



Architectures

Understand deployment options within Stardog Architectures

Taught by:



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Learning Objectives



Understand Stardog deployment options including single node and clusters



Review typical patterns within Stardog Architectures



Review architecture design choices



Review the fundamentals of Stardog Cloud and Stardog Connectors





Nodes & Clustering

Single Node

Use Case

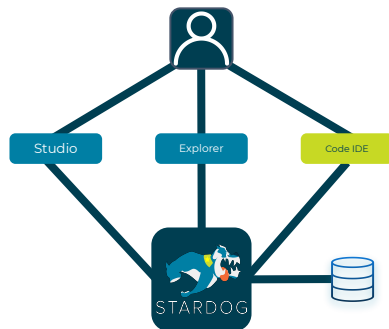
- Development environment
- Proof of concept
- Test environment

Key Parameters

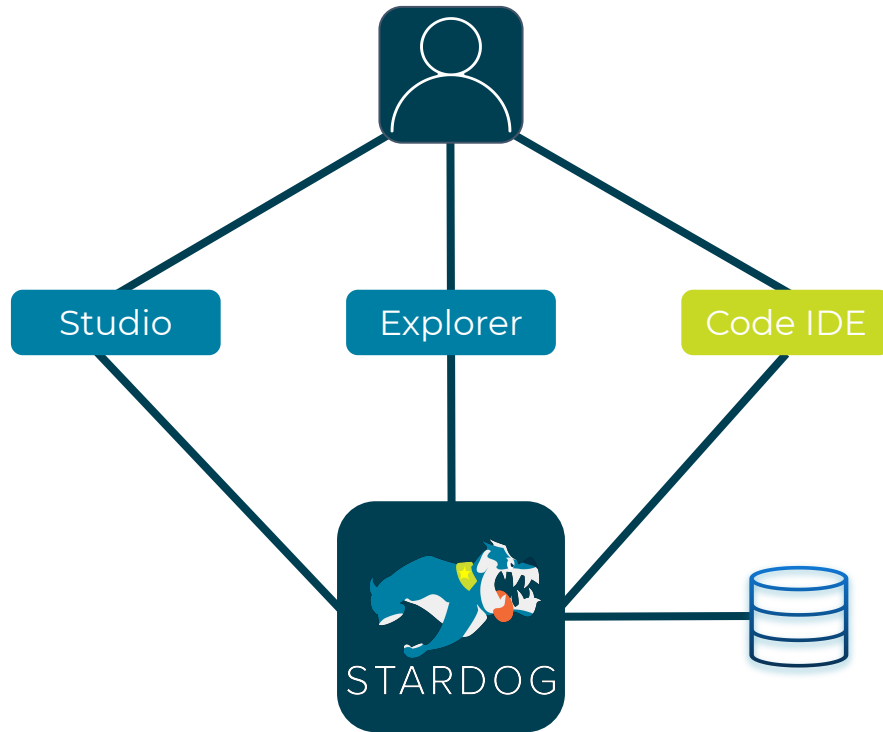
- Standalone Server
- Unit test environment with embedded server

Scaling

- Data capacity
- Available memory
- Cloud, server, or desktop



Single Node Deployment



Cluster

Use Case

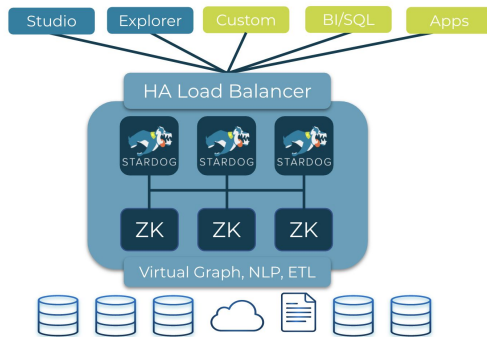
- Enterprise production environment
- Staging Environment
- Test environment

