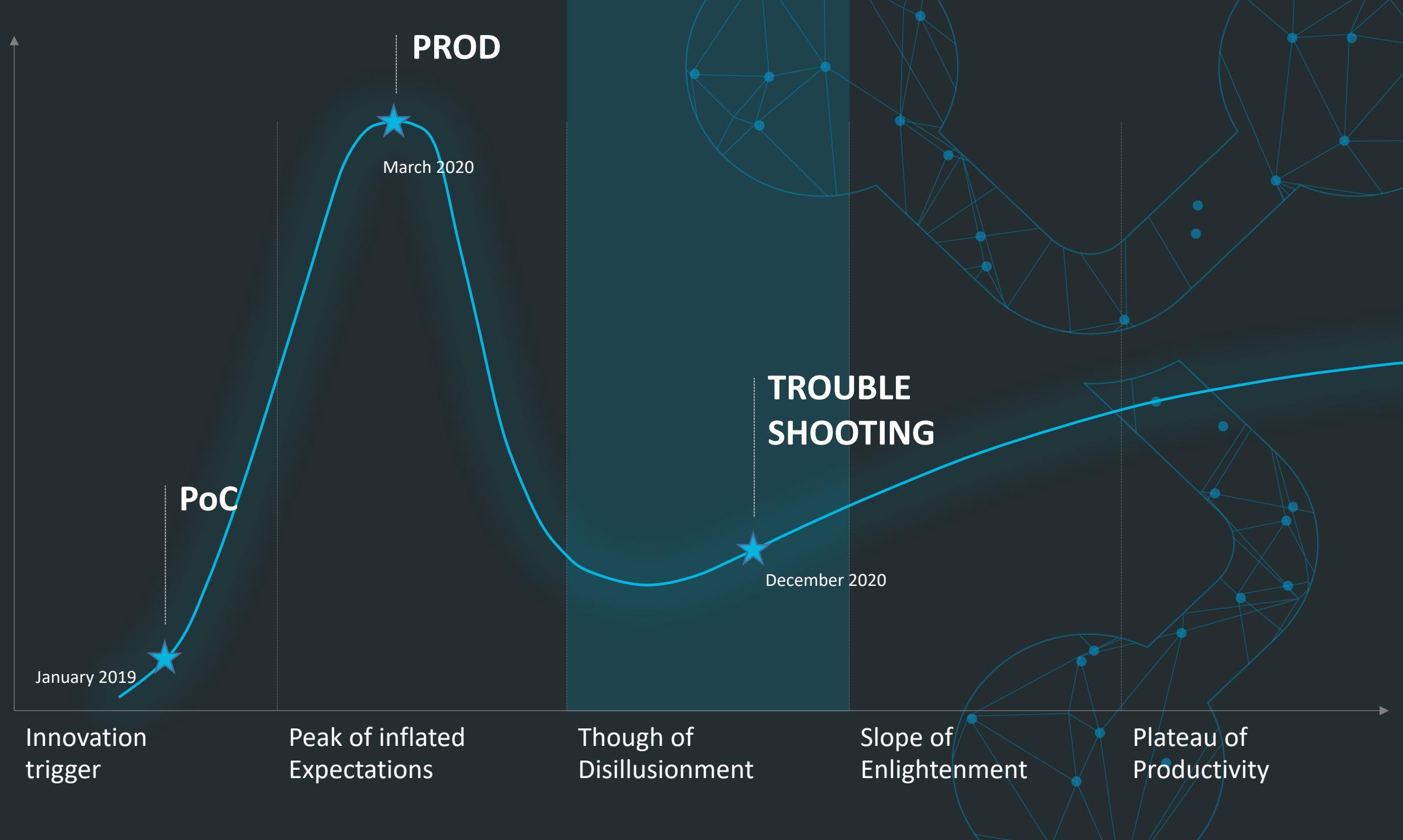
# Make It Simple



