

Cloud-Native TiDB and Serveless

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About Me

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Agenda

- The Road to Cloud
- Cloud-Native TiDB
- Elastic Scheduling
- The Next step: Serveless

The Road to Cloud



About TiDB

24K GitHub stars | 1000+ production users

- Features
 - Scale-out MySQL, no more manual sharding
 - Hybrid transactional / analytical processing (HTAP)
 - Distributed transactions with strong consistency
 - High availability and auto-failover
 - Cloud neutral alternative for Amazon Aurora and Google Spanner

The Road

- 2015/9 - TiDB was born
- 2016/4 - TiKV was born
- 2018/8 - TiKV entered the CNCF Sandbox
- 2019/5 - TiKV into CNCF Incubator
- 2019/7 - TiDB Operator release 1.0 GA
- 2020/2 - Chaos-Mesh as a CNCF sandbox project
- 2020/5 - Release TiDB 4.0 GA
- 2020/6 - Cloud TiDB was born



Fully-managed TiDB Service

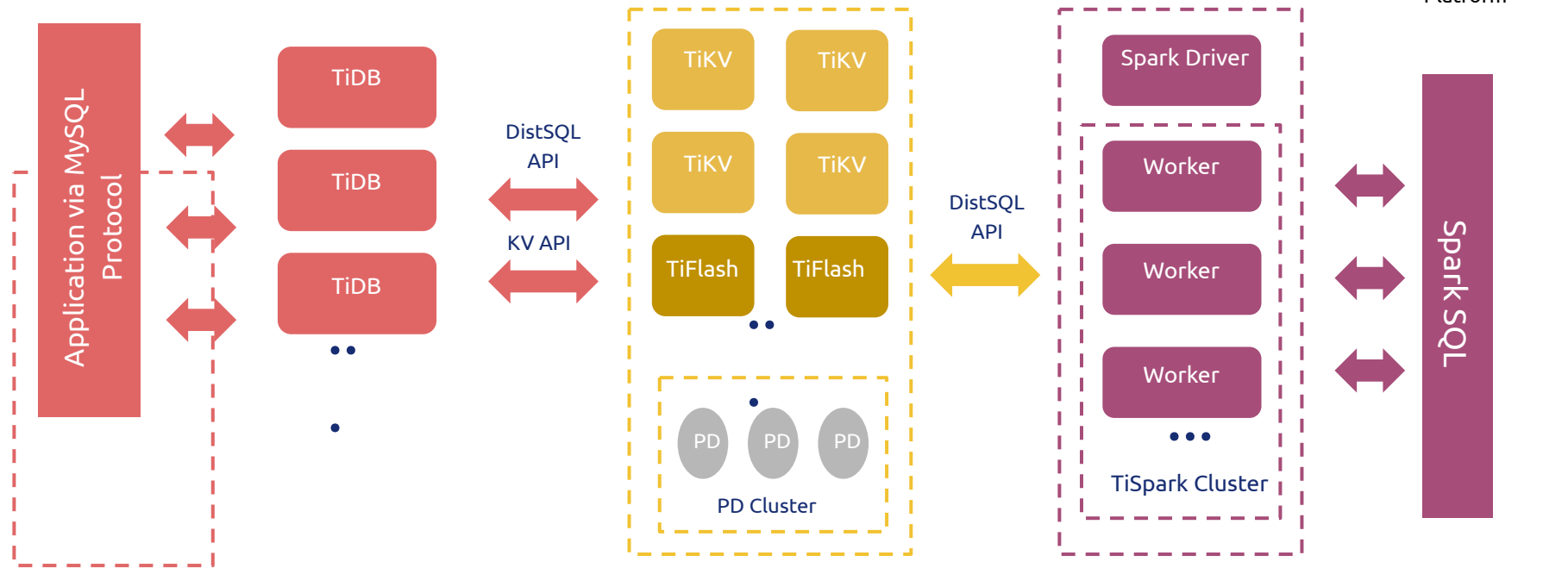
Bring everything great about TiDB to the cloud. TiDB Cloud lets you focus on your applications, not the complexities of your database.

Cloud is on the way!!!