Key Parameters

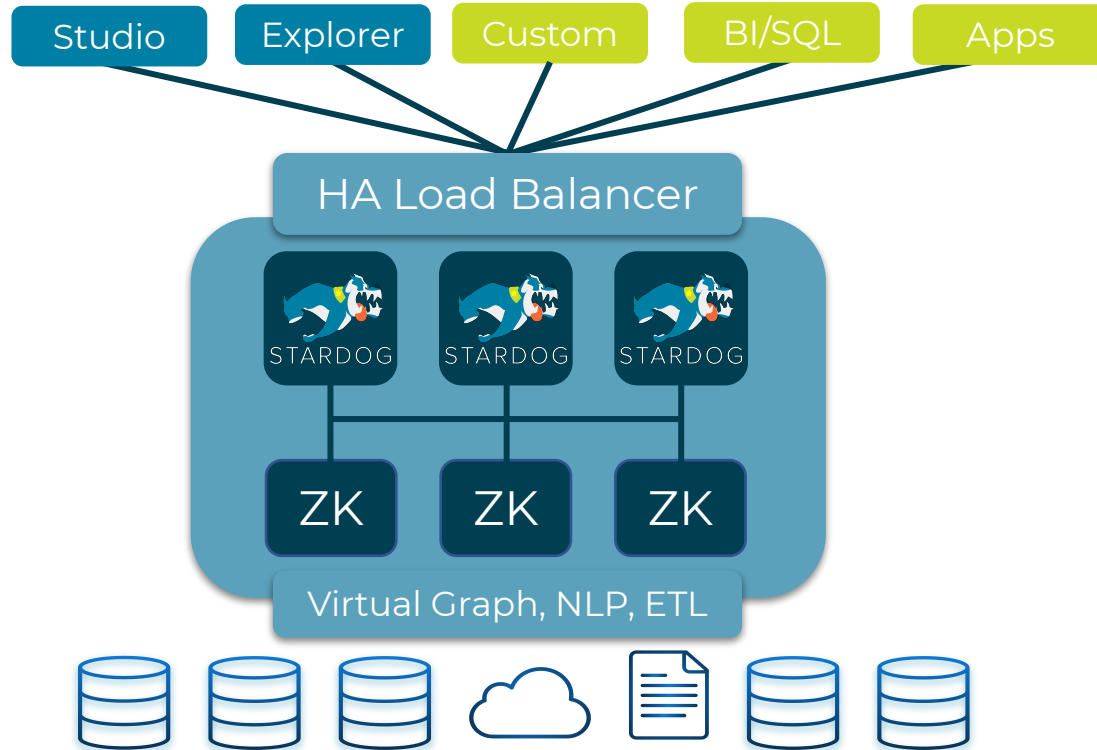
- Available memory
- Amount of data virtualized versus materialized

Scaling

- Available memory and disk
- Number of nodes
- Load balancers
- Platform automation



Stardog Cluster



Cluster with Virtual Graph Caching

Use Case

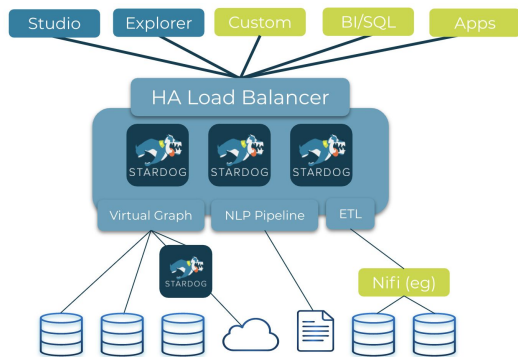
- Large scale deployments
- Large scale virtual graphs

