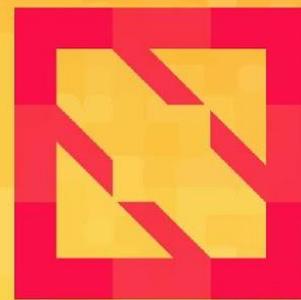




**KubeCon**



**CloudNativeCon**

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**North America 2019**

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**KubeCon**



**CloudNativeCon**

North America 2019

# Network, Please Evolve

## Chapter 2

*Vijoy Pandey*  
*CTO, Cloud @ Cisco*

# Are you a Real Programmer?



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<https://xkcd.com/378/>

<http://ars.userfriendly.org/cartoons/?id=19990508>

# Are you a Real Programmer?



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Nano? REAL  
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HEY. REAL  
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WELL, REAL  
PROGRAMMERS  
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NO. REAL  
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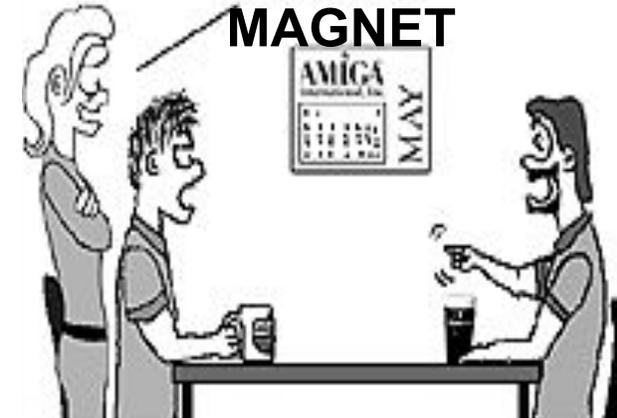
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**WIMP!**  
I edited the  
**INODES** by  
**HAND**, with a  
**MAGNET**



# Are you a *Real Programmer*?

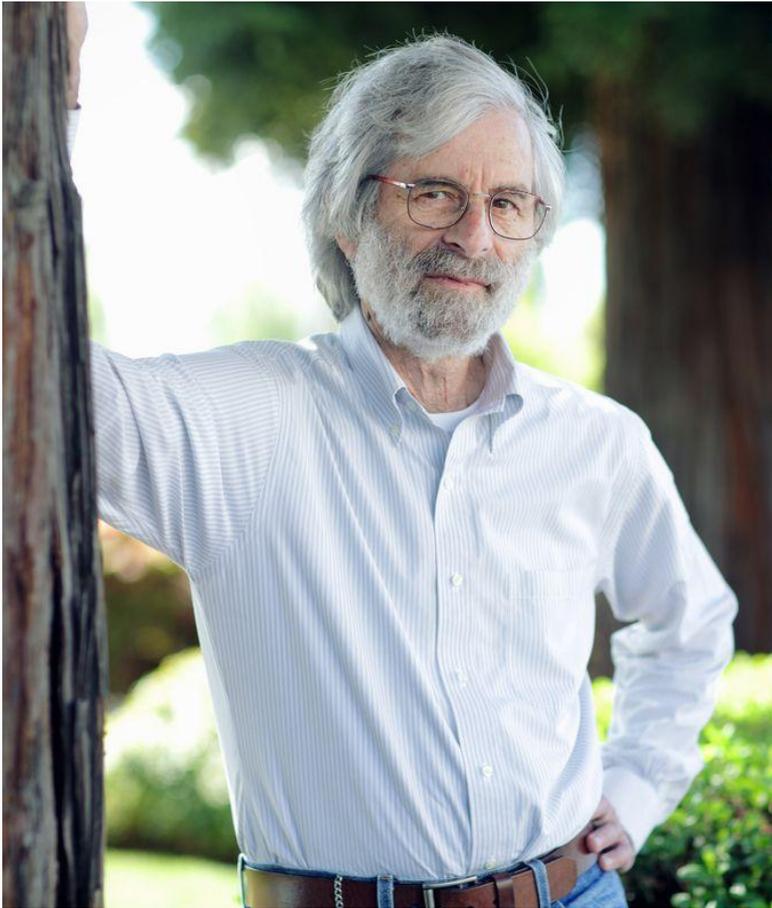


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*“Coding should be the easiest, least important part of programming.”*

