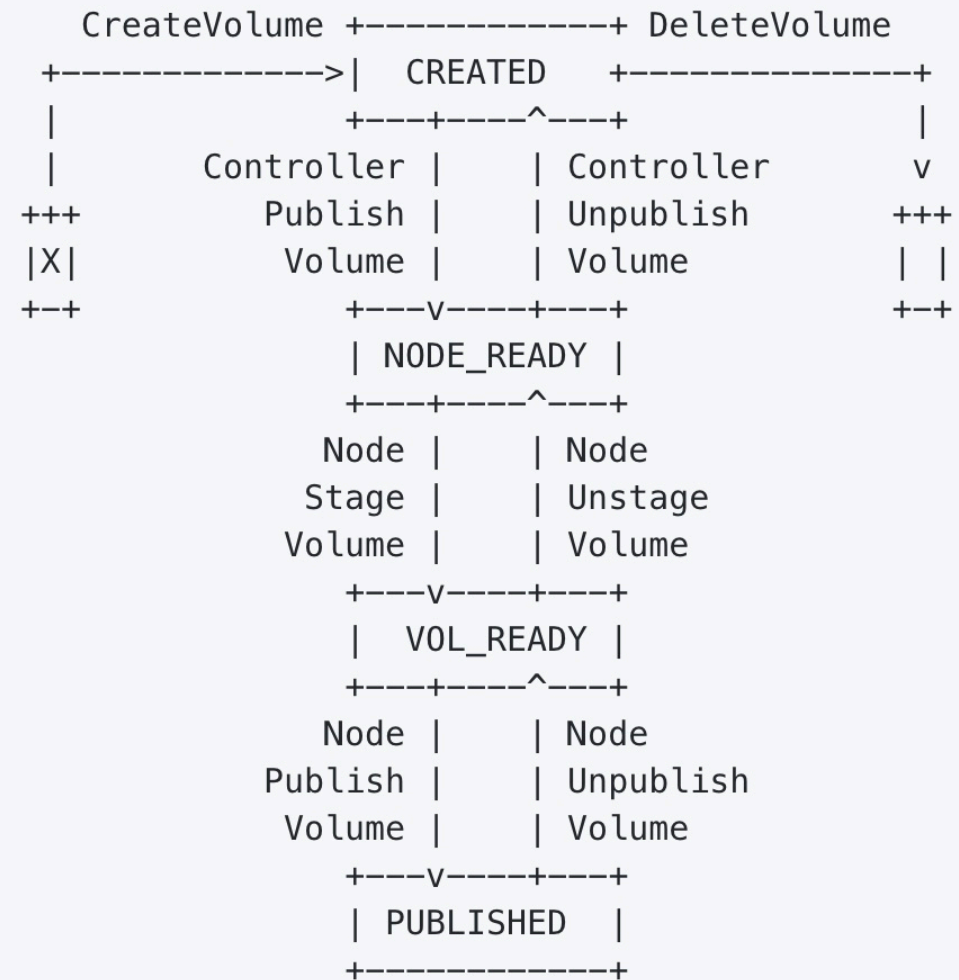


# New Thoughts On Distributed File System In The Cloud Native