Scaling

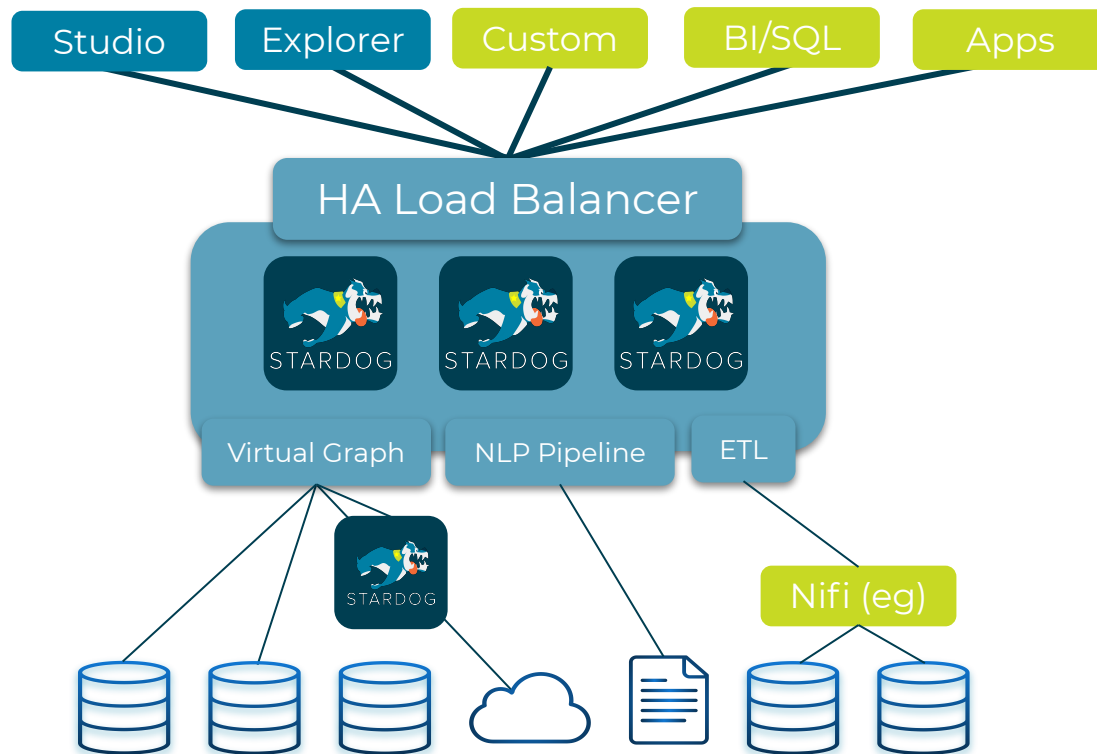
- Size of virtual graphs
- Velocity of change of data
- Cache optimization techniques
- Potential for horizontal scaling

Key Parameters

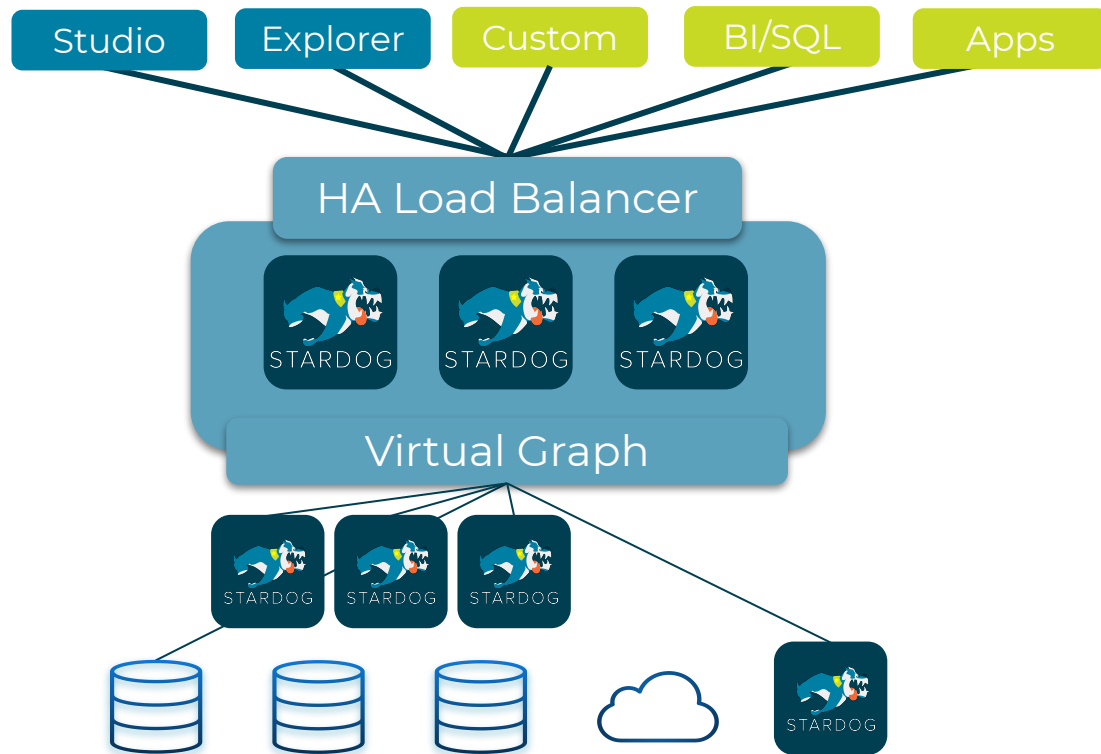
- Per virtual graph data source volume
- Number of cached datasets per node
- Configuration of cluster versus caches



