SberBank story:
moving Istio from PoC to production

Igor Gustomyasov, Sber
Maksim Chudnovskii, IBM

Sber position across key areas

Best client experience

In financial services

In financial services

98+ mn retail clients

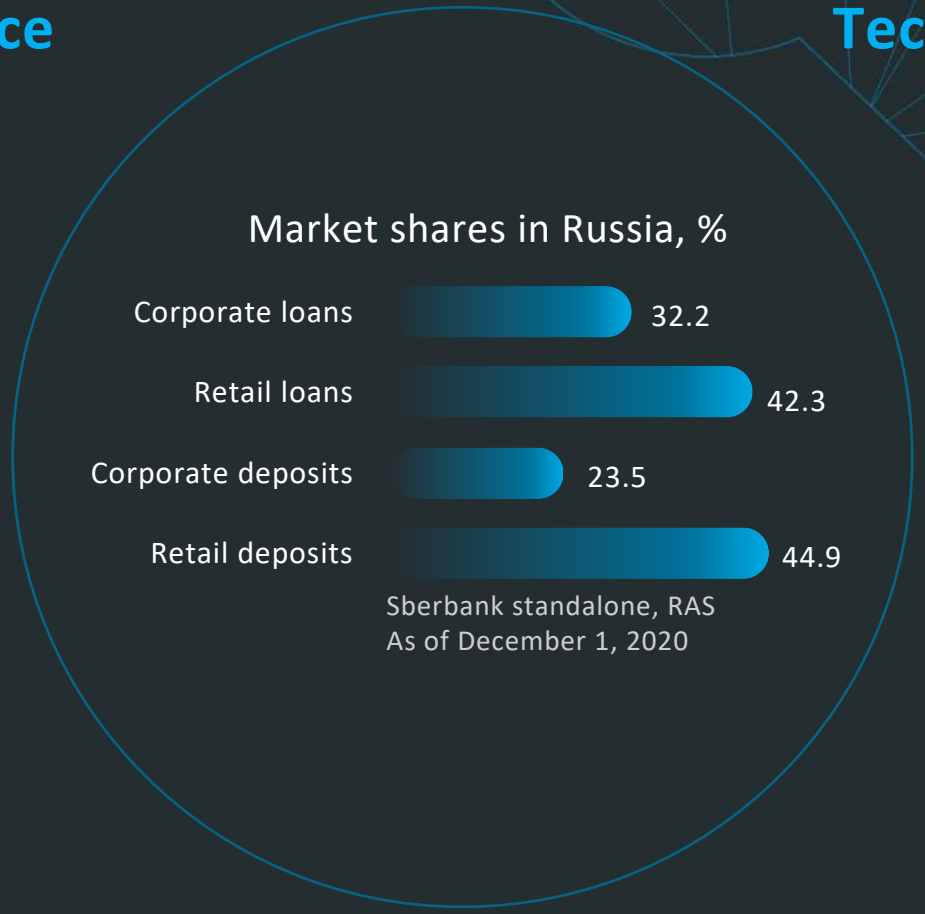
2.7 mn corporates

The leader in digital services and sales

In non-financial services by 2023

