

Tungsten Cluster Master Class

Advanced: Multi Cluster Topologies – Composite Active-Active

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Topics

In this short course, we will

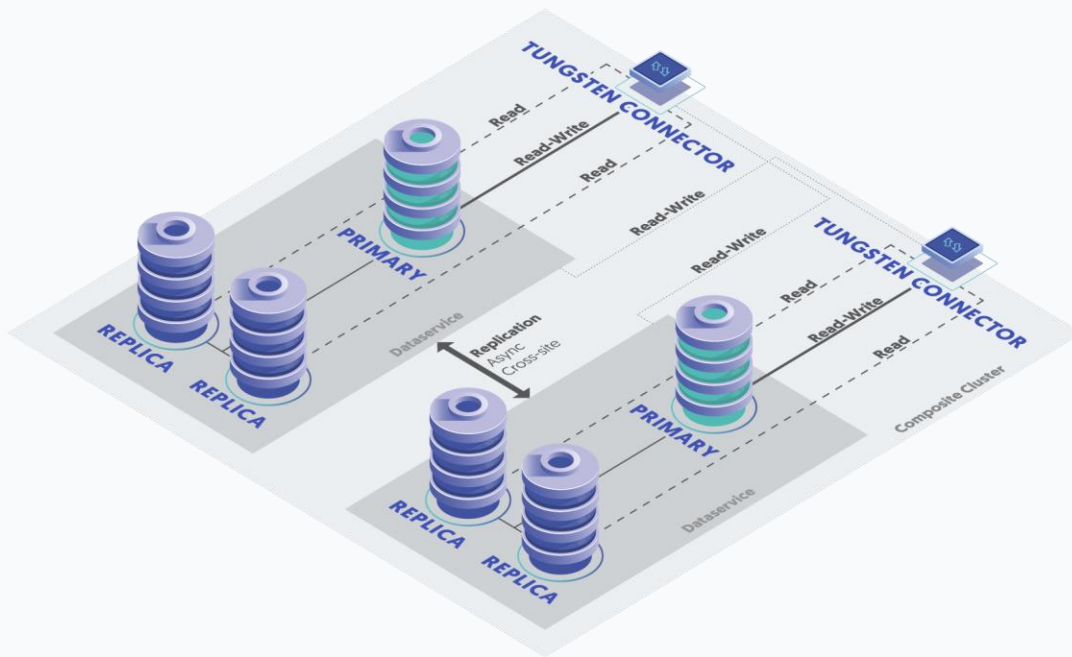
- Review Composite Active-Active Topology
- Explore additional considerations
- Study the Configuration
- See an installation in practice

Active-Active Topology

Tungsten Cluster

Composite Active-Active Topology

- Minimum 2 Clusters
 - Min 3 nodes per cluster
- All clusters are read/write
- Cross-Region
- Simple setup and control
- Multiple write-able Primaries
- Managed cross-site replication – the managers are aware of and control the cross-site Replication services.



Configuration Considerations

Installation Considerations

- All usual Pre-Reqs need to be in place
- Network Connectivity
 - Additional THL Ports required for sub-service
- Database must be ROW based
- Network Latency between clusters
- Conflict Resolution
 - Best Practices
 - Sequence Number Offsets
 - Application-Level Partitioning
 - Operational Discipline
- Connector Behaviour

Sample Config

Composite Active-Active

- Both Clusters identified as Active clusters
- All writes, from any Connector, will go to Primary host in Active Cluster to which they are associated by default
- In event of a cluster failure, if the Connectors are still operational, they will re-route to another available cluster
- Completely Cluster-aware
- Everything is controlled via `cctrl`
- One single install
- INI Installation method only – Staging-method installs are not supported

```
[defaults]
user=tungsten
install-directory=/opt/continuent
profile-script=~/.bash_profile
connector-bridge-mode=false
application-user=app_user
application-password=secret
application-port=3306
application-readonly-port=3307
replication-user=tungsten
replication-password=secret
replication-port=13306
disable-security-controls=true
rest-apis=true
rest-api-authentication=true
rest-api-ssl=true
rest-api-address=0.0.0.0
rest-api-admin-pass=secret
rest-api-admin-user=tungsten
```

```
[alpha]
topology=clustered
master=db1
members=db1,db2,db3
connectors=db1,db2,db3
```

```
[beta]
topology=clustered
master=db4
members=db4,db5,db6
connectors=db4,db5,db6
```

```
[global]
Topology=composite-multi-master
composite-datasources=alpha,beta
```

Summary

What we have learnt today

- Reviewed the Active-Active Topology
- Understood Configuration and considerations for an Active-Active deployment
- Demonstrated an installation

Thank you for listening

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