*“If you are having trouble writing code, you are doing something wrong.”*

Leslie Lamport

2013 Turing Award, Distributed Systems

# Real-world Use Case

## Vitess DB Replication

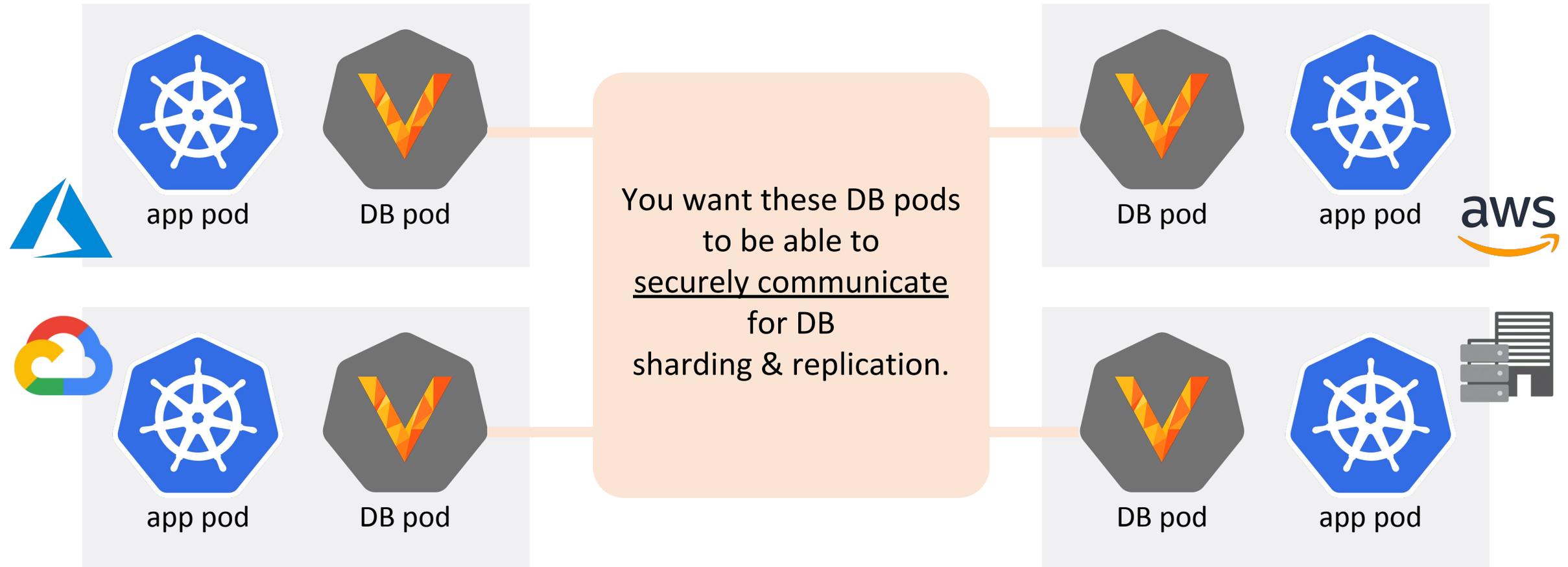


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# Programming with Magnets

## Tickets and Meetings



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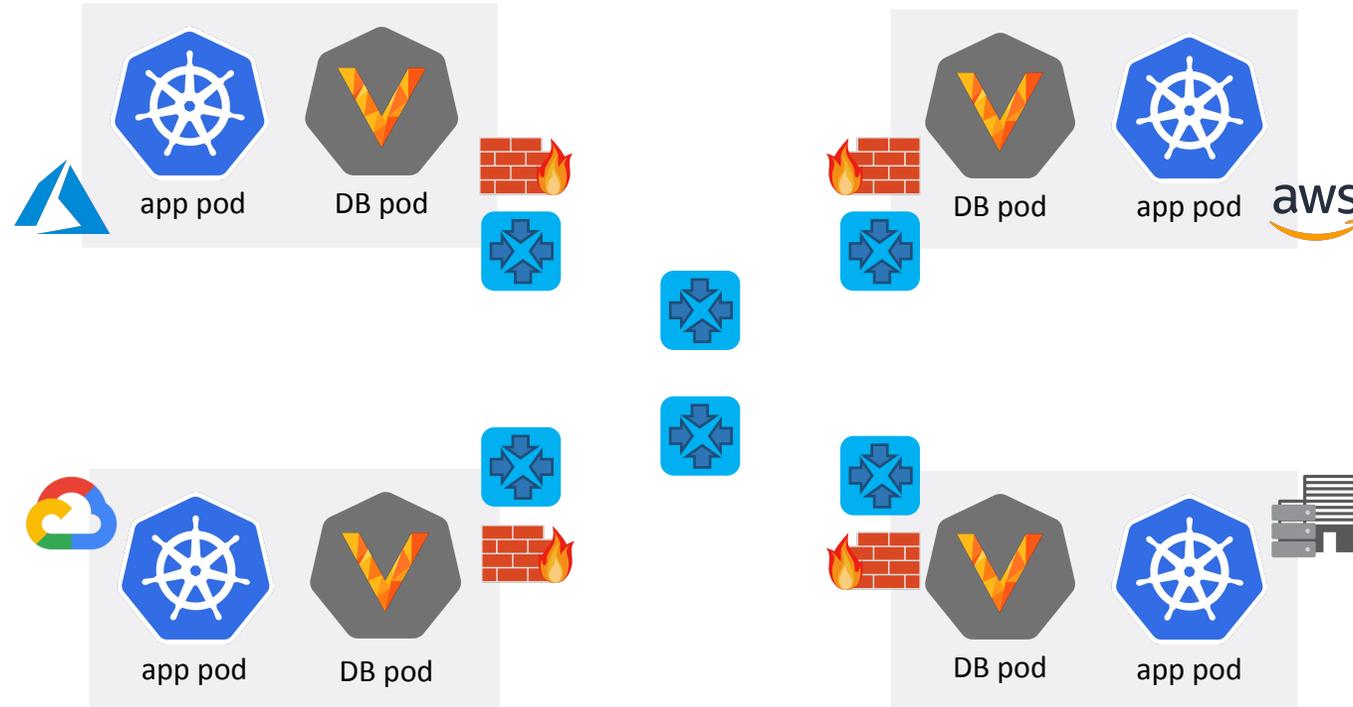