Era

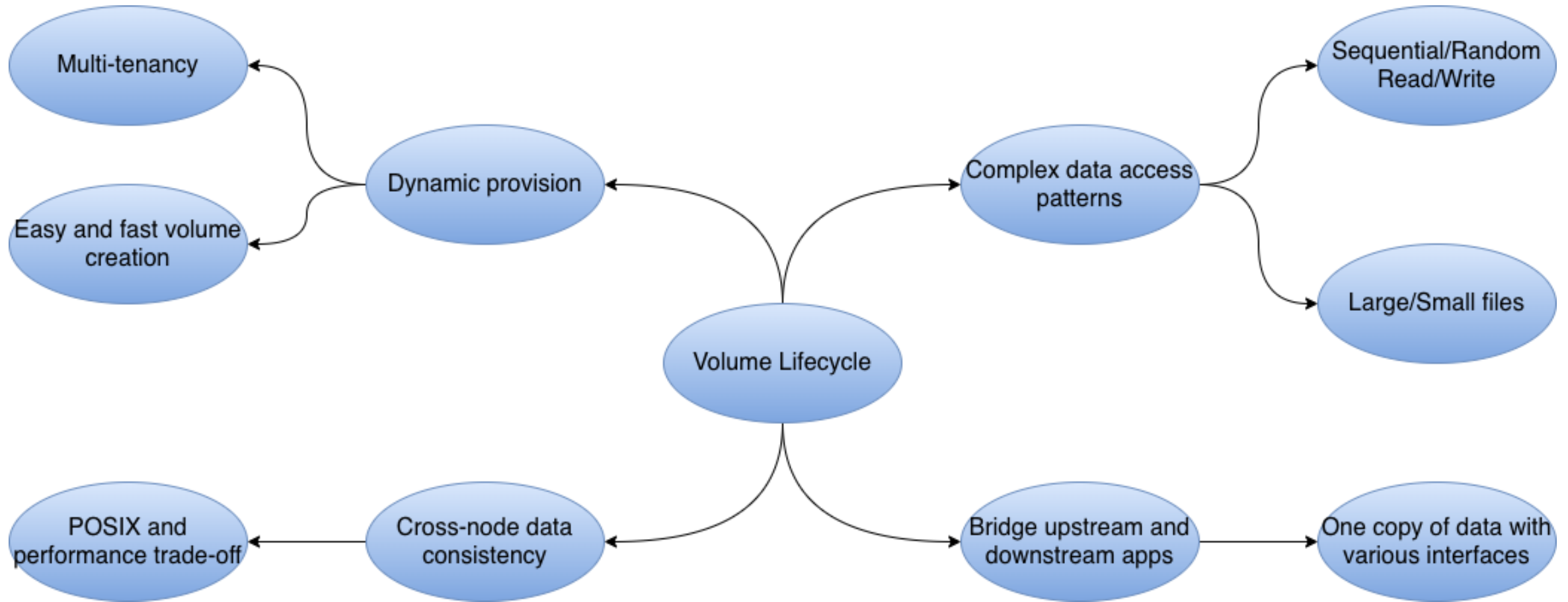
Speaker: Shuoran Liu  
Architect@JD.com & Maintainer@ChubaoFS