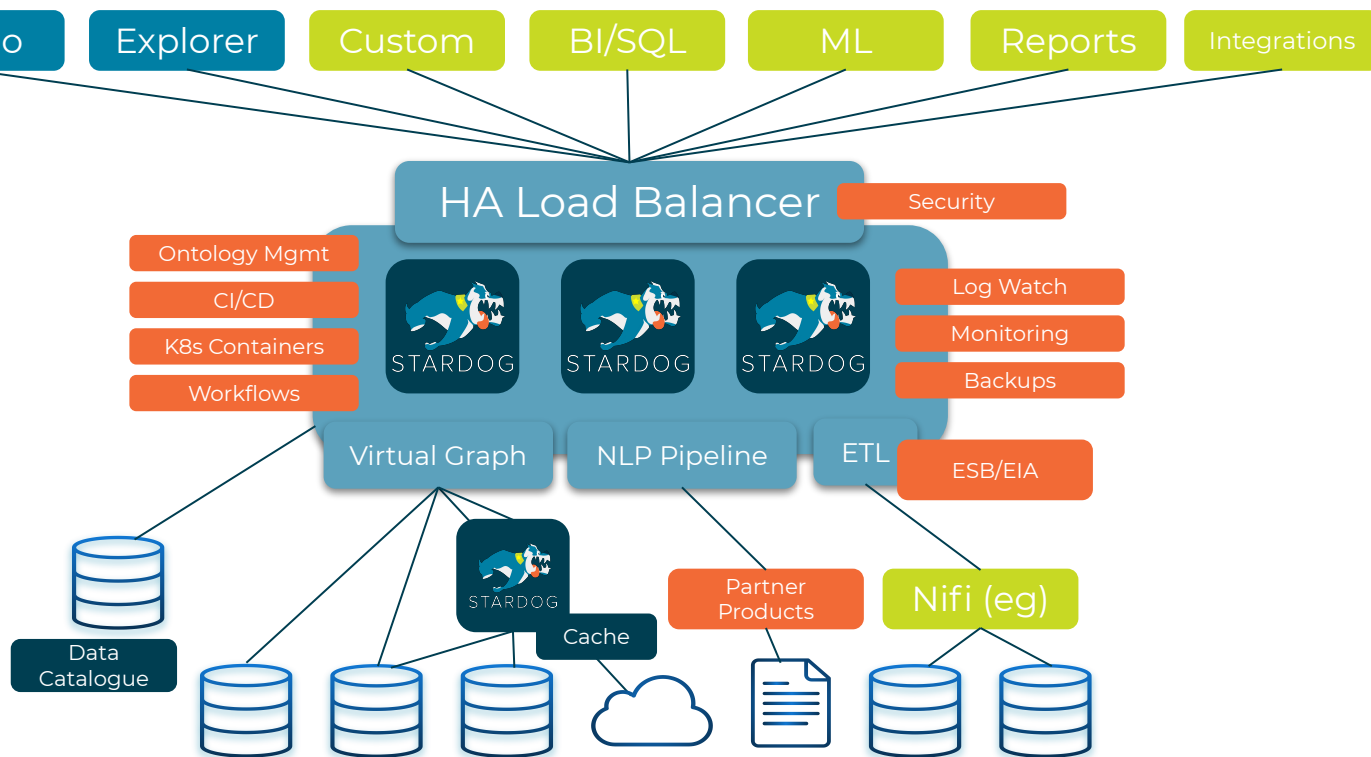
Stardog Cluster with Virtual Graphs



Stardog Cluster with Caches (Many)