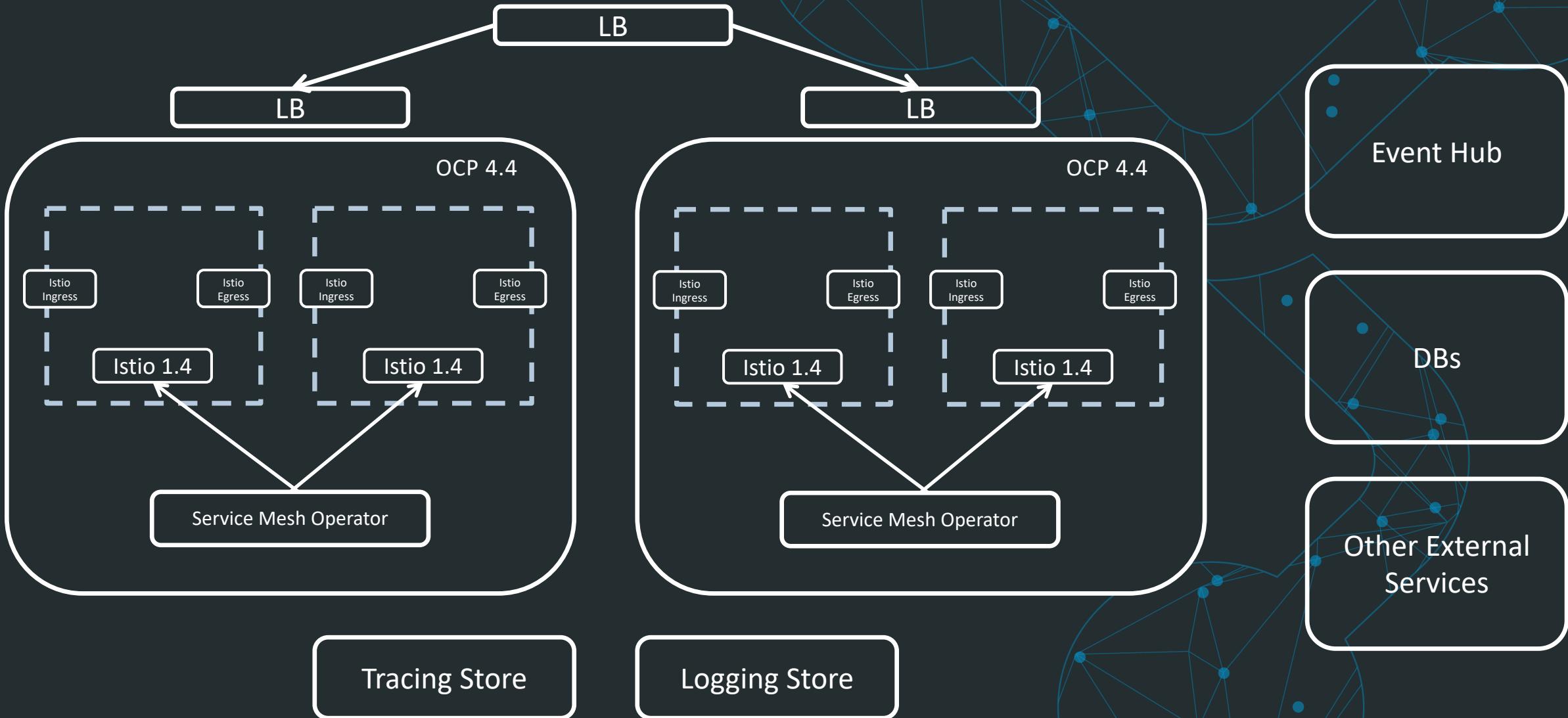


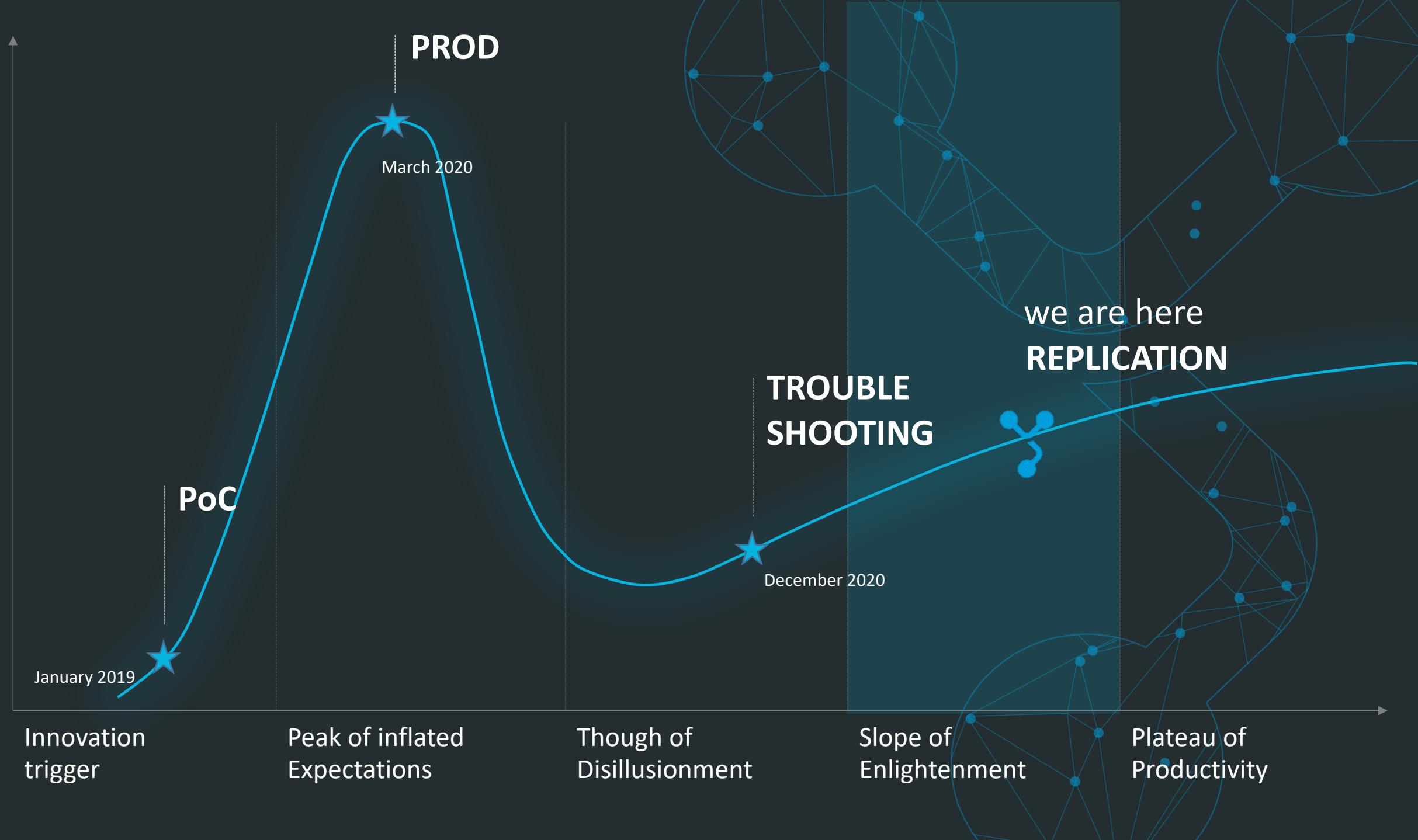