# Start with CSI – volume lifecycle

<https://github.com/container-storage-interface/spec/blob/master/spec.md>



# What We Got – A mind map

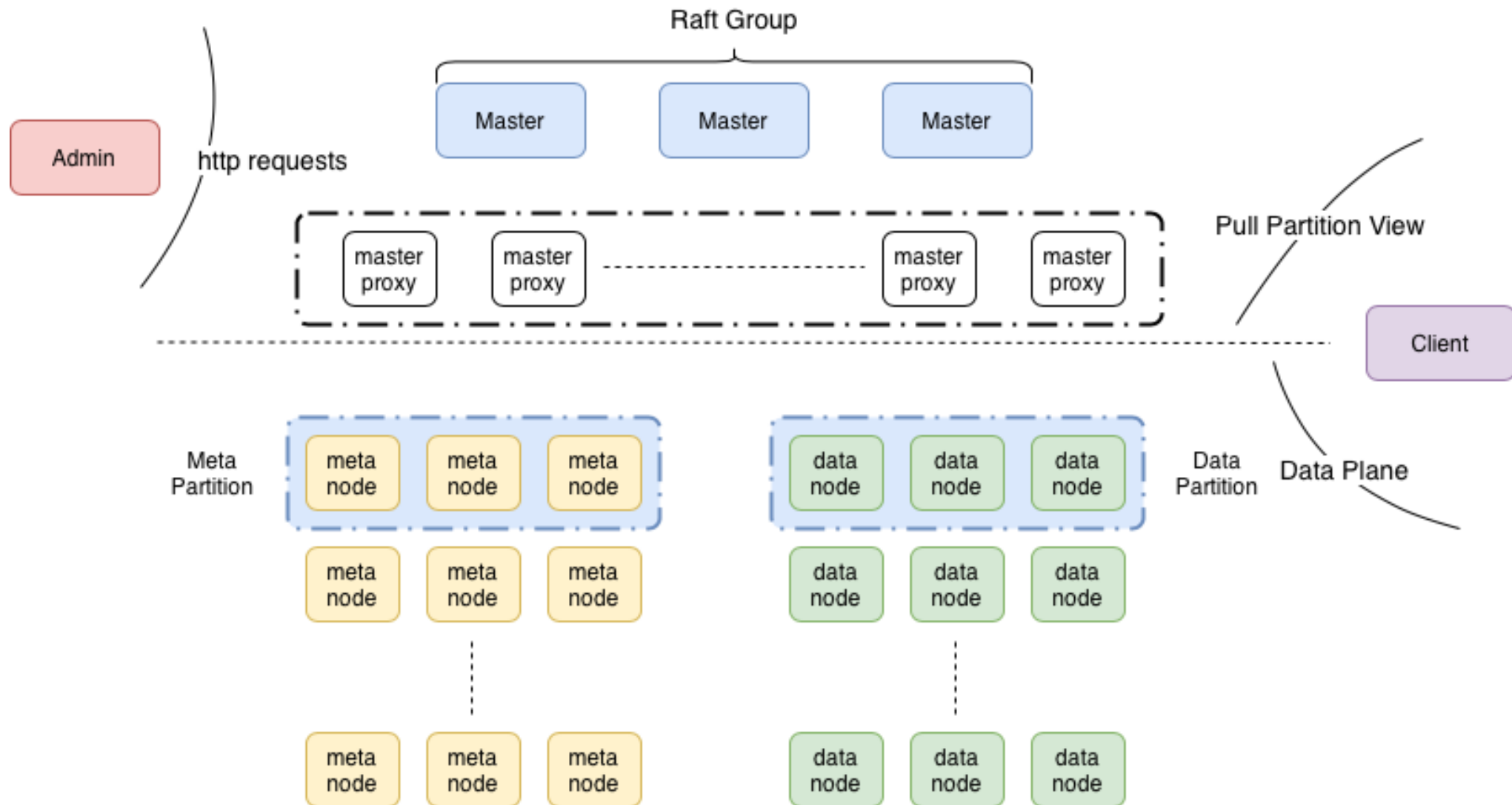


# New Challenges - cloud native storage

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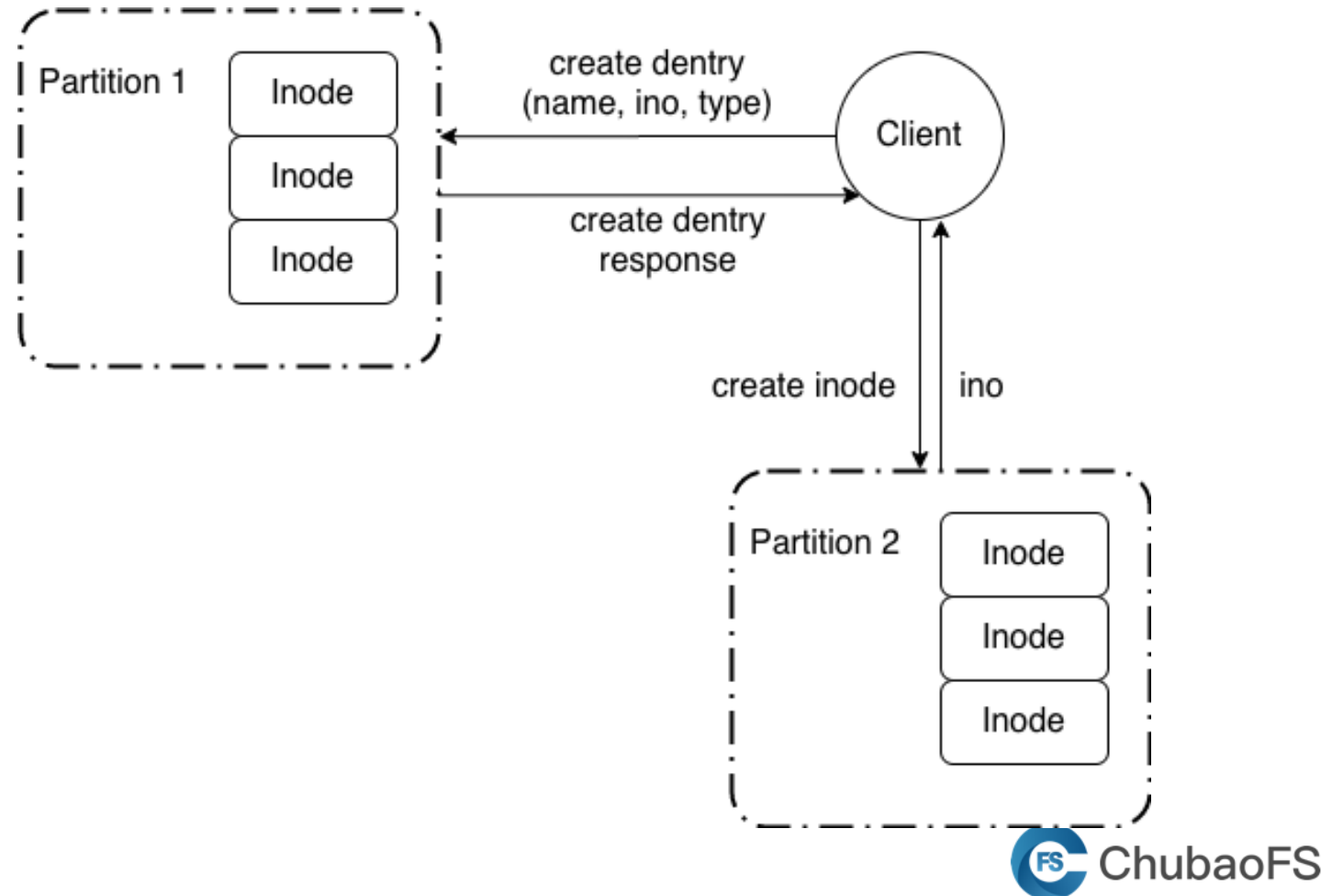
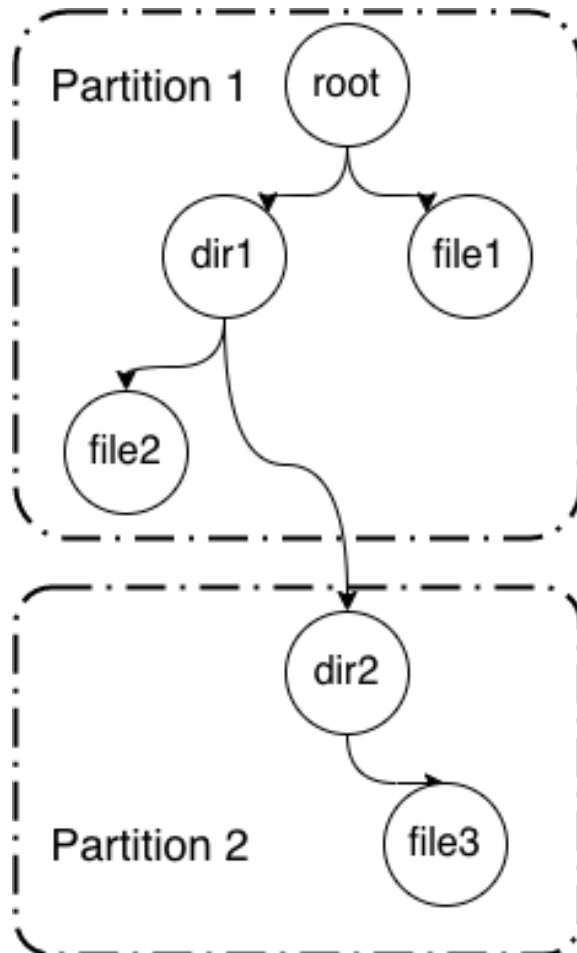
- **Multi-tenancy**
- **Elasticity, scalability and high availability**
  - Avoid bottlenecks in a cluster
- **Optimize for small files**
  - High concurrent meta operations
  - Data aggregation and deletion
- **POSIX compliance and performance trade-off**
- **One copy of data with various interfaces**
  - Per upstream and downstream user needs