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### Technical Complexity

- Ever-changing pod IPs
- Different routes for different clouds
- VPN, FW setup complexity
- Cloud-specific configs
- Cloud-specific security compliance tooling



# Programming with Magnets

## Tickets and Meetings



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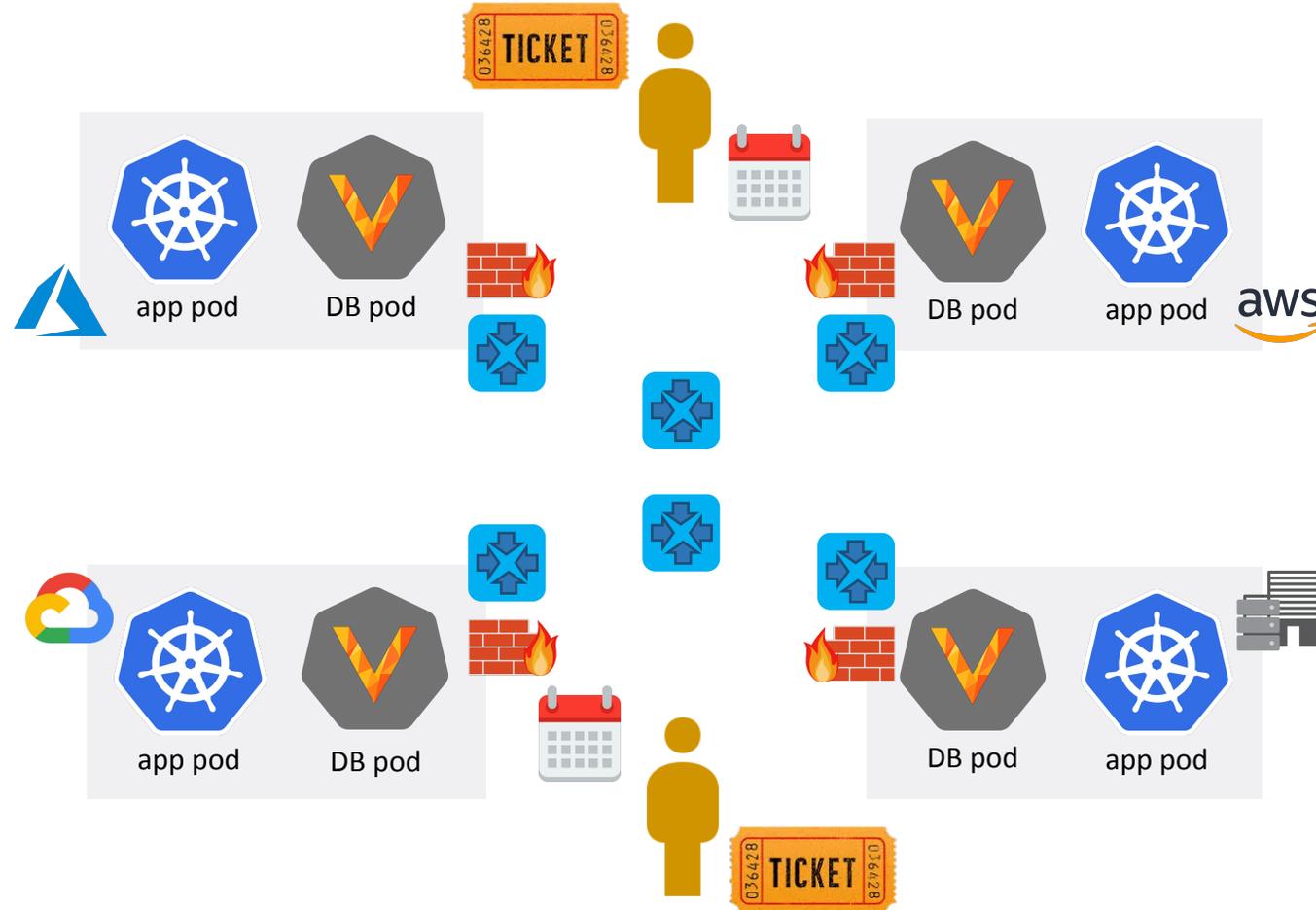