Ecosystem





Stardog Cloud



Stardog Cloud

Use Case

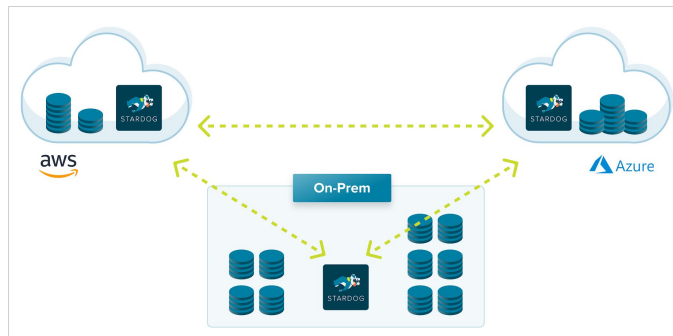
- Managed Service
- Cloud native deployments

Scaling

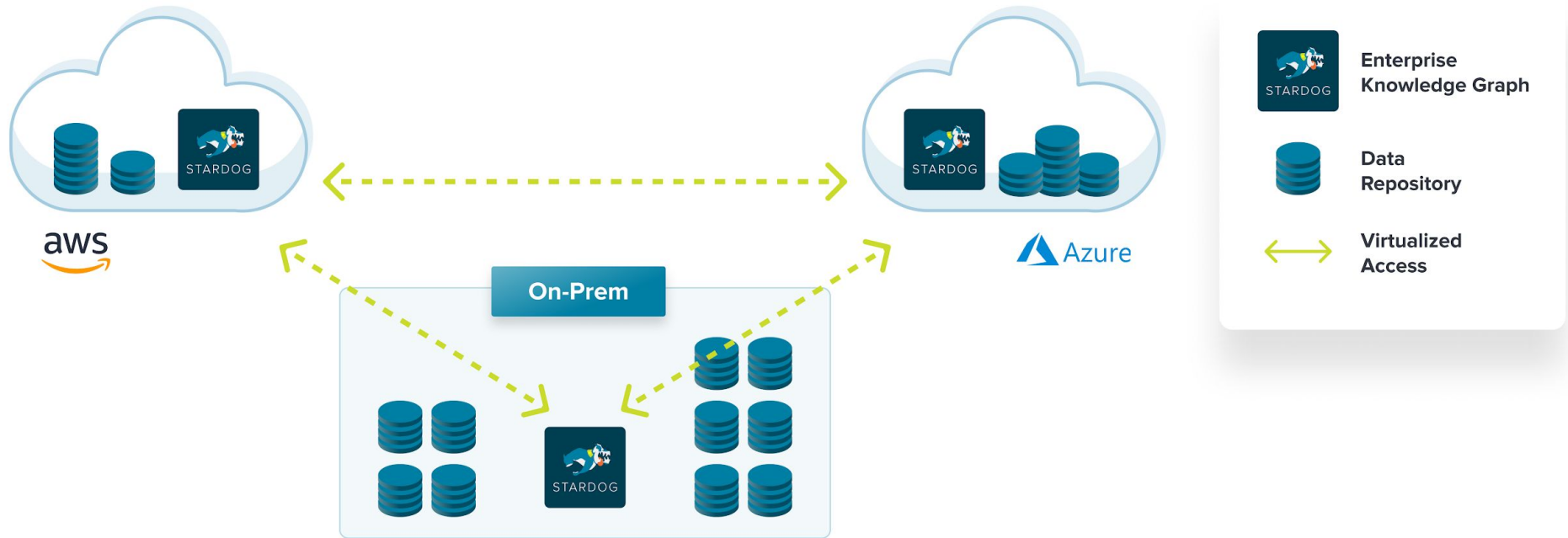
- Size of virtual machines
- Number of Stardog nodes
- Virtual graph

Key Parameters

- VM Size (memory, disk)
- Hybrid cloud connections



Stardog Cloud in a Hybrid Cloud Environment



Distributed: Virtualizing Other Stardog's

Use Case

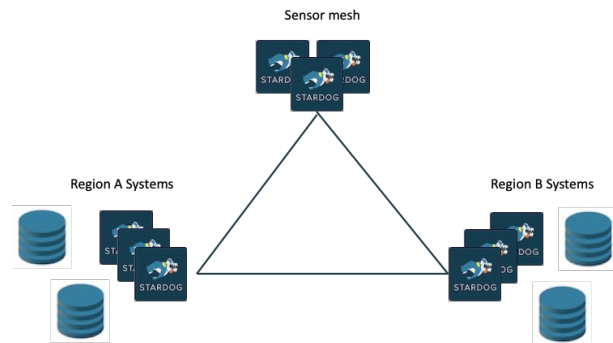
- Separated geo regions
- Virtualize other departments
- Mesh environments (e.g. sensor platforms)