10+ mn SberPrime subscribers

~500+ bn RUB e-commerce GMV



Technological leadership

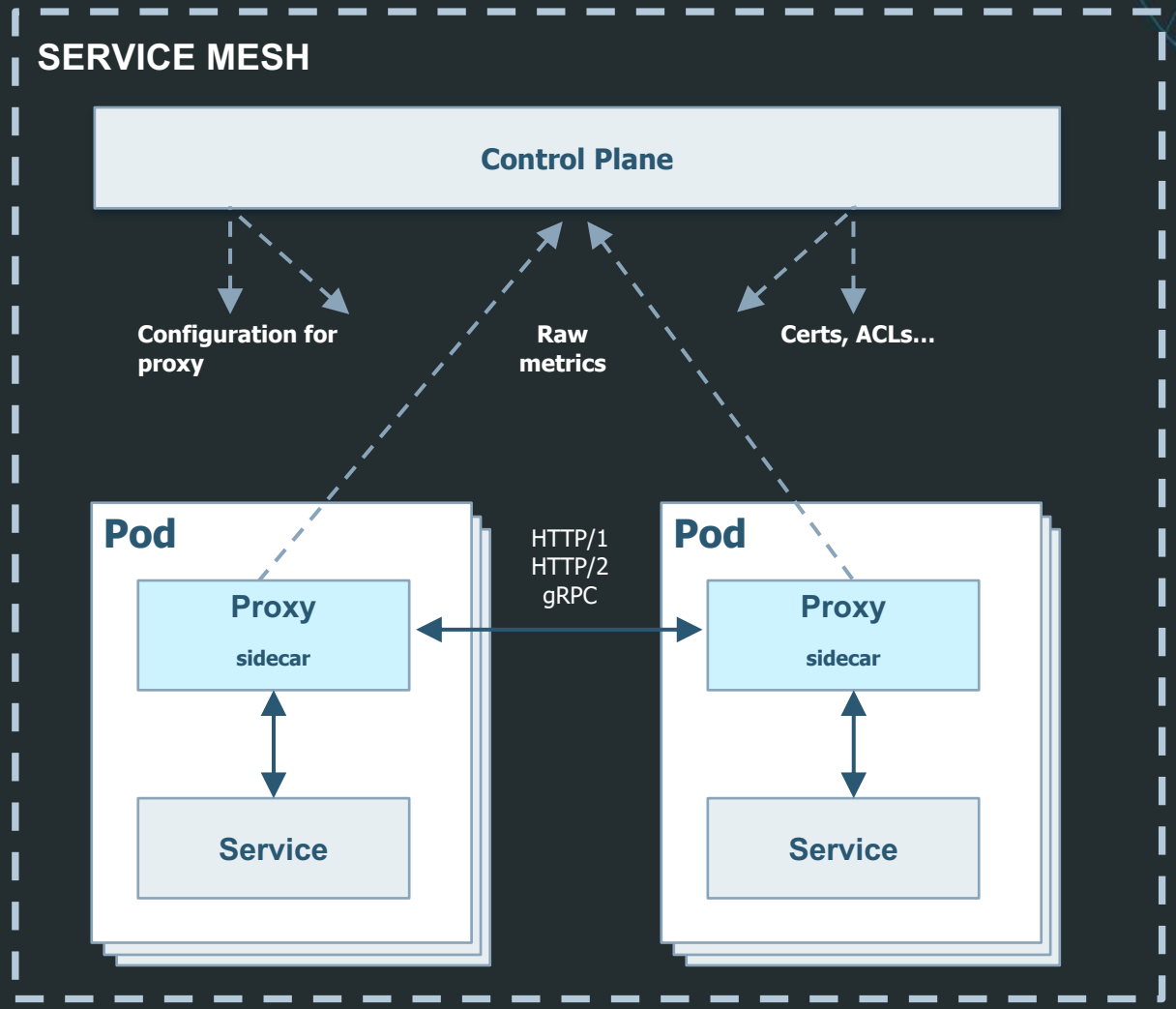
New IT Platform

Reliability 99.99%

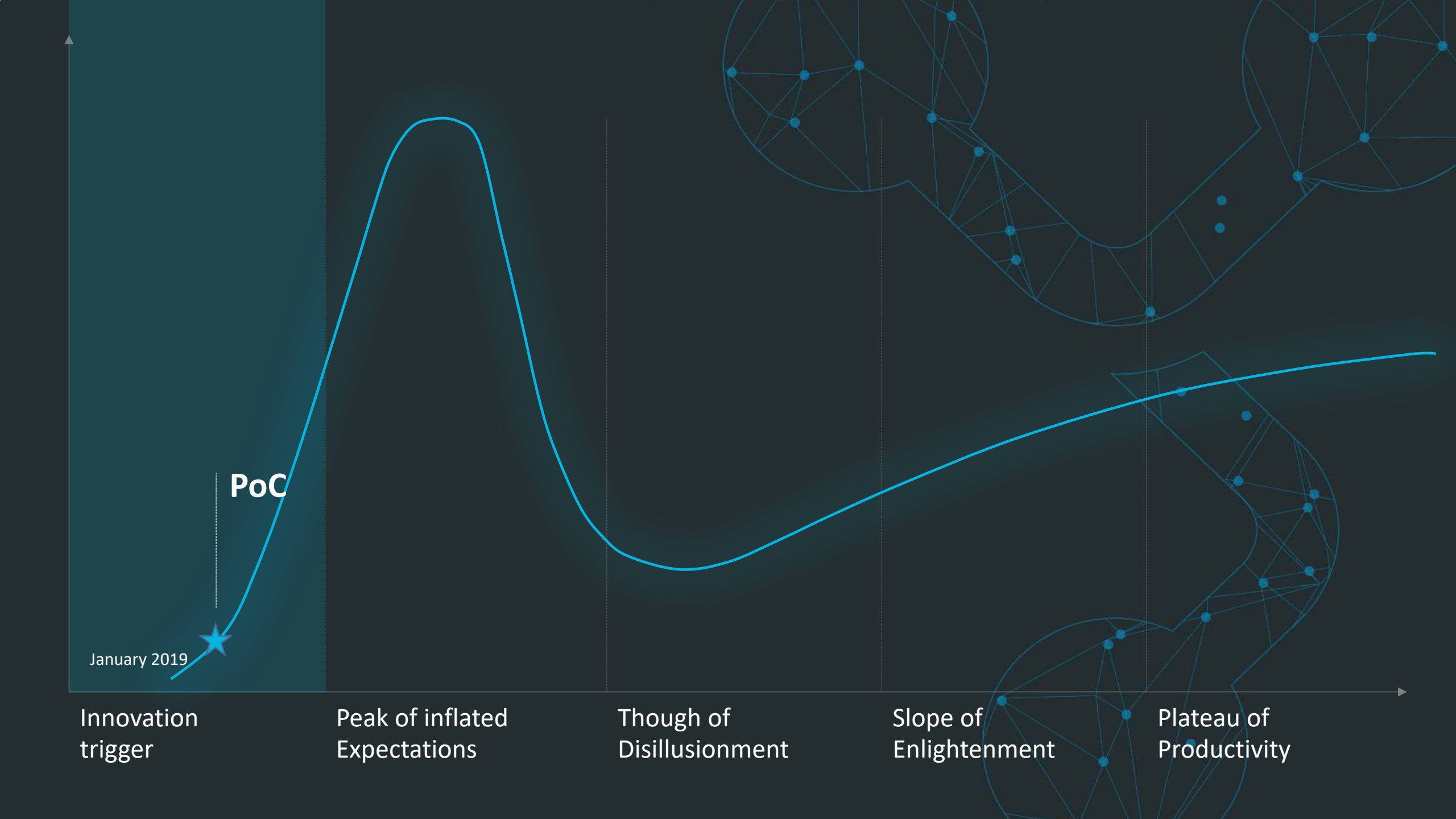
0 loses, **0** downtime

AI Platform launched and gives significant additional revenues and cost savings

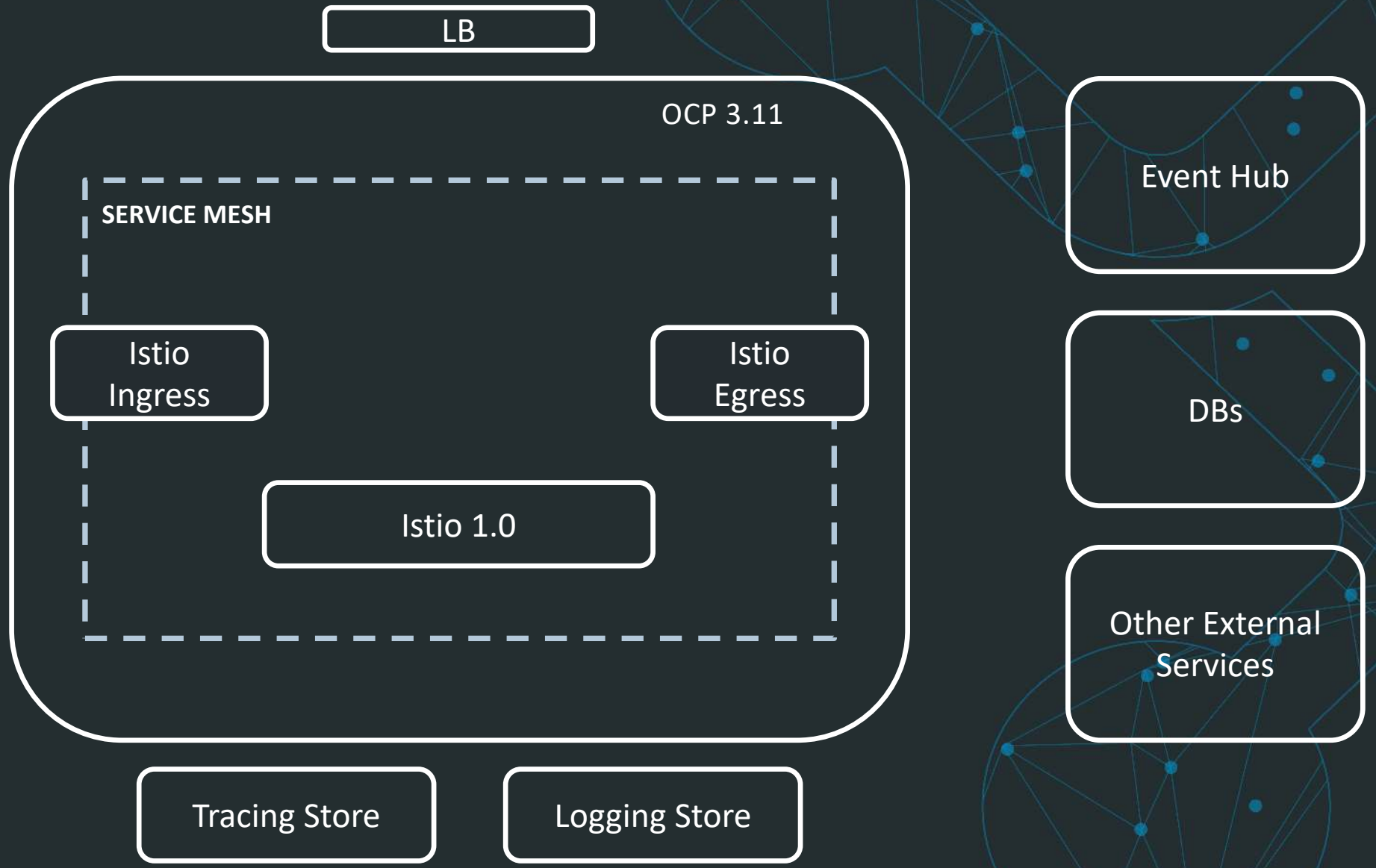
Why?

