Glossary

Use this glossary to learn about terms used in Osmosis and the Cosmos ecosystem.

Active set

The top 150 validators that participate in consensus and receive rewards.

Air drops

A transfer of free cryptocurrency from a crypto project into users' wallets in order to increase interest and incentivize the use of a new token.

Arbitrage

To profit from price differences across different markets. Arbitrageurs buy coins in one market and sell them on another market for a higher price.

Blockchain

An unchangeable ledger of transactions copied among a network of independent computer systems.

Blocks

Groups of information stored on a blockchain. Each block contains transactions that are grouped, verified, and signed by validators.

Bonded validator

A validator in the active set participating in consensus. Bonded validators earn rewards.

Bonding

When a user delegates OSMO to a validator to receive staking rewards and in turn obtain voting power. Validators never have ownership of a delegator's OSMO. Delegating, bonding, and staking generally refer to the same process.

Burn

The permanent destruction of coins from the total supply.

Commission

The percentage of staking rewards a validator will keep before distributing the rest of the rewards to delegators. Commission is a validator's income. Validators set their own commission rates. As of this writing, commission must be greater than or equal to 5%

Community pool

A special fund designated for funding community projects. Any community member can create a governance proposal to spend the tokens in the community pool. If the proposal passes, the funds are spent as specified in the proposal.

Consensus

A system used by validators or miners to agree that each block of transactions in a blockchain is correct. The Osmosis blockchain uses Tendermint consensus engine. Validators earn rewards for participating in consensus. Visit the Tendermint official documentation site for more information.

Cosmos-SDK

The open-source framework the Osmosis blockchain is built on. For more information, check out the Cosmos SDK Documentation .

dApp

An application built on a decentralized platform (short for decentralized application).

DDoS

Distributed Denial of Service attack. When an attacker floods a network with traffic or requests in order to disrupt service.

DeFi

Decentralized finance. A movement away from traditional finance and toward systems that do not require financial intermediaries.

Delegate

When a user bonds OSMO to a validator to receive staking rewards and in turn obtain voting power. Validators never have ownership of the bonded OSMO. Delegating, bonding, and staking generally refer to the same process.

Delegator

A user who delegates, bonds, or stakes OSMO to a validator to earn rewards.

Fees

- Gas
- : Computed fees added on to all transactions to avoid spamming. Validators set minimum gas prices and reject transactions that have implied gas prices below this threshold.

Full node

A computer connected to the Osmosis mainnet able to validate transactions and interact with the Osmosis blockchain. All active validators run full nodes.

Generalized Solidly Stableswap

Generalized Solidly Stableswap: A type of Stableswap that offers low slippage for multiple assets that are expected to maintain a tight correlation. It uses a mathematical formula to maintain a stable price ratio and reduce slippage, but there is still some price impact for each trade. If the liquidity becomes imbalanced, the slippage can increase. This Stableswap is implemented using the Solidly Stableswap curve and is generalized to support multiple assets.

Governance

Governance is the democratic process that allows users and validators to make changes to the Osmosis protocol. Community members submit, vote, and implement proposals.

Governance proposal

A written submission for a change or addition to the Osmosis protocol. Topics of proposals can vary from community pool spending, software changes, parameter changes, or any idea pertaining to the Osmosis protocol.

Inactive set

Validators that are not in the active set . These validators do not participate in consensus and do not earn rewards.

IBC

The inter-blockchain communication protocol (IBC) creates communication between independent blockchains. IBC achieves this by specifying a set of structures that can be implemented by any distributed ledger that satisfies a small number of requirements. IBC facilitates cross-chain applications for token transfers, swaps, multi-chain contracts, and data sharding. At launch, Osmosis utilizes IBC for token transfers. Over time, Osmosis will add new features that are made possible through IBC.

Impermanent Loss

Liquidity providers earn through fees and special pool rewards. However, they are also risking a scenario in which they would have been better off holding the assets rather than supplying them. This outcome is called impermanent loss. Impermanent loss is the net difference between holding the asset verses providing liquidity. Liquidity provider (LP) rewards helps to offset impermanent loss for LPs. When the price of the assets in the pool change at different rates, LPs end up owning larger amounts of the asset that increased less in price (or decreased more in price). For example, if the price of OSMO goes up relative to ATOM, LPs in the OSMO-ATOM pool end up with larger portions of the less valuable asset (ATOM).

Impermanent loss is mitigated in part by the transaction fees earned by LPs. When the profits made from swap fees outweigh an LP's impermanent loss, the pool is self-sustainable.

To further offset impermanent loss, particularly in the early stages of a protocol when volatility is high, AMMs utilize liquidity mining rewards. Liquidity rewards bootstrap the ecosystem as usage and fee revenues are still ramping up.

Osmosis has many new features and innovations in development to decrease impermanent loss.

Jailed

Validators who misbehave are jailed or excluded from the validator set for a period amount of time.

Liquidity Mining

Liquidity mining (also called yield farming) is when users earn tokens for providing liquidity to a DeFi protocol. This mechanism is used to offset the impermanent loss experienced by LPs. Liquidity mining rewards create an additional incentive for LPs besides transaction fees. These rewards are particularly useful for nascent protocols. Liquidity mining helps to bootstrap initial liquidity, facilitating increased usage and more fees for LPs. Information on Osmosis' incentive mining program can be found in this

LP Tokens

When users deposit assets into a liquidity pool, they receive LP tokens. These tokens represent their share of the total pool. For example, if Pool #1 is the OSMO< >ATOM pool, users can deposit OSMO and ATOM tokens into the pool and receive back Pool1 share tokens. These tokens do not correspond to an exact quantity of tokens, but rather the proportional ownership of the pool. When users remove their liquidity from the pool, they get back the percentage of liquidity that their LP tokens represent. Since buying and selling from the pool changes the quantities of assets within a pool, users are highly unlikely to withdraw the same amount of each token that they initially deposited. They usually receive more of one and less of another, based on the trades executed from the pool.