# Don't Forget about HA & DR



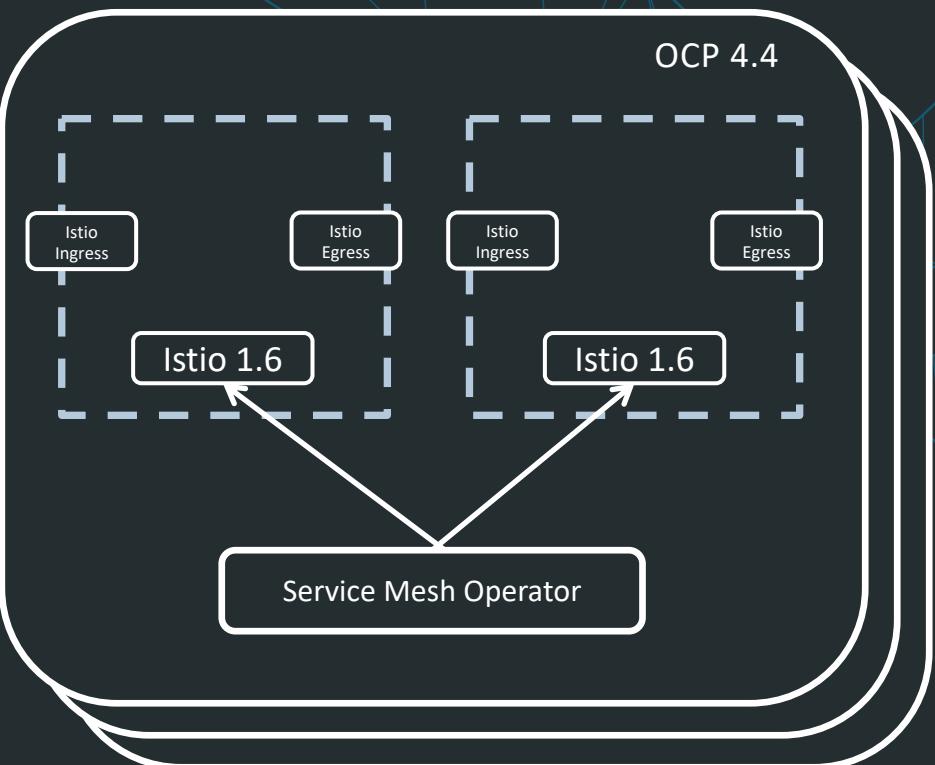
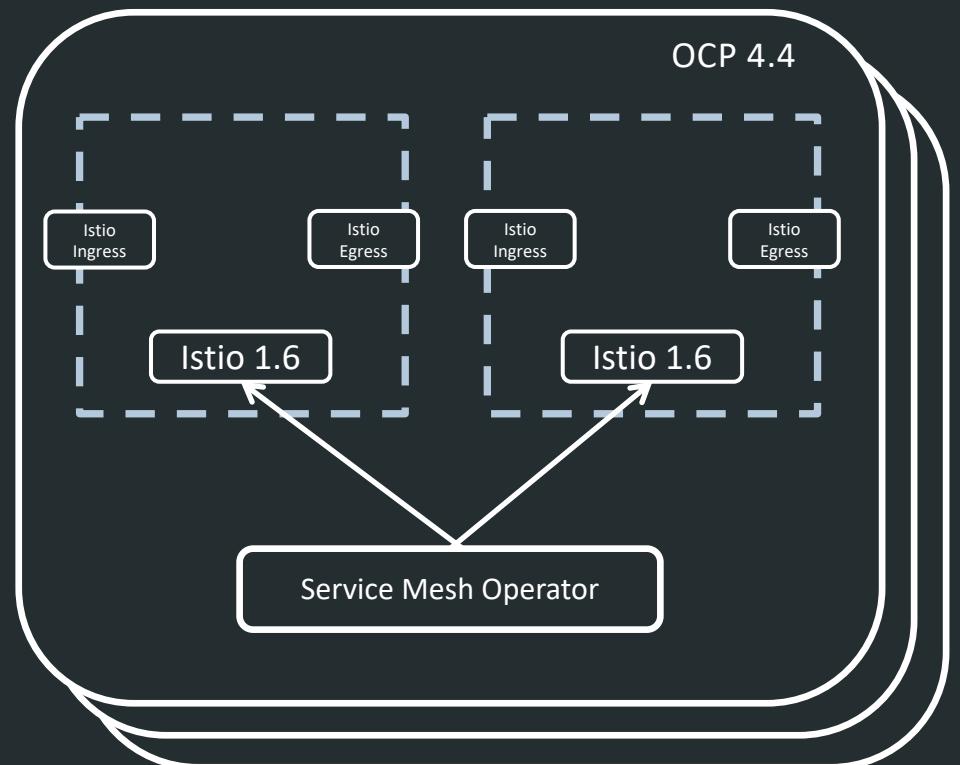