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### Organizational Complexity

- Dev  DevOps
- DevOps  Netops
- NetOps  Co-lo, Cloud providers
- Dev  SecOps
- SecOps  NetOps

# Programming with Magnets

## Tickets and Meetings



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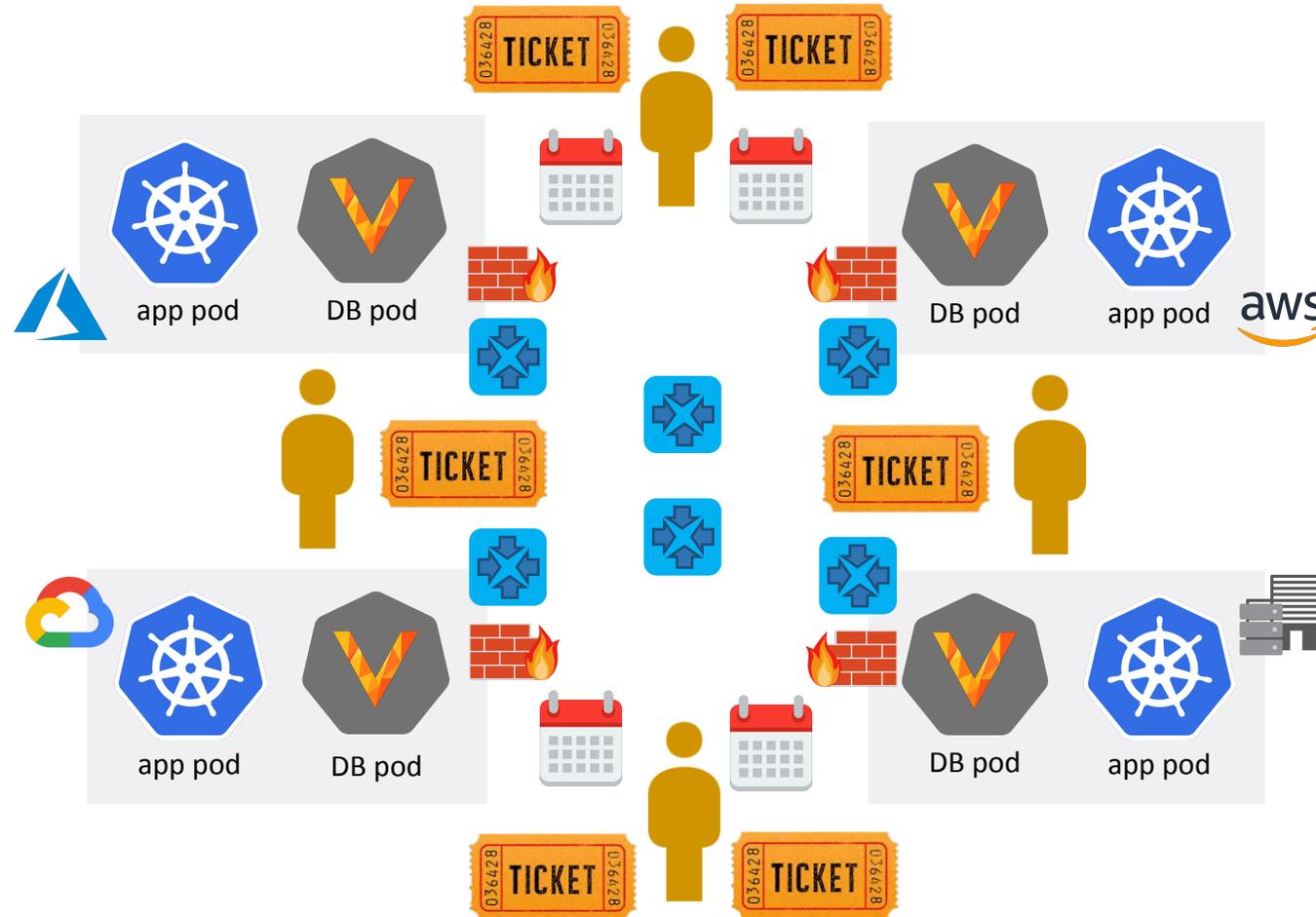


