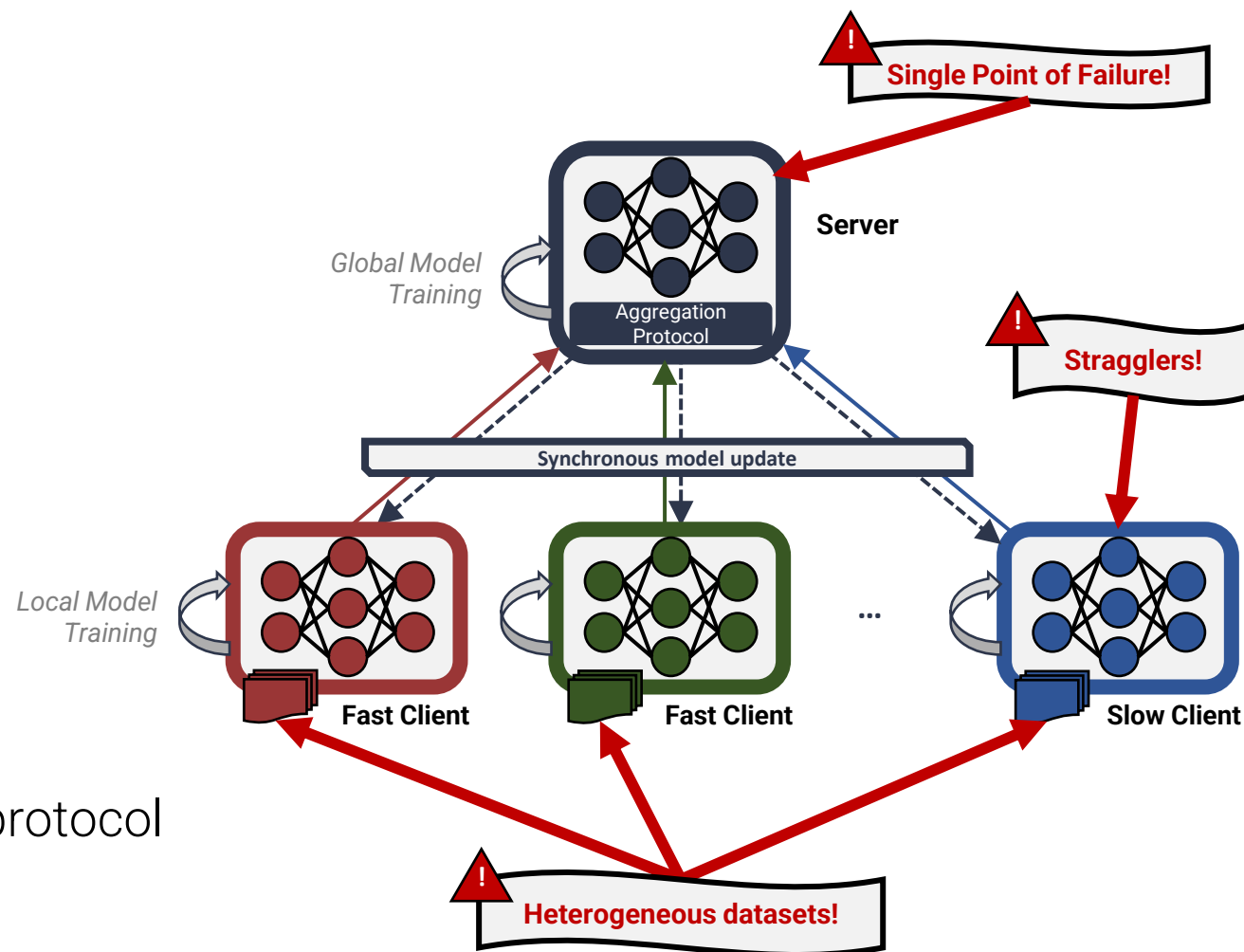


Towards Asynchronous Peer-to-Peer Federated Learning for Heterogeneous Systems

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- Federated Learning (FL)
 - Decentralized training approach
 - Collaborative training over distributed privacy-sensitive data
- Traditional FL relies on:
 - Centralized aggregation
 - Synchronous model updates
 - “Static” and global weight aggregation protocol



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We propose a **Peer-to-Peer** training scheme for Federated Learning

- Avoids single points of failure
- Relies on asynchronous model updates, tackling stragglers
- Takes into account data heterogeneity

Results on CIFAR10/CIFAR100 datasets shows that we can achieve

~ 5% – 38% better accuracy

compared to traditional FedAVG and FedSGD algorithms!