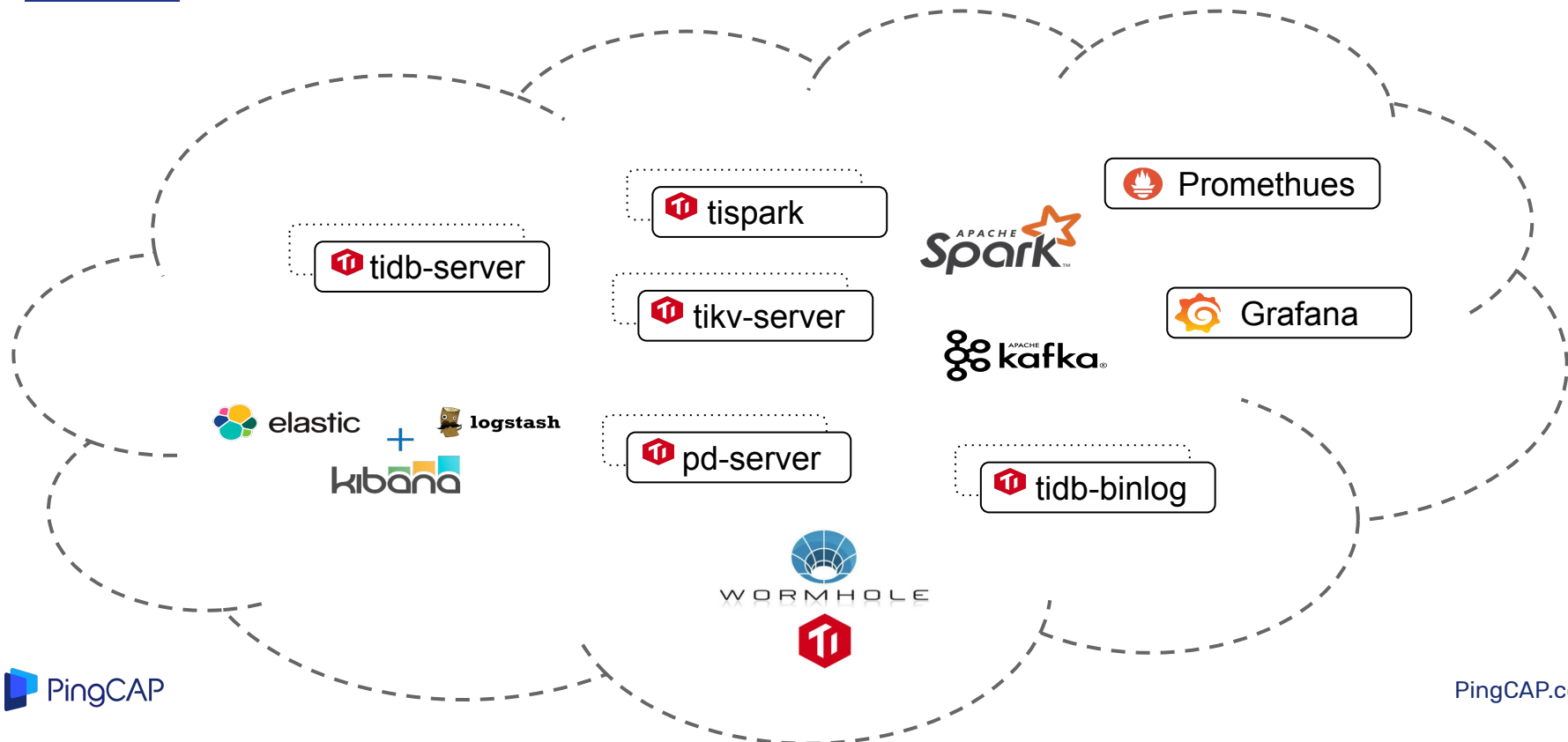
Cloud Native TiDB



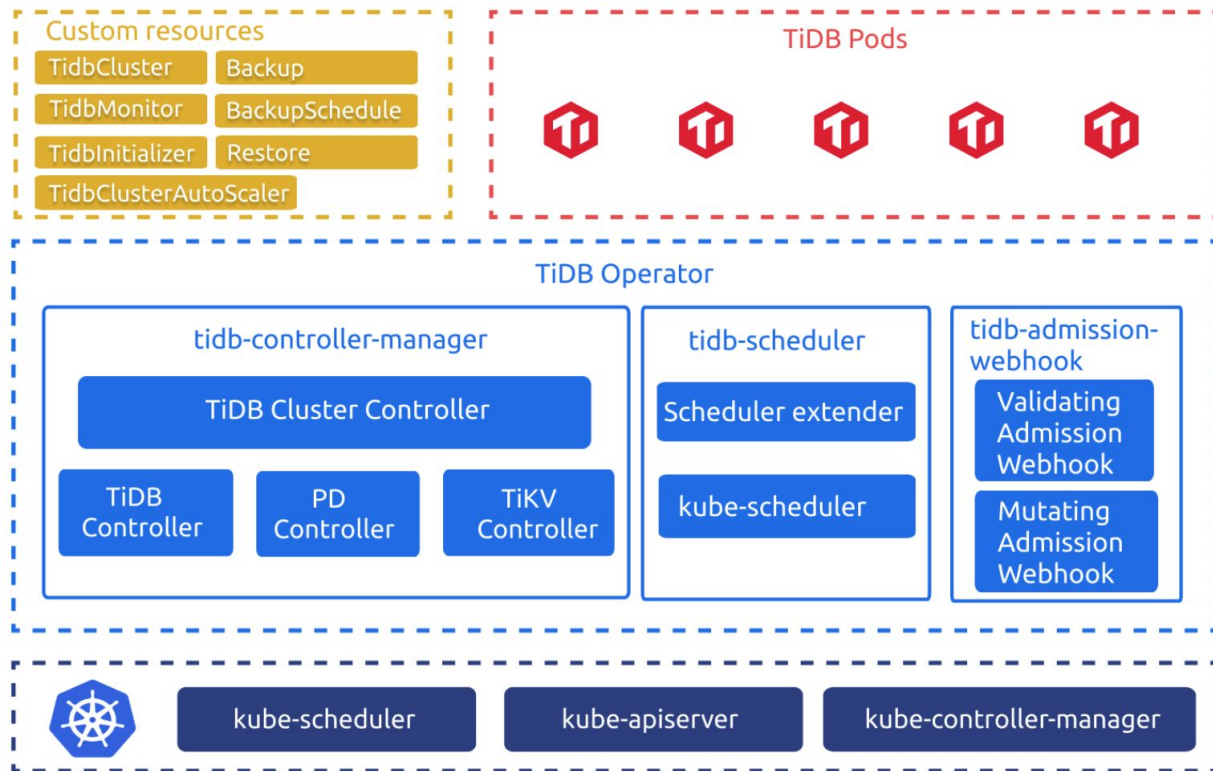