Key Parameters

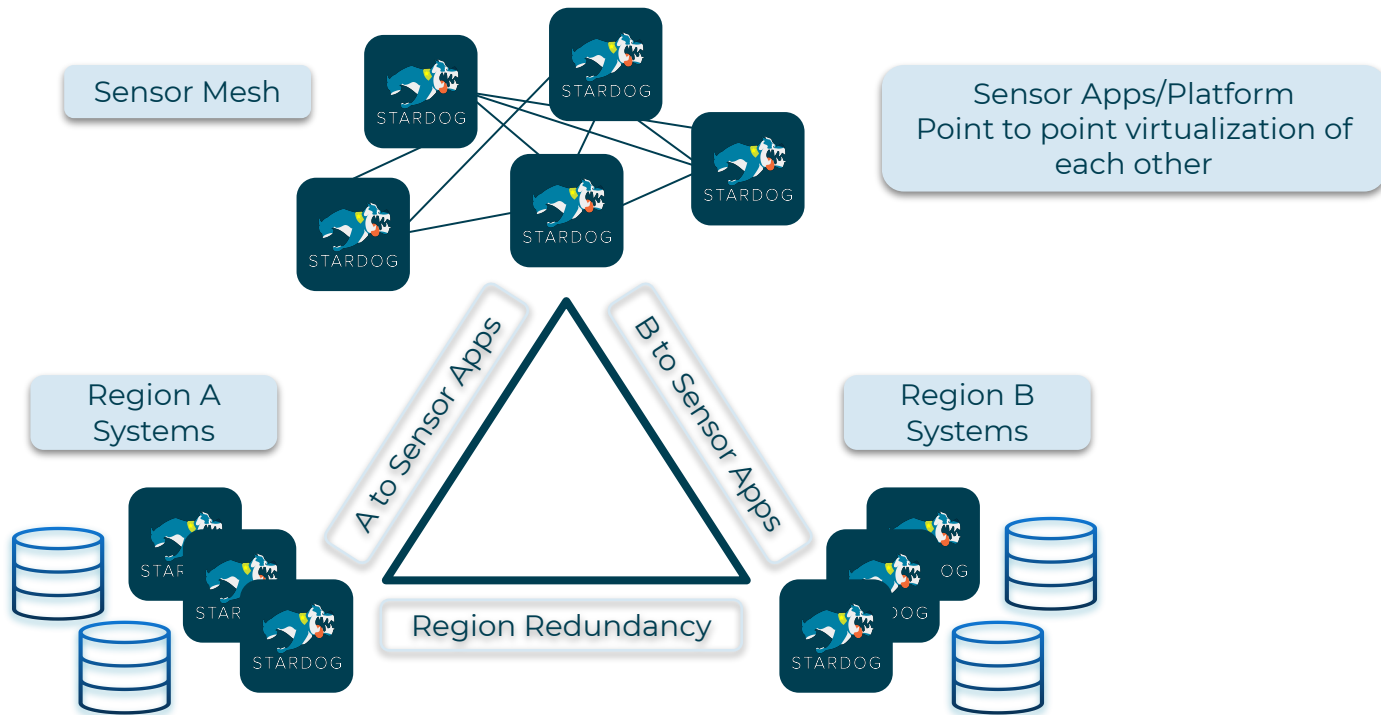
- Number of clusters
- Number of data sources per cluster
- Network configuration

Scaling

- Geo Redundancy requirements
- Network topology
- Data management approach



Distributed Example: Stardog Virtualizing Itself





Stardog Connectors



Stardog Connectors

- Virtual graph connectors to a large variety of data sources
 - Relational and NoSQL data sources
 - Cloud service integrations
- Certified BI/SQL connections
 - MySQL driver compatible
- Programming language and SDK support





Dev & Production



Separating Dev and Production

- Separate usage concerns into different deployment tiers
- Common example:
 - Production
 - Staging
 - Test
 - Development
- Considerations:
 - Shared development environments
 - Representative data in different environments





Learning Objectives



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Thank you