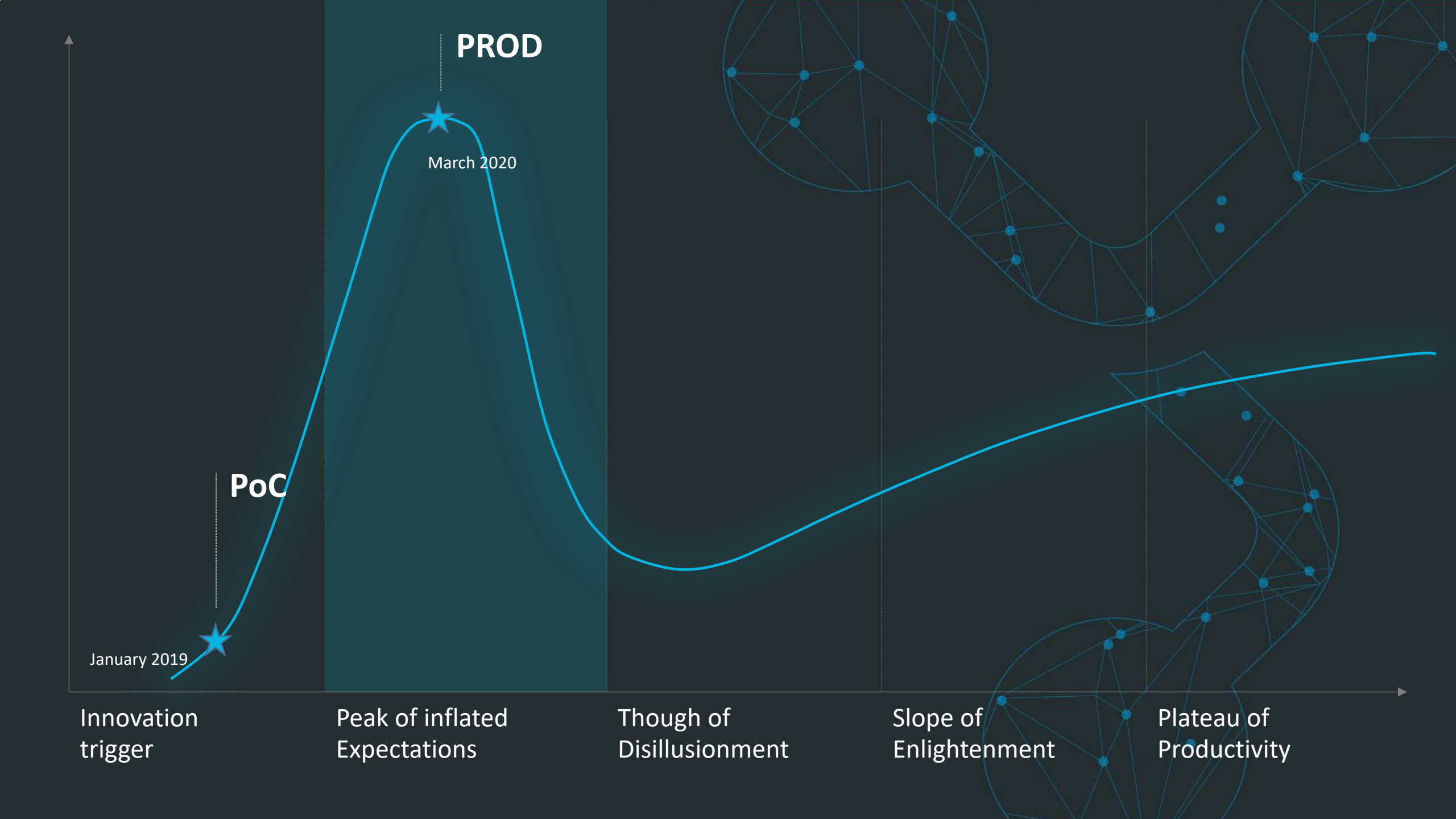


- Cloud oriented technology
- Unlimited throughput
- Improved performance because of elimination of integration intermediary
- Integration expenses reduction


PoC
January 2019
Innovation trigger
Peak of inflated Expectations
Though of Disillusionment
Slope of Enlightenment
Plateau of Productivity