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### Technical Complexity

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### Organizational Complexity

- Dev □ DevOps
- DevOps □ Netops
- NetOps □ Co-lo, Cloud providers
- Dev □ SecOps
- SecOps □ NetOps

### Process Complexity

What is the process? Is it ever stable? Who is accountable?

# Rethink 35-year-old Networking Concepts

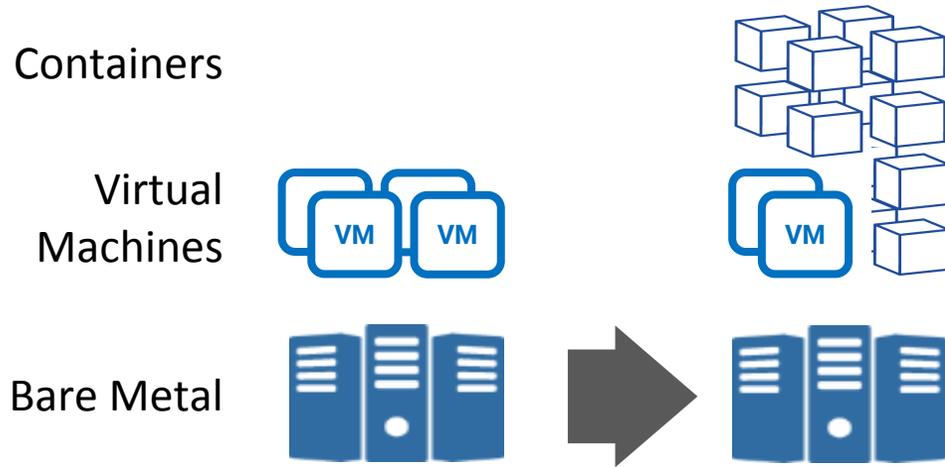


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- App + Ops + Org architectures are changing
- “Aggregate Networking” concepts inapplicable
- (v)Switches, (v)Routers, Operational tooling
- Simplify connectivity paradigms for app dev

# Rethink 35-year-old Networking Concepts

## Enter Network Service Mesh (NSM)



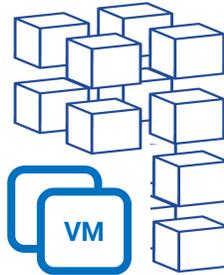
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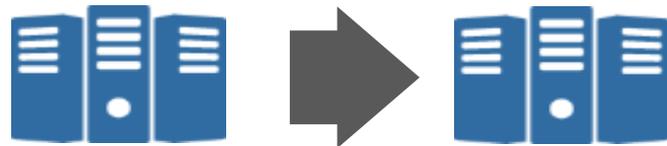
Containers