TiDB Architecture



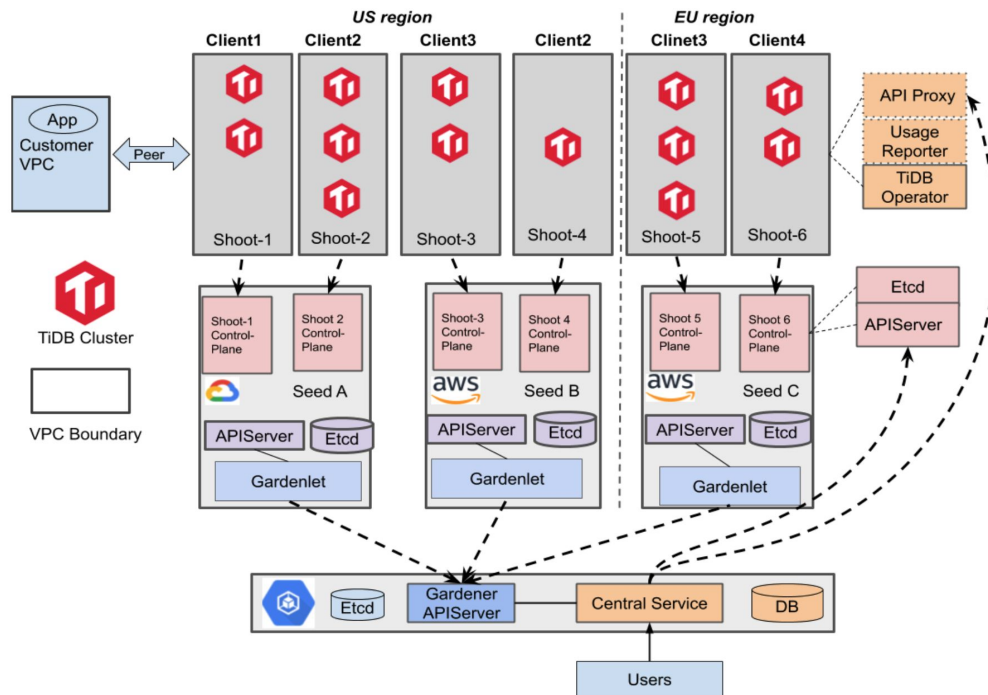
Complexity of Distributed System(TiDB)