# Think about Multi-Tenancy





# Scale UP



Tracing Store

Logging Store

# Lessons Learned

- 1. Init containers maybe not the best option**
  - NET\_RAW and NET\_ADMIN
  - Traffic failures due to init restarts (#16768)
- 2. Be careful with secrets rotation**
  1. Hot restarts for TCP-traffic
  2. Root certificate reissue (#14516)
  3. Istio Discovery overload (#25495)
- 3. Sidecar & ExportTo tuning is required**
  1. Resource consumption
  2. Resource Mounts (#15517)
- 4. Tests on the production-size environment aren't a waste of time**
  1. Istio Discovery Restarts (#25495)
  2. Proxy Probes (#26792)

Make Istio-init resilient to erroneous init-containers restarts #16768  
Closed vadimeisenbergibm opened this issue on 3 Sep 2019 · 3 comments

vadimeisenbergibm commented on 3 Sep 2019  
Handle loading client-side certificates in egress gateways #15517  
Closed vadimeisenbergibm opened this issue on 14 Jul 2019 · 17 comments

Siddharthk commented on 25 Aug 2020 · edited  
Bug description  
Sidecar envoy proxy is failing readiness probe intermittently in istio 1.6.7. Is there a way we can increase readiness probe timeout for the side car proxy?  
Docs Installation Networking Performance and Scalability Extensions and Telemetry Security Test and Release User Experience Developer Infrastructure  
Expected behavior  
Sidecar envoy proxy should not be failing.  
Steps to reproduce the bug:  
Running an app with istio side car injected:

Citadel self signed CA does not auto-renew #14516  
Closed Stono opened this issue on 2 Jun 2019 · 12 comments

Pilot OOM cause envoy return 503 NR #25495  
Closed ethanhanjiaohao opened this issue on 14 Jul 2020 · 13 comments

ethanhanjiaohao commented on 14 Jul 2020 · edited  
Bug description  
In our scenes, we use envoy as gateway, pilot as the controller. Recently, cause of ram pilot OOM. At the same time, envoy return 503 and the response flag is NR. In envoy log, we find no cluster  
2020-07-13 11:14:49.751 [34] [debug][http] [externals/envoy/source/common/http/router\_manager\_impl.cc:1184] [C2718405] [098005160231744049] [handle\_local\_reply\_with\_details cluster\_not\_found]  
2020-07-13 11:14:49.751 [34] [debug][http] [externals/envoy/source/common/http/router\_manager\_impl.cc:1189] [C2718405] [098005160231744049] [handle\_local\_reply\_with\_details cluster\_not\_found]  
when pilot restarting , the route is ok, and return 200.  
Expected behavior  
How to avoid this scenes, when pilot OOM restart, not affect envoy route.  
Steps to reproduce the bug  
\*\*Version \*\*  
we use Istio: 1.4  
envoy: 1.12  
Additionally, please consider attaching a [cluster state archive](#) by attaching the dump file to this issue.

# Further Steps

- **Multi-cluster Discovery for OCP & Kubernetes**
- **Multi-cluster Service Topology**
- **Cloud-Native Event Hub**
- **Full Support for VM-Based Workloads**
- **UX Simplification**

# CONTACT US



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