Make It Simple




PROD
March 2020
PoC
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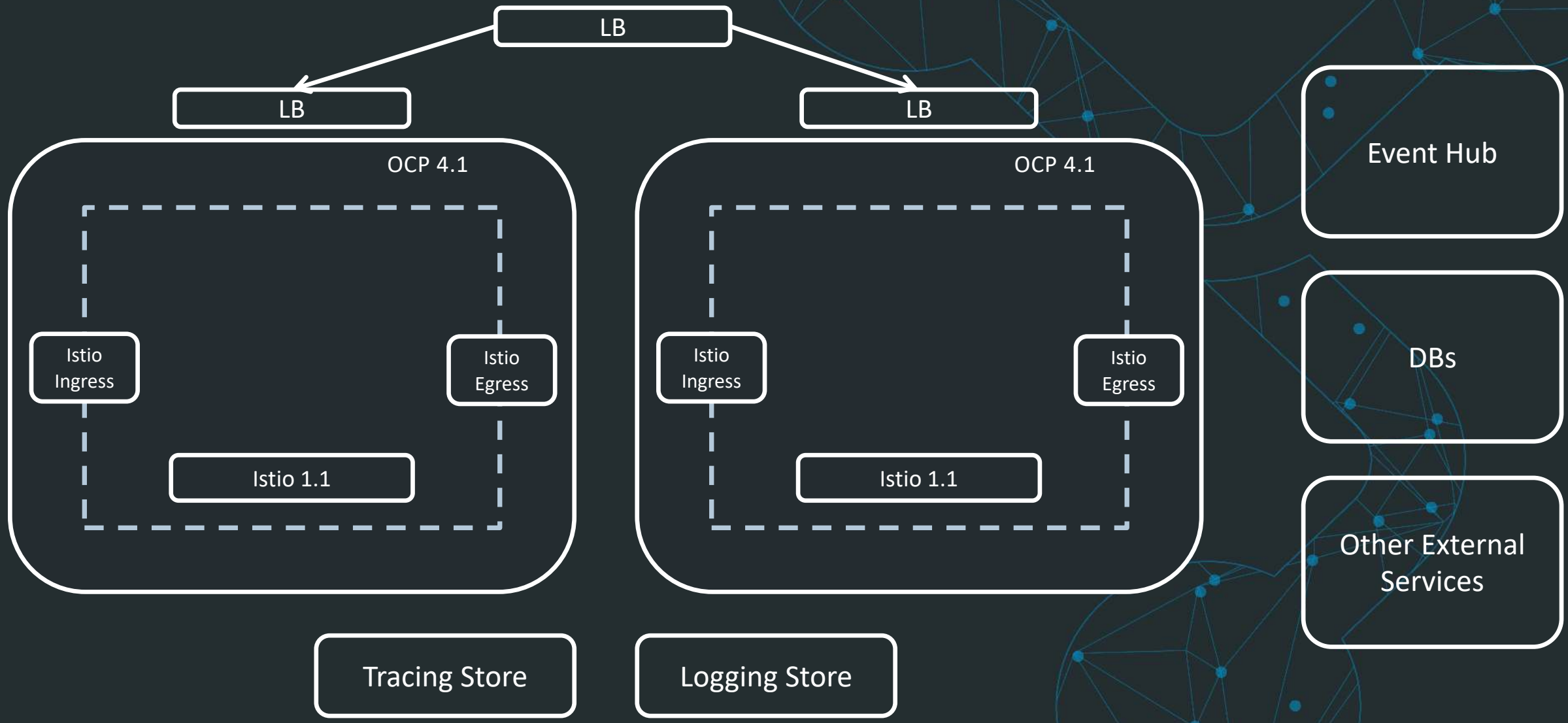
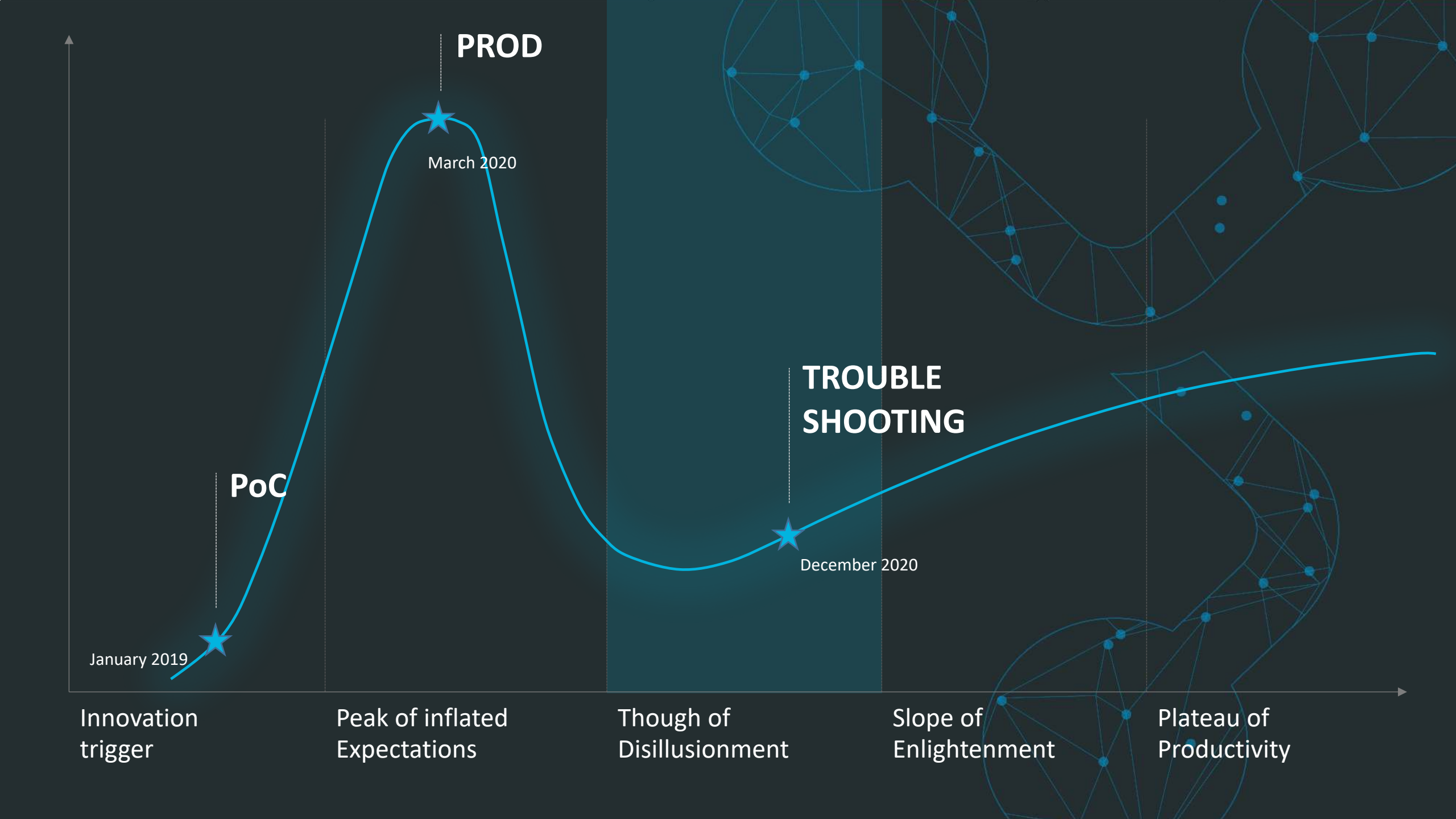