TiDB Operator



Cloud TiDB

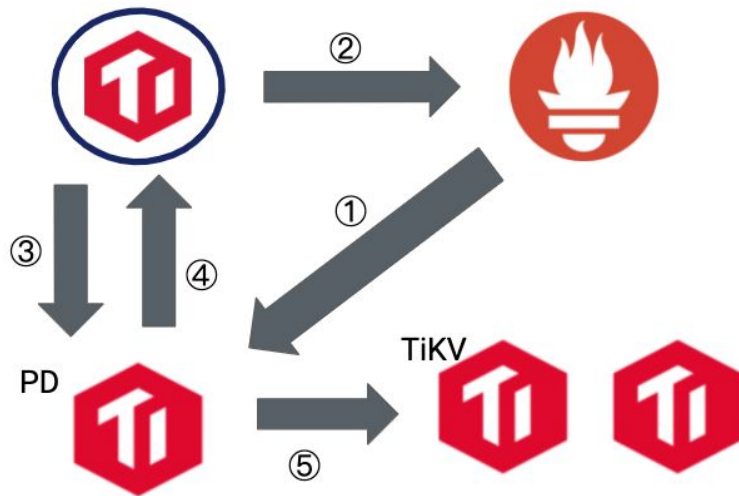


Elastic Scheduling

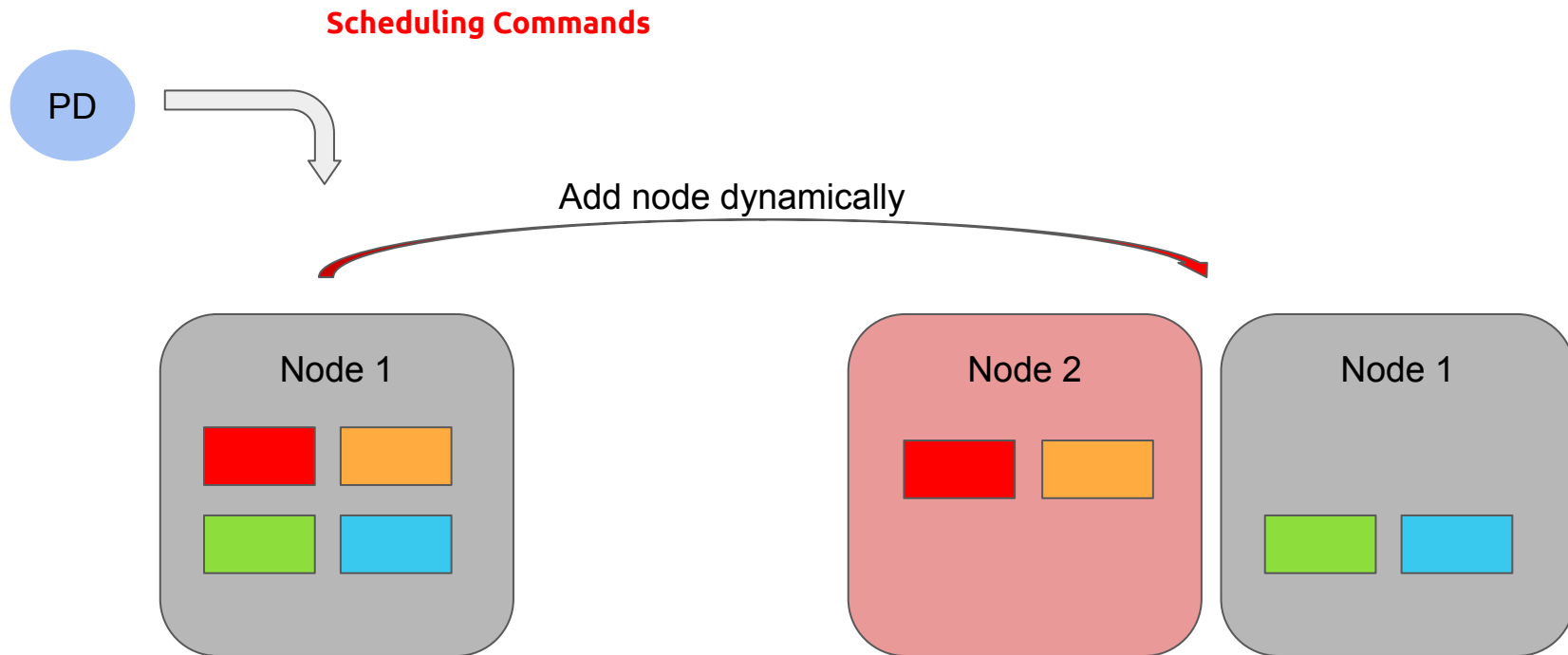


Auto Scaling

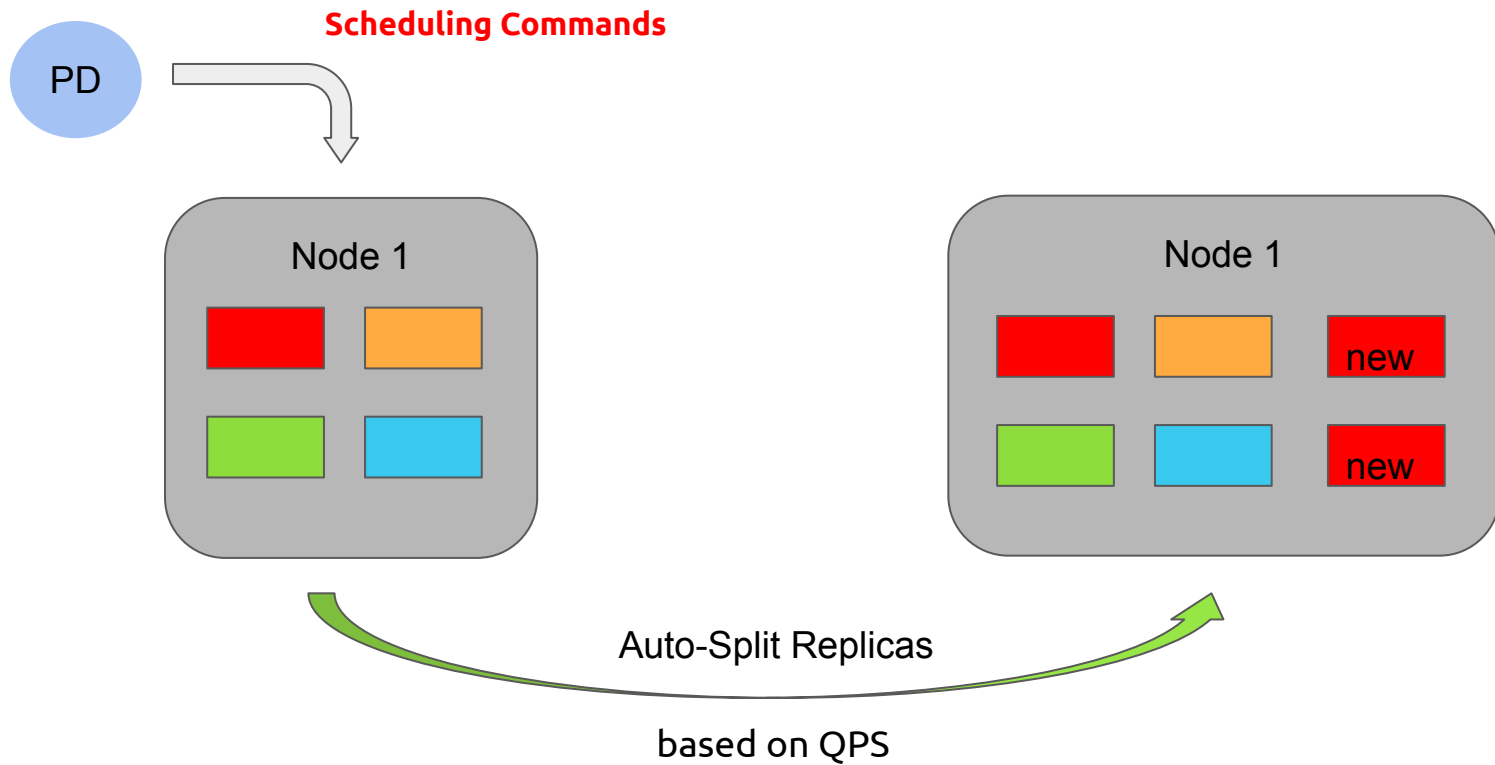
```
apiVersion: pingcap.com/v1alpha1
kind: TidbClusterAutoScaler
metadata:
  name: auto-scaling-demo
spec:
  cluster:
    name: auto-scaling-demo
    namespace: default
  monitor:
    name: auto-scaling-demo
    namespace: default
  tikv:
    minReplicas: 3
    maxReplicas: 4
    metrics:
      - type: "Resource"
        resource:
          name: "cpu"
          target:
            type: "Utilization"
            averageUtilization: 80
```



