

Query Stride's Redemption Rate

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What is this?

Partners integrating with Stride sometimes need to query the rate at which Stride protocol redeems stATOM for ATOM (the “Redemption Rate”). The Stride blockchain exposes this rate via RPC and API endpoints. It can also be recomputed manually.

(Simple) Query the redemption rate directly

You can query the redemption rate directly through REST or the RPC (via the CLI).

- API/REST* Show all the host zones, which contain redemption rate fields:
 - - `curl -basic https://stride-api.polkachu.com/Stride-Labs/stride/stakeibc/host_zone`
 - - - Look for the `host_zone` with your desired `chain_id` (e.g. for ATOM, look for `cosmoshub-4`), then choose the field “`redemption_rate`”.
- CLI* Show all the host zones, which contain redemption rate fields:
 - - `strided-local q stakeibc list-host-zone --node https://stride-rpc.polkachu.com:443`
 - - Look for the `host_zone` with your desired `chain_id` (e.g. for ATOM, look for `cosmoshub-4`), then choose the field “`redemption_rate`”.
 - - Show a single redemption rate (example for `cosmoshub-4`):
 - - `strided q stakeibc show-host-zone cosmoshub-4 --node https://stride-rpc.polkachu.com:443 | grep redemption_rate: | tail -n 1`

If you'd like a reliable endpoint to query, we recommend Polkachu's. We can provide our team endpoint too, if you'd like.

(Advanced) Recompute the redemption rate manually

You can also reconstruct the redemption rate from Stride's internal record keeping. First, query the relevant internal record keeping, then apply the same formula Stride's `beginBlocker` logic uses to update the redemption rate. This will yield a `redemptionRate` that's slightly more updated, relative to that you could query using the previous approach.

- Step 1: Query Stride's internal record keeping and calculate native token balance
 - - To obtain records for a particular host zone (e.g. `cosmoshub-4`), query with:* API:
 - - - `curl -basic https://stride-fleet.main.stridenet.co/api/Stride-Labs/stride/records/deposit_record`
 - - - RPC:
 - - - `strided q records list-deposit-record --node https://stride-rpc.polkachu.com:443`
 - Compute the inputs to the redemption rate formula: *Undelegated record balance*: Sum the “amount” field across all records with the proper `chain_id` having status either `DELEGATION_QUEUE` or `DELEGATION_IN_PROGRESS`
 - - - Module account balance* Sum the “amount” field across all records with the proper `chain_id` having status either `TRANSFER_QUEUE` or `TRANSFER_IN_PROGRESS`
 - - - Staked balance* Parse the relevant host zone's

- stakedBal
- - - field from
- - - curl -basic https://stride-api.polkachu.com/Stride-Labs/stride/stakeibc/host_zone
- Step 2: Calculate the st-token supply (e.g. statom)
- : Parse the relevant denom (e.g. stATOM)
- strided q bank total --node https://stride-rpc.polkachu.com:443
- Step 3: Apply the Redemption Rate formula
- The formula is
- $(undelegated\ record\ balance + module\ account\ balance + staked\ balance) / (st\text{-}token\ supply)$
- - You can inspect the Stride protocol's logic for updating the redemption rate using this formula. Updated over 1 year ago

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