Background and Motivation

- Consortium blockchain needs more transaction processing to support large-scale businesses in enterprise collaborations.
- Existing solutions such as sharding¹ and incorporating concurrency² introduce new problems.

SChain Solution

- Scale the consortium blockchain in terms of each participant based on TRUST DOMAIN.
- Exploit Intra- and Inter-Block concurrency.

Design 1: Scalable Paradigm

- Order scale
- Execute scale
- Finalize

Design 2: Intra-block Concurrency

- Deterministic Concurrency Control
- Execute in parallel among all executors
- Concurrently within a single executor

Design 3: Inter-block Pipeline

- Non-quiescent workflow
- Resource-efficient pipeline

Demonstration Details

1) Gain Insight into Intra-Block Concurrency - distributed concurrent execution

- Demo Implementation

2) Investigate into Inter-Block Concurrency - transaction streaming pipeline

- Implementation Details

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¹ Sharding
² Concurrency