Adaptive Capacity



Load based splitting



Tue, Feb 29, 00:00:38 2000

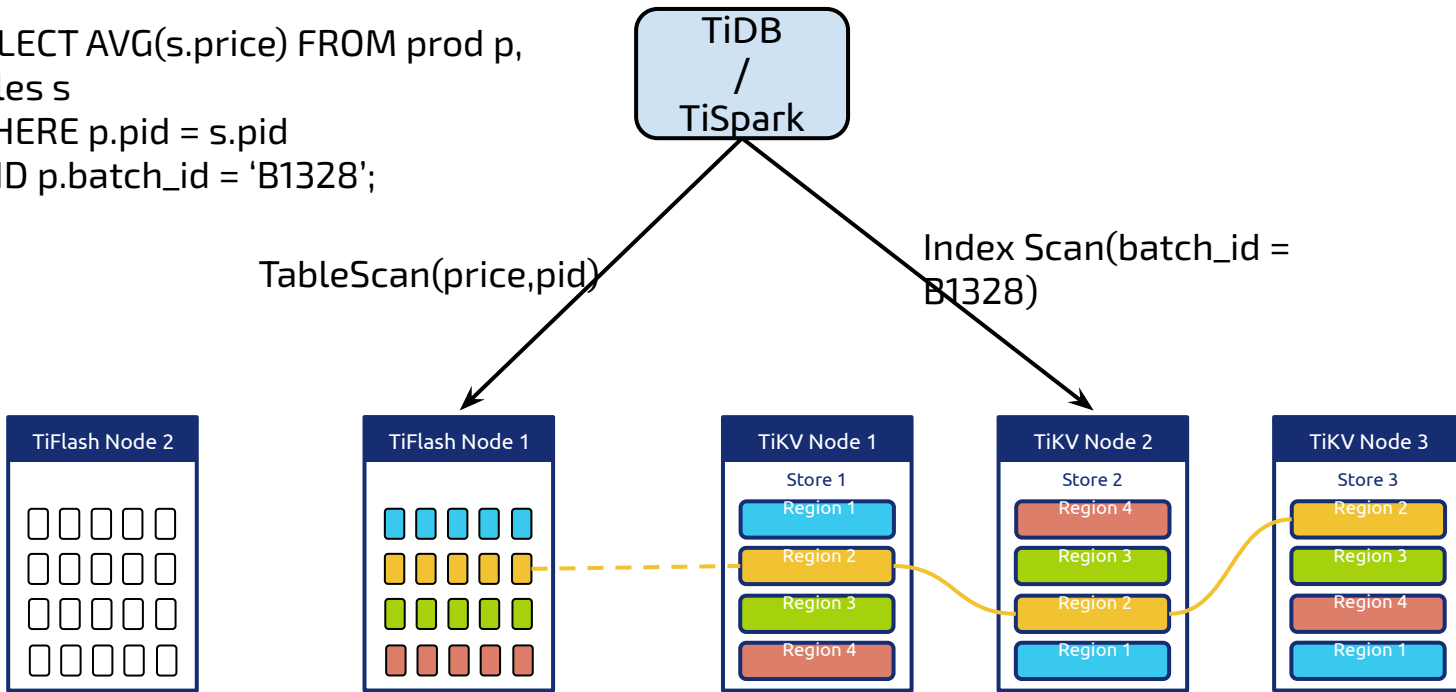
Next Step: more Serveless



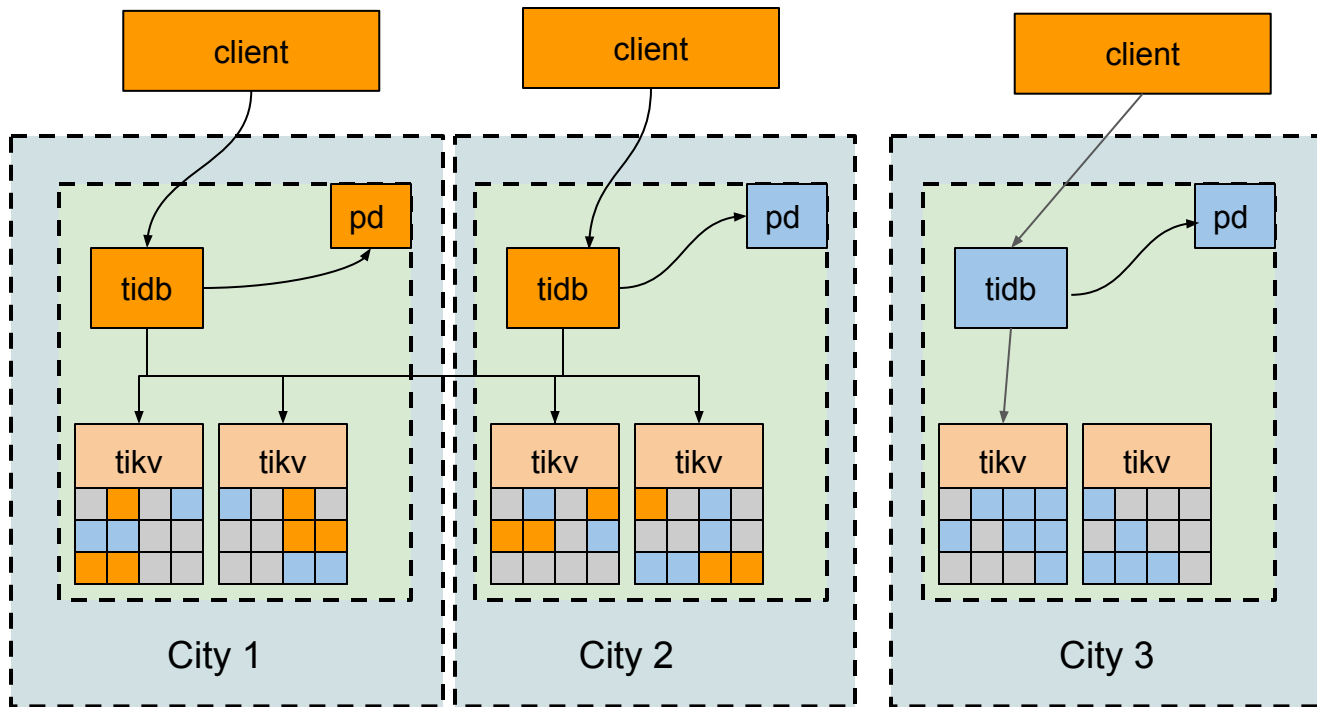
On-Demand For the Workload

HTAP On Cloud

```
SELECT AVG(s.price) FROM prod p,  
sales s  
WHERE p.pid = s.pid  
AND p.batch_id = 'B1328';
```



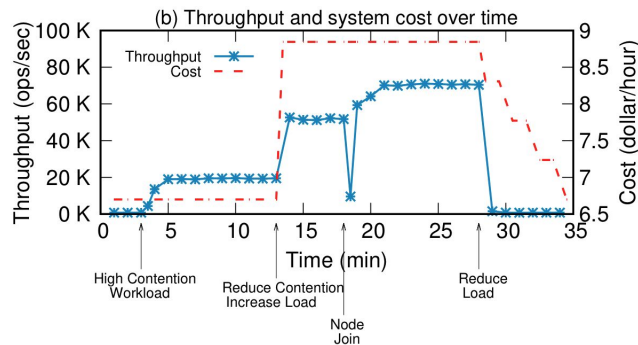
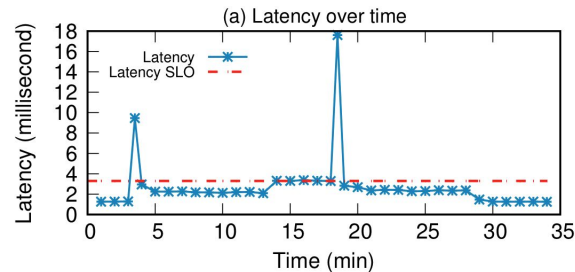
GEO Partition & Global/Region Transaction



Cloud TiDB As Better Service

For users....

- Reduce the cost
 - adapt to cloud storage (local SSD, EBS, S3)
 - pay as you request
- Improve the service quality
 - SLA
 - latency SLO
- More Cloud Vendors



Thank you!

直播结束后我们会在交流群中分享本期 PPT
还没有加交流群的小伙伴，
可以扫码右边二维码进群👉



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