Virtual  
Machines



Bare Metal



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Network Service Mesh



find out more and join

Solving multi-cloud connectivity for K8s



CLOUD NATIVE  
SANDBOX  
April 2019

**Status:** Version 0.2

**Contributors:** 40 and counting

**User interest:** Financials, Enterprises, SPs

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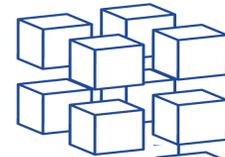
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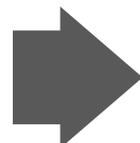
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First NSMCon : 180% over capacity

# CNCF Programmer's DB Replication

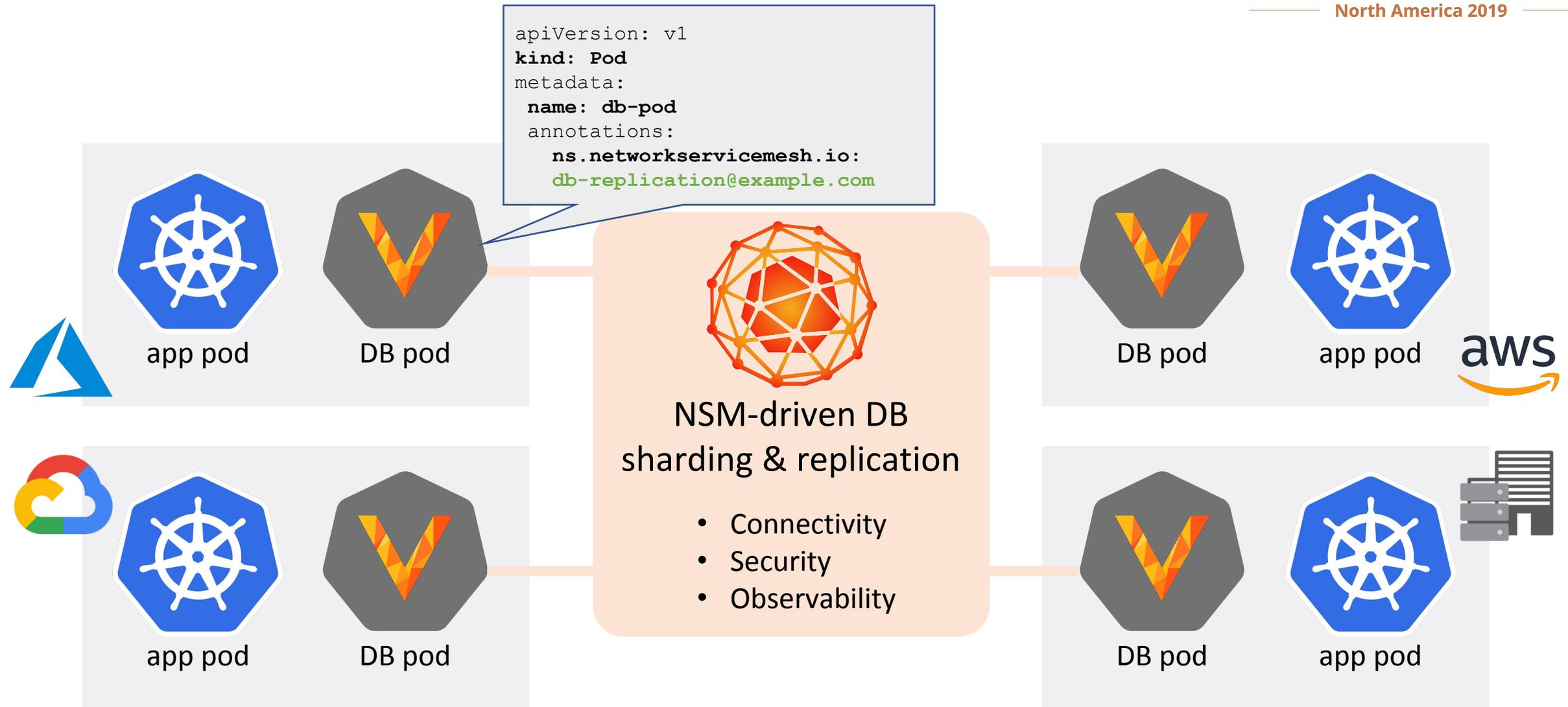