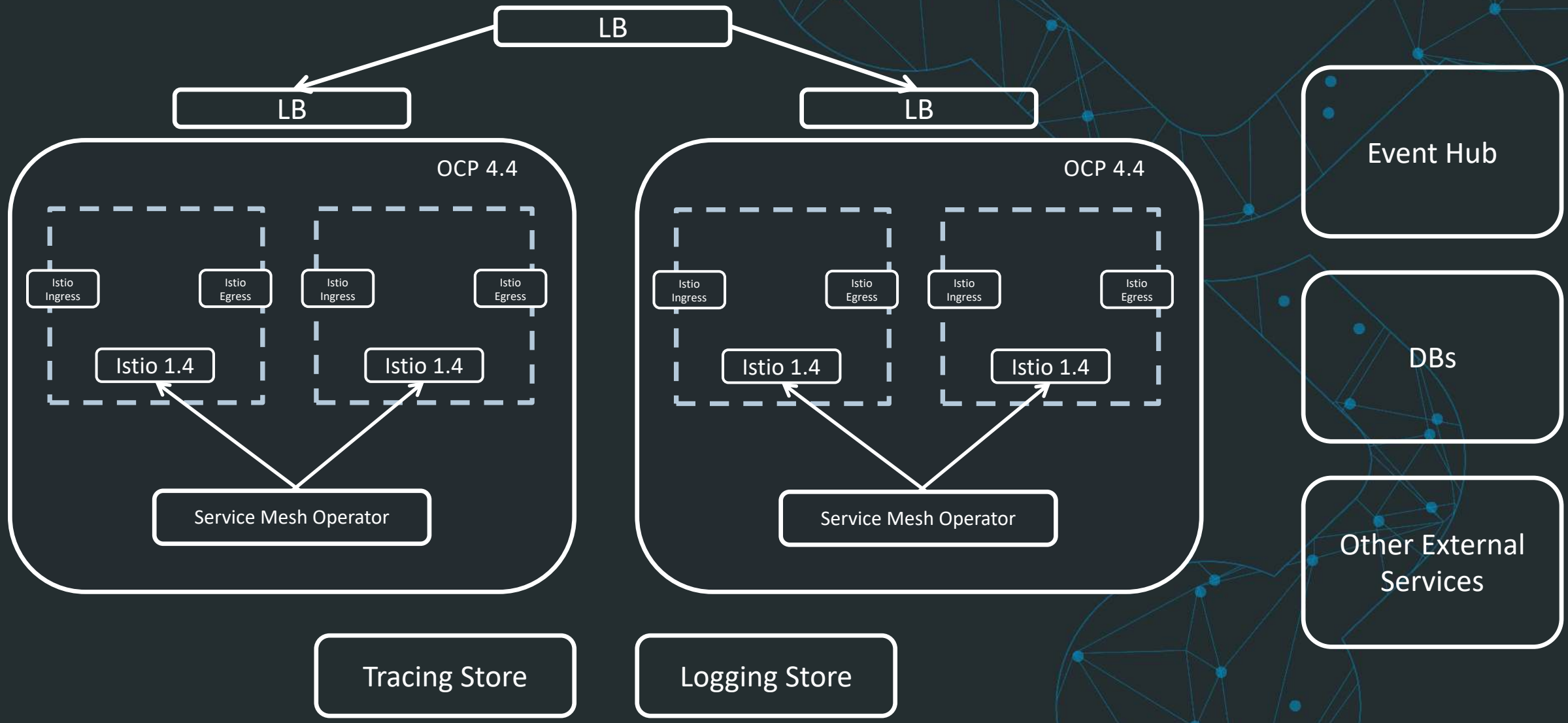
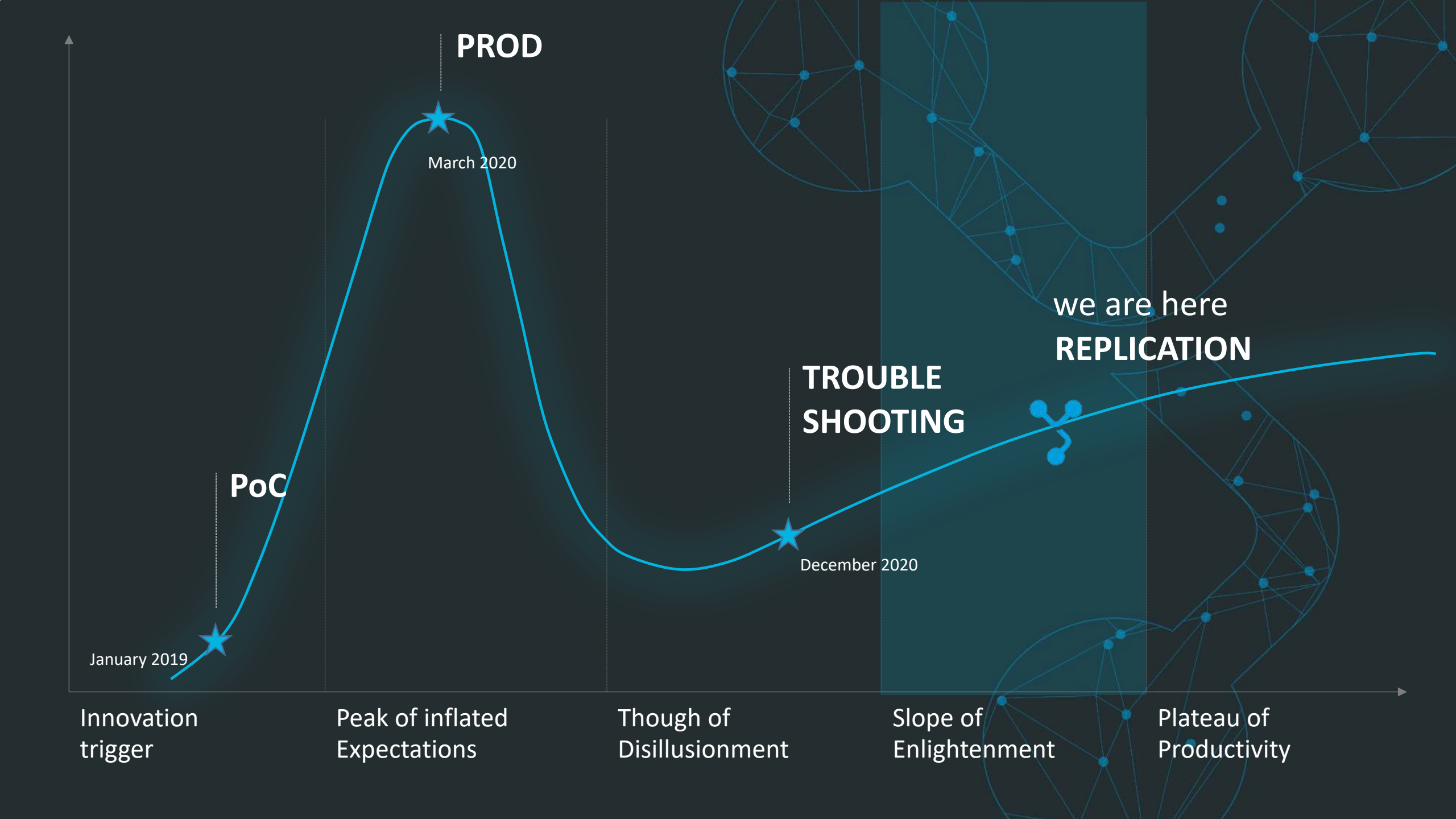
Don’t Forget about HA & DR




