## solana-sdk SanitizedTransaction message: SanitizedMessage $message\_hash: Hash$ is simple vote tx: bool signatures: Vec<Signature> solana-program-runtime FG: ForkGraph ${\bf Loaded Programs}$ solana-accounts-db entries: HashMap<Pubkey, SecondLevel> + latest\_root\_slot: Slot **TransactionExecutionDetails** + latest root epoch: Epoch + environments: ProgramRuntimeEnvironments + status: transaction::Result<()> + upcoming environments: Option<ProgramRuntimeEnvironments> + log messages: Option<Vec<String> > + programs to recompile: Vec<(Pubkey, Arc<LoadedProgram>)> + inner instructions: Option<InnerInstructionsList> $+ \ durable\_nonce\_fee: \ Option < DurableNonceFee>$ + stats: Stats + fork graph: Option<Arc<RwLock<FG>>> $+\ return\ data:\ Option {<} Transaction Return Data{>}$ + loading\_task\_waiter: Arc<LoadingTaskWaiter> + executed\_units: u64 + accounts data len delta: i64 ${\bf Loaded Programs For Tx Batch}$ ${\bf Transaction Execution Result}$ entries: HashMap<Pubkey, Arc<LoadedProgram>> details: TransactionExecutionDetails slot: Slot programs modified by tx: Box<LoadedProgramsForTxBatch> + environments: ProgramRuntimeEnvironments AccountOverrides **ExecuteTimings** accounts: HashMap<Pubkey, AccountSharedData> + metrics: Metrics + details: ExecuteDetailsTimings + **set account**(&mut self, pubkey: &Pubkey, account: Option<AccountSharedData>) + execute accessories: ExecuteAccessoryTimings + set slot history(&mut self, slot history: Option<AccountSharedData>) + **get**(&self, pubkey: &Pubkey) : Option<&AccountSharedData> + accumulate(&mut self, other: &ExecuteTimings) solana-runtime TransactionBatch Bank + rc : BankRC lock results: Vec<Result<()>> $builtin\_programs: HashSet < Pubkey >$ bank: Bank sanitized txs: Cow<[SanitizedTransaction]> $+\ loaded\_programs\_cache:\ Arc < RwLock < LoadedPrograms < BankForks >>>$ needs unlock: bool + load and execute transactions( &self, batch: &TransactionBatch, $\mathbf{BankRc}$ max age: usize, enable\_cpi\_recording: bool, +accounts: Arc<Accounts> enable log recording: bool, #parent: RwLock<Option<Arc<Bank>>> enable\_return\_data\_recording: bool, #slot: Slot timings: &mut ExecuteTimings, #bank id generator: Arc<AtomicU64> account overrides: Option<&AccountOverrides>, log\_messages\_bytes\_limit: Option<usize> ): Load And Execute Transactions Output+ check\_transactions( &self. sanitized\_txs: &[impl core::borrow::Borrow<SanitizedTransaction>], lock results: &[Result<()>], accounts max age: usize, error counters: &mut TransactionErrorMetrics, ): Vec<TransactionCheckResult> + load accounts( accounts db: &AccountsDb, - replenish\_program\_cache( &self, ancestors: & Ancestors, program accounts map: &HashMap<Pubkey, (&Pubkey, u64)> txs: &[SanitizedTransaction], lock results: Vec<TransactionCheckResult>, ): LoadedProgramsForTxBatch hash queue: &BlockhashQueue, $error\_counters: \ \&mut \ TransactionErrorMetrics,$ ${\bf Load And Execute Transactions Output}$ rent collector: &RentCollector, feature set: &FeatureSet, +loaded\_transactions: Vec<TransactionLoadResult> fee\_structure: &FeeStructure, +execution results: Vec<TransactionExecutionResult> account overrides: Option<&AccountOverrides>, +retryable transaction indexes: Vec<usize> $in\_reward\_interval$ : RewardInterval, +executed transactions count: usize program accounts: &HashMap<Pubkey, (&Pubkey, u64)>, +executed non vote transactions count: usize loaded programs: &LoadedProgramsForTxBatch, +executed with successful result count: usize should\_collect\_rent: bool +signature count: u64 $): Vec {<} Transaction Load Result {>}$ +error counters: TransactionErrorMetrics

LoadedProgram

 $+ \ maybe\_expiration\_slot: \ Option < Slot>$ 

+ program: LoadedProgramType

+ tx usage counter: AtomicU64

+ ix\_usage\_counter: AtomicU64

+ latest\_access\_slot: AtomicU64

+ account size: usize

+ effective\_slot: Slot

+ deployment slot: Slot