# What does it look in a cluster

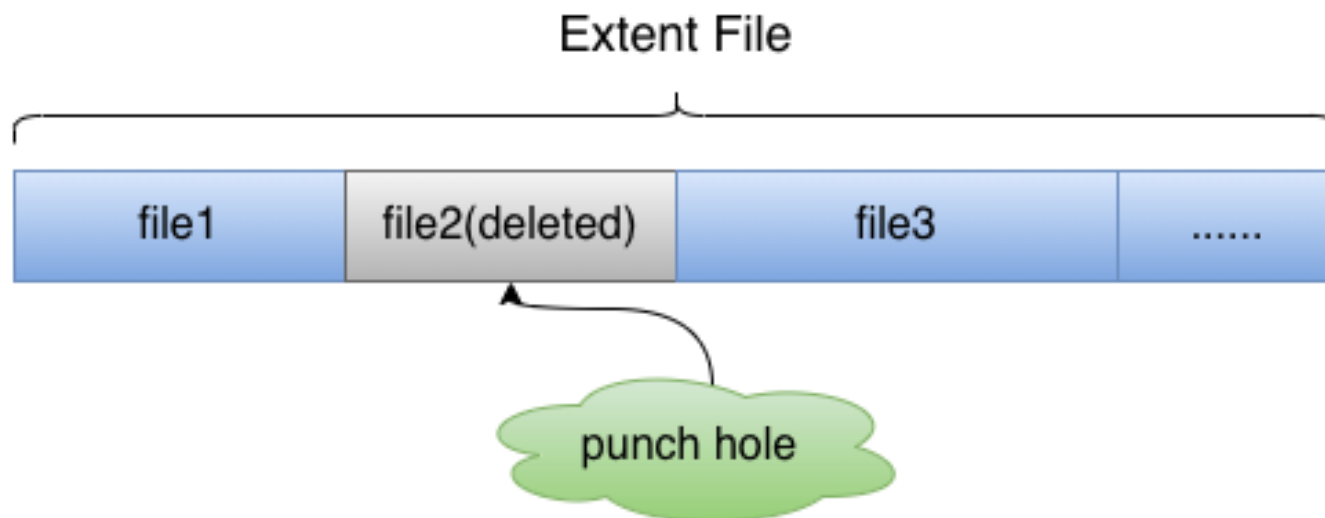


# Small Files – meta concurrency

## Locality vs Distribution



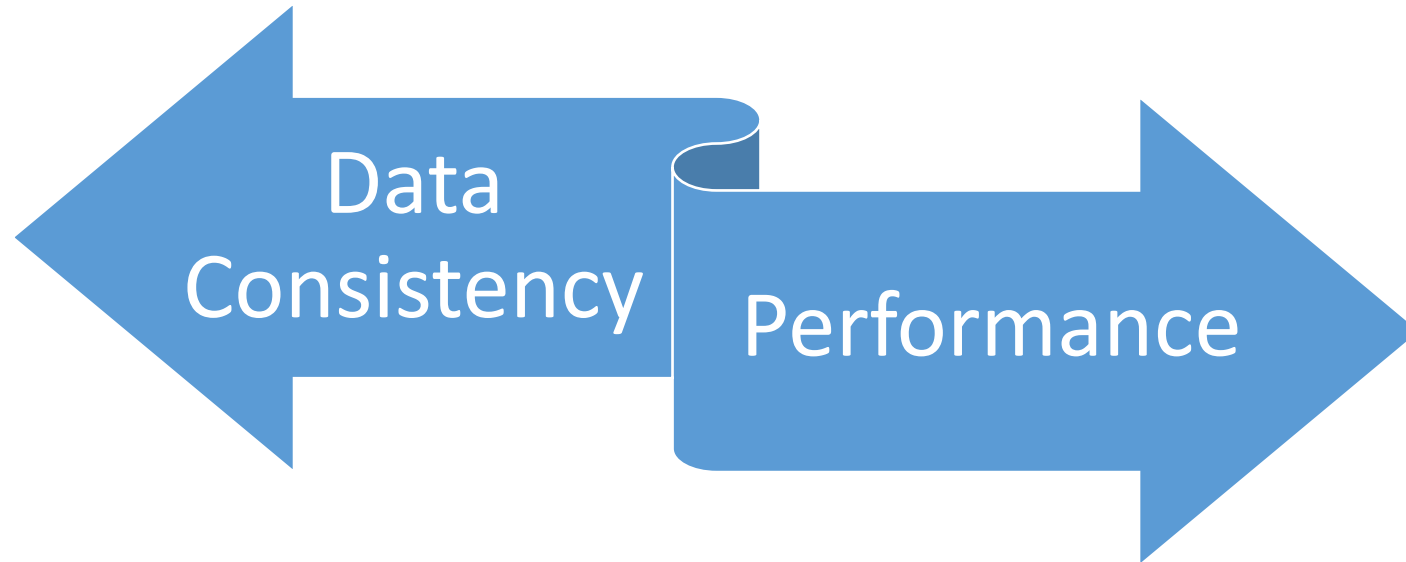
# Small Files – data aggregation



# POSIX Compliance

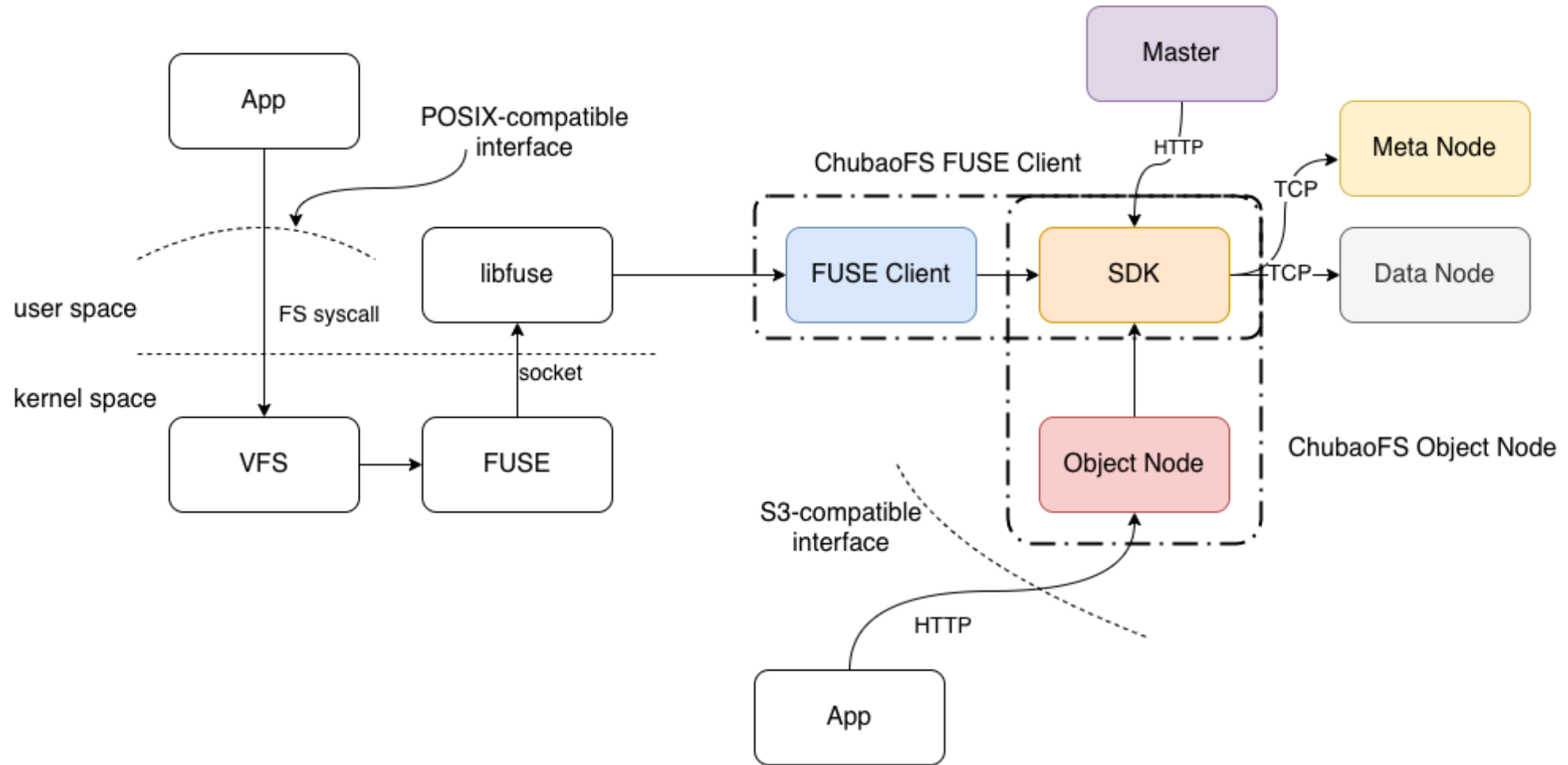
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To what extent shall we compromise?





# Fusion Storage



# Some other thoughts

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- **Benefit from low latency storage**
  - Used for raft log storage to improve random write performance
- **CSI plugin driver dilemma**
  - Multiple volumes mounted in a single container

# Thanks!

Github: [github.com/chubaofs](https://github.com/chubaofs)

Contact: @shuoranliu