PROD
March 2020
TROUBLE
SHOOTING
PoC
December 2020
January 2019
Innovation
trigger
Peak of inflated
Expectations
Though of
Disillusionment
Slope of
Enlightenment
Plateau of
Productivity

Think about Multi-Tenancy




PROD
March 2020
we are here
REPLICATION
TROUBLE
SHOOTING
PoC
December 2020
January 2019
Innovation
trigger
Peak of inflated
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Though of
Disillusionment
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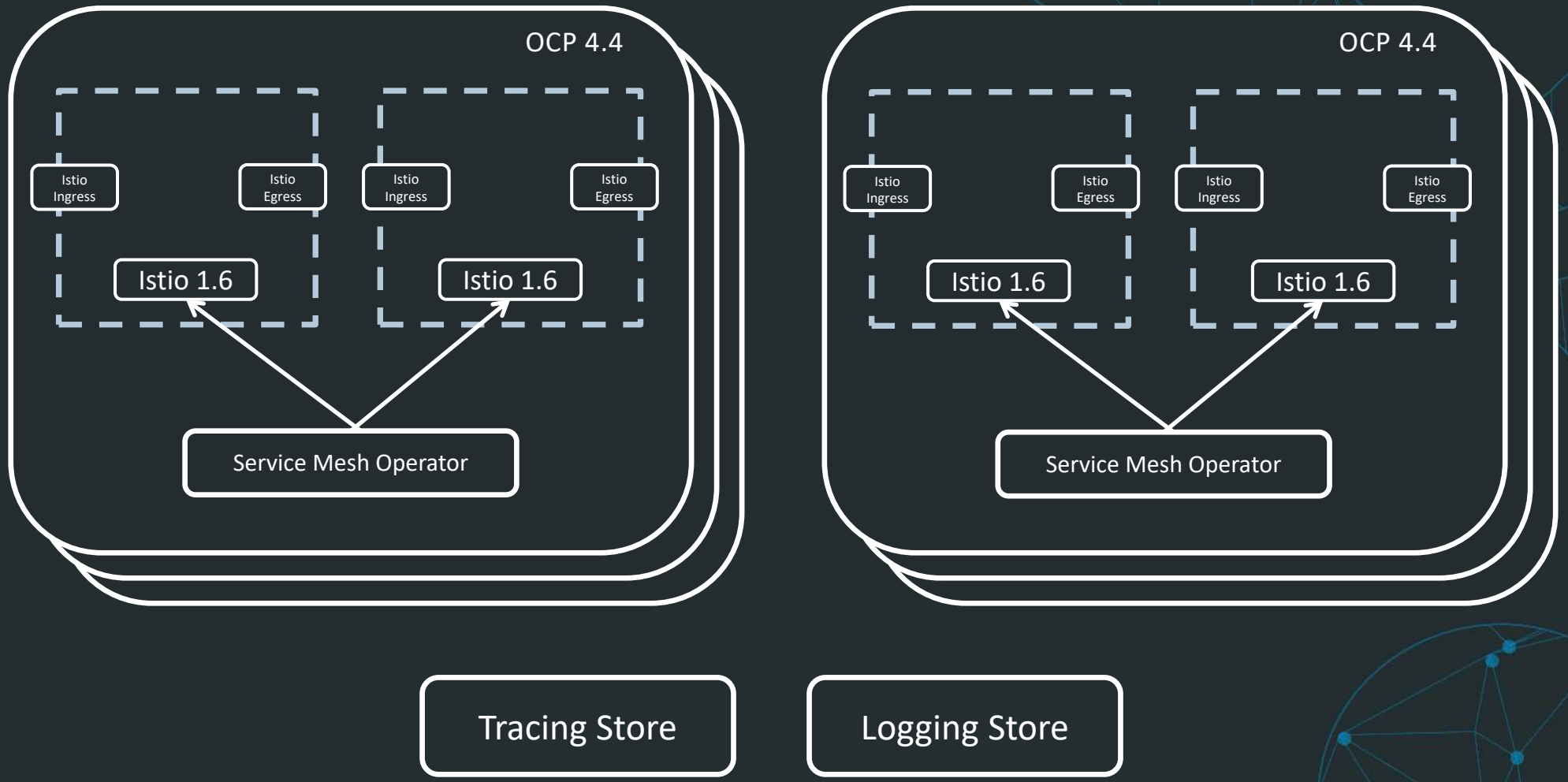
Productivity

