ROOT NON-ROOT ROOT NON-ROOT NON-ROOT

Transaction Processor

register   apply(context, txn)   Client SDK   get/set(context, address, value)

Transaction Executor

create/
merge/
commit(context)

Context Manager

Merkle/Radix Trie
(Global State)

Execute Transactions/
Commit/Dispose resulting state

Transaction
Scheduler

Apply block(s) transactions/
commit

Determine transaction validity
for inclusion

Block Validation

check
consensus
rules

Consensus

apply
consensus
rules

Block Publishing

complete blocks

Block Completer

incoming
transactions

outgoing

incoming blocks &
transactions

blocks

Network

0.8 System Architecture

Validator System Boundary

Validator Process Boundary

Transaction Scheduling

Block Store

Serial Scheduler

Parallel Schedule

Consensus

Dev Mode
Consensus

PoET1 Consensus

Journal

Chain Controller
(Block Validation)

Journal Block
Publisher

Transaction Executor

Context Manager

Merklix Trie

Authenticators

Completer

Gossip
Responder

Signing

Many
to the
State

Message
Validators

Network

0MQ tcp (IPv4/IPv6)

Remote Validator

Remote Validator