Hello Super Validators:

I think the CIP process is likely heavy-handed for the proposal we are making today and it would be much better if just an on-chain vote process were initiated but we have never really discussed how best to kick off a process like that. So I'm defaulting back to the standard CIP process and we will make a proposal on how better to propose these types of changes in the future in a more efficient way.

Your timely vote is much appreciated since this group is both larger now and this fix is blocking growing the Validator population on devnet.

SBI Security Solutions has identified a case where our current fee structure needs an adjustment. The proposed fix is to reduce the cost of the read scaling factor by 196 basis points.

Background:

Validators consume traffic balance when they submit a message to a sequencer, which is part of a Super Validator node. The cost of traffic is denominated in $/MB; the current fee is **$16.67/MB**.

To calculate the size of the message in MB, the sequencer measures the actual size of the submitted message, and then adds an additional charge in MB ***for each recipient of the message*** to account for the cost of delivering messages to these recipients.

Some of these messages are not part of the Daml workflow; instead they update metadata like the association between Daml PartyIDs and the Participant nodes that host them, whitelisting .dars for use in transactions submitted to a node, and submitting "commitments", which prove that a group of counterparties have produced an identical ledger state.

This charge for handling these deliveries is called the "read scaling factor," and it is currently set at 200 basis points **per recipient**. SBI identified that this cost has begun to block new nodes from joining the network, because the cost of publishing the vetting information of a newly onboarded node to all existing participant nodes uses up the free tier before the node can acquire traffic for future transactions.

The proposed change would reduce the relative size of this additional charge so that Validators can continue to join the network.

Eric

CIP-0020

Update and Refinement to CIP-0002

Summary:

This proposal reduces the read cost scaling factor from 200 basis points to 4 basis points.

Motivation

Lower the charge for delivering messages such that the free traffic granted to users enables them to successfully onboard their node to the Global Synchronizer.

Rationale

The current configuration charges 2% of the event size ***per recipient*** as read costs on top of the write costs corresponding to the event size to account for delivering those events to the recipients. This is problematic for messages with many recipients, in particular, certain events that are broadcast (topology transactions) to all nodes on a synchronizer. DevNet has over 1,000 records of Validator nodes in its topology map. Though most of these nodes were spun up for testing and then shut down, their identities remain in the topology map, and they count as recipients for topology update transactions. The current read scaling factor makes any transaction that relies on the topology state transaction cost 20 times more than its initial submission size in MB.

As a result, topology updates, which must be sent before the initial traffic top-up, exceed the maximum free traffic amount. This blocks new nodes from joining the network. It also is much higher than the compute costs incurred through delivery of those events, so we can loosen this constraint.

For background, here’s a reminder of an objective stated in CIP-0002:

- "Calibrate the Free Tier to allow users without any balance to collect rewards and buy domain traffic. Free tier transaction rate is 110% of what's needed to claim rewards and purchase extra traffic in every round."

The current configuration can block Validators from claiming rewards and purchasing extra traffic while joining a node to the Global Synchronizer.

Action

Change
`decentralizedSynchronizer.fees.readVsWriteScalingFactor`

from
`200`

to
`4`