Scale UP



Event Hub

DBs

Other External Services

Tracing Store

Logging Store

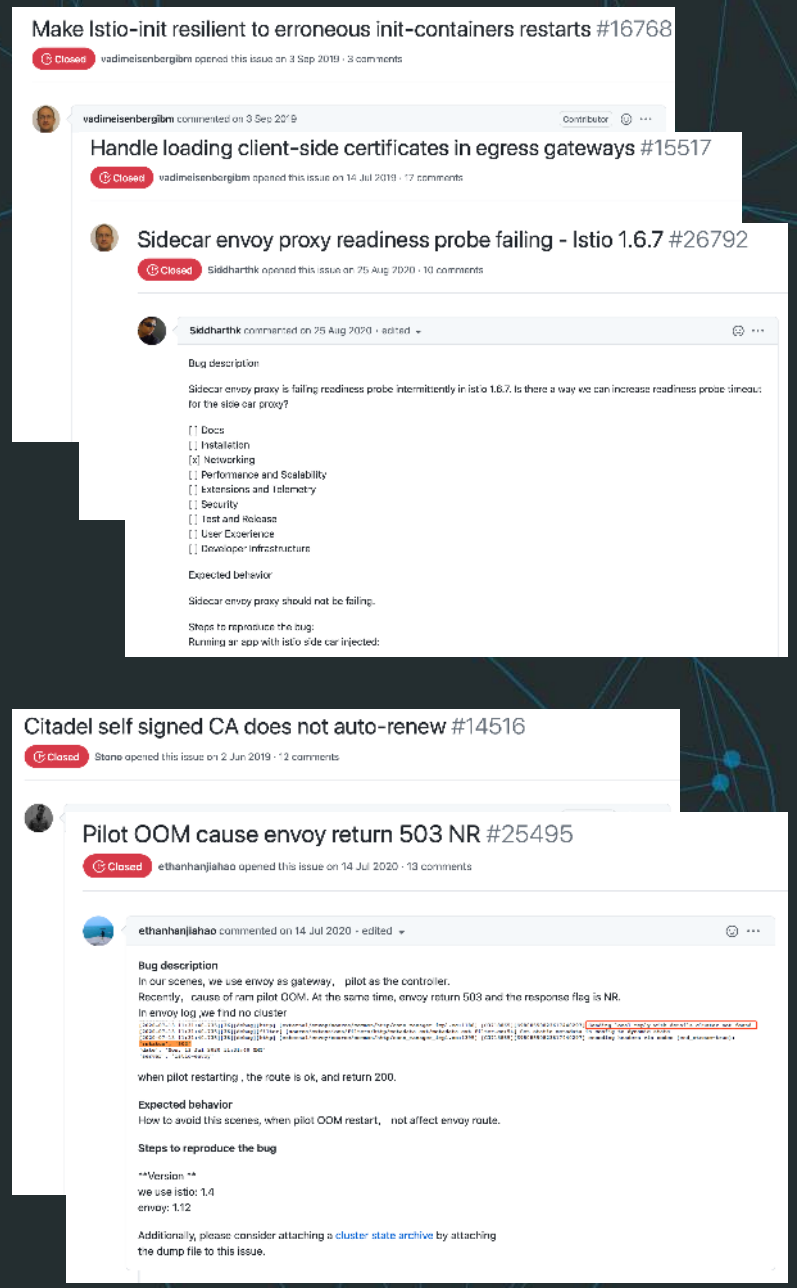
Lessons Learned

1. **Init containers maybe not the best option**
   - NET_RAW and NET_ADMIN
   - Traffic failures due to init restarts (#16768)

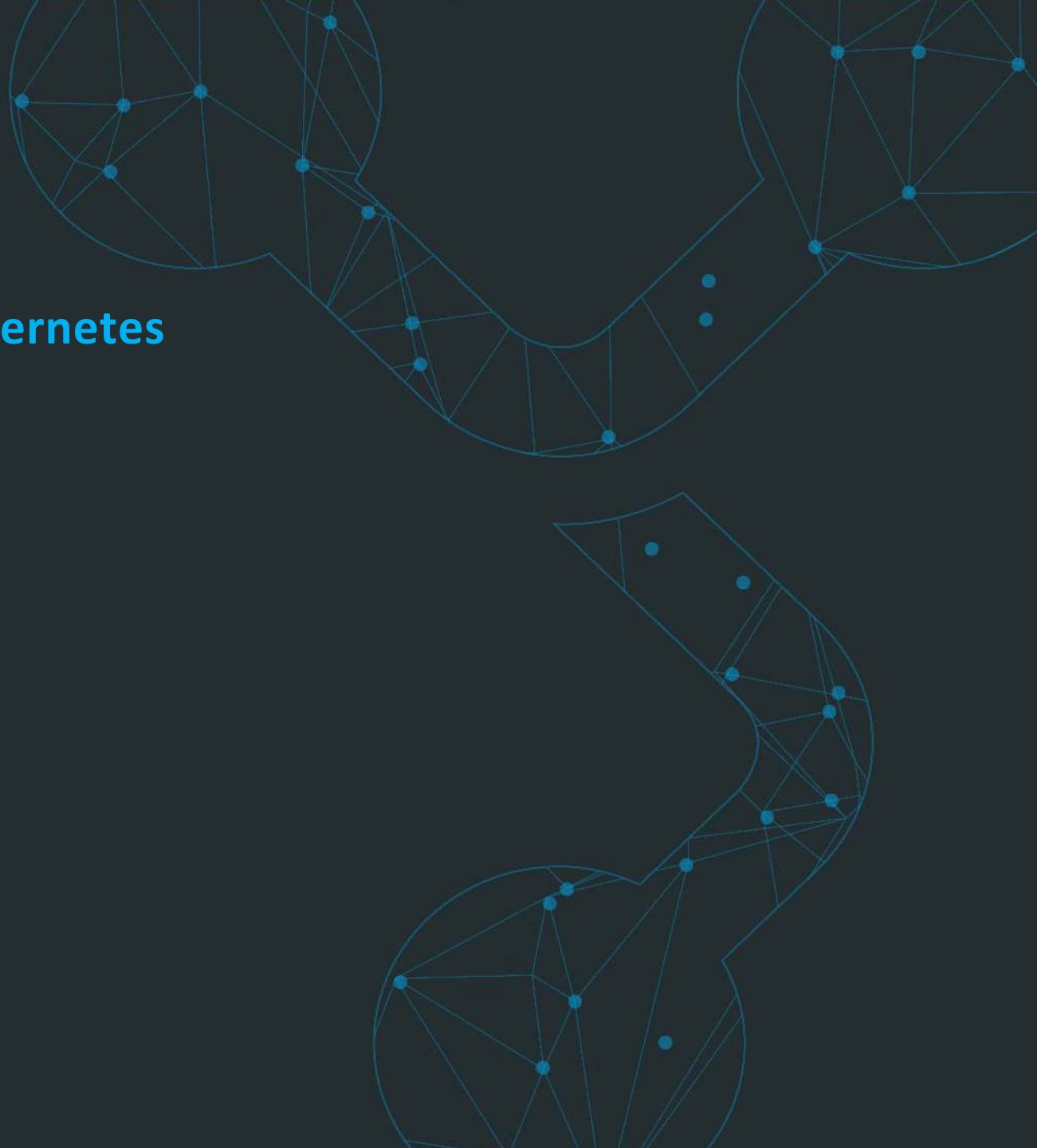
2. **Be careful with secrets rotation**
   1. Hot restarts for TCP-traffic
   2. Root certificate reissue (#14516)
   3. Istio Discovery overload (#25495)

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)



Further Steps



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

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