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# Beneath the Covers

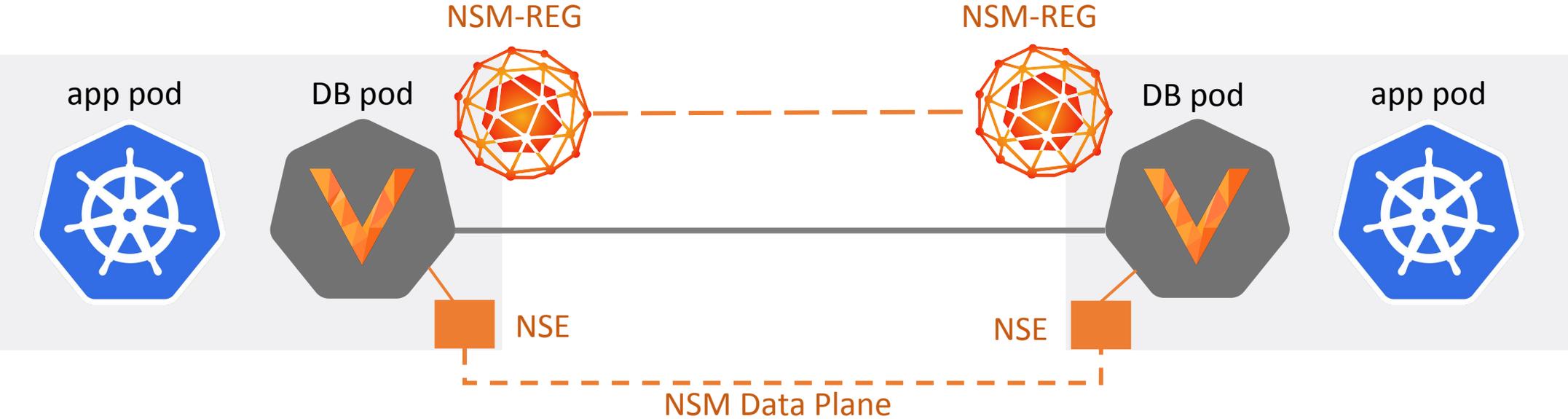


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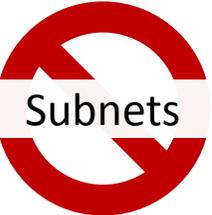
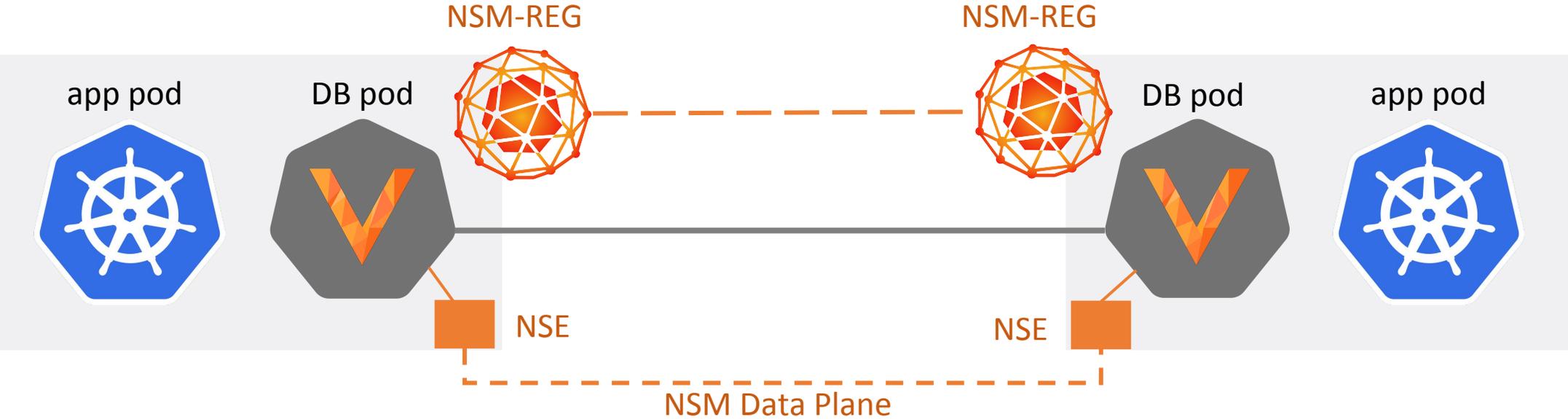


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# Thank You



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Let's have a conversation

- Twitter: @vijoy
- LinkedIn: /vijoy

NSM Community: @nservicemesh  
networkservicemesh.io

Visit us at the Cisco Booth (D4)

- Demos on NSM
- Demos on Application Security & Observability
- Tickets? Magnets? Stickers?