Long-Term Liquidity

Liquidity mining rewards tend to attract short-term "mercenary farmers" who quickly deposit and withdraw their liquidity after harvesting the yield. These farmers are only interested in the speculative value of the governance tokens that they are earning. They usually bounce between protocols in search of the best yield. Mercenary farmers often create the mirage of protocol adoption, but when these farmers leave, it results in significant liquidity volatility. Users of the AMM have difficulty executing trades without encountering slippage. Therefore, long-term liquidity is crucial to the success of an AMM. Osmosis' design includes two mechanisms to incentivize long-term liquidity:exit fees andbonded liquidity gauges .

Market swap

A swap in Osmosis that uses the Osmosis protocol's market function.

Module

A section of the Osmosis core that represents a particular function of the Osmosis protocol.

Pools

Groups of tokens. Supply pools represent the total supply of tokens in a market.

Proof of Stake

Proof of Stake. A style of blockchain where validators are chosen to propose blocks according to the number of coins they

hold.

Rewards

Revenue generated from fees given to validators and delegators.

Scaling Factor

Scaling factors are introduced to set the expected price ratio for Stableswaps. Precision of pegged coins, differences in staking derivatives, and other issues make it difficult to simply rely on x_reserves ~= y_reserves. Scaling factors are used to map from raw coin units to AMM math units by dividing the raw units by the scaling factor. This mapping is done by rounding the result based on the rounding mode which has three options: RoundUp, RoundDown, and RoundBankers. All token inputs are scaled and the AMM equations must ensure that rounding is done correctly. The details of scaling and rounding are described in the relevant sections of the specification.here

Self-delegation

The amount of Osmo a validator bonds to themselves. Also referred to as self-bond.

Slashing

Punishment for validators that misbehave.

Slippage

The difference in a coin's price between the start and end of a transaction.

Stake

The amount of Osmo bonded to a validator.

Staking

When a user or delegator delegates and bonds Osmo to an active validator in order to receive rewards. Bonded Osmo adds to a validator's stake. Validators provide their stakes as collateral to participate in the consensus process. Validators with larger stakes are chosen to participate more often. Validators receive staking rewards for their participation. A validator's stake can be slashed if the validator misbehaves. Validators never have ownership of a delegator's Osmo, even when staking.

Tendermint consensus

The consensus procedure used by the Osmosis protocol. First, a validator proposes a new block. Other validators vote on the block in two rounds. If a block receives a two-thirds majority or greater of yes votes in both rounds, it gets added to the blockchain. Validators get rewarded with the block's transaction fees. Proposers get rewarded extra. Each validator is chosen to propose based on their weight. Checkout theTendermint official documentation for more information.

Osmosis

The official source code for the Osmosis protocol.

Osmosis mainnet

The Osmosis protocol's blockchain network where all transactions take place.

Osmosisd

A command line interface for connecting to a Osmosis node.

Superfluid Staking

A process that yields additional APR based on the value of your share of the pool you have bonded liquidity for.

Testnet

A version of the mainnet just for testing. The testnet does not use real coins. You can use the testnet to get familiar with transactions.

Total stake

The total amount of Osmo bonded to a delegator, including self-bonded Osmo.

Unbonded validator

A validator that is not in the active set and does not participate in consensus or receive rewards. Some unbonded validators may be jailed.

Unbonding validator

A validator transitioning from the active set to the inactive set. An unbonding validator does not participate in consensus or earn rewards. The unbonding process takes 14 days.

Unbonded Osmo

Osmo that can be freely traded and is not staked to a validator.

Unbonding

When a delegator decides to undelegate their Osmo from a validator. This process takes 14 days. No rewards accrue during this period. This action cannot be stopped once executed.

Unbonding Osmo

Osmo that is transitioning from bonded to unbonded. Osmo that is unbonding cannot be traded freely. The unbonding process takes 14 days. No rewards accrue during this period. This action cannot be stopped once executed.

Undelegate

When a delegator no longer wishes to have their Osmo bonded to a validator. This process takes 14 days. No rewards accrue during this period. This action cannot be stopped once executed.

Uptime

The amount of time a validator has been active in a given timeframe. Validators with low up time may be slashed.

Validator

A Osmosis blockchain miner responsible for verifying transactions on the blockchain. Validators run programs called full nodes that allow them to participate in consensus, verify blocks, participate in governance, and receive rewards. The top 130 validators with the highest total stake can participate in consensus.

Weight

The measure of a validator's total stake. Validators with higher weights get selected more often to propose blocks. A validator's weight is also a measure of their voting power in governance. Edit this page Previous Getting Started Next Integrate * Active set * Air drops * Arbitrage * Blockchain * Blocks * Bonded validator * Bonding * Burn * Commission * Community pool * Consensus * Cosmos-SDK * dApp * DDoS * DeFi * Delegate * Delegator * Fees * Full node * Generalized Solidly Stableswap * Governance * Governance proposal * Inactive set * IBC * Impermanent Loss * Jailed * Liquidity Mining * LP Tokens * Long-Term Liquidity * Market swap * Module * Pools * Proof of Stake * Rewards * Scaling Factor * Self-delegation * Slashing * Slippage * Stake * Staking * Tendermint consensus * Osmosis * Osmosis mainnet * Osmosisd * Superfluid Staking * Testnet * Total stake * Unbonded validator * Unbonding validator * Unbonded Osmo * Unbonding * Unbonding Osmo * Undelegate * Uptime * Validator * Weight