Transaction fees on Avail

Every extrinsic (transaction) executed on Avail costs a certain amount ofAVAIL tokens. These fees vary for different extrinsics and are determined primarily by two considerations:

1. The amount of processing power required to include the transaction in the chain.
2. The amount of storage required to store the transaction on-chain.

Avail's pricing formula is designed to keep transacting on-chain feasible while also making it expensive to spam the network.

Terms you need to know

1. Base fee
2. : The minimum base amount attached to every single transaction. This is the constant whose current
3. value is currently0.124 AVAIL
4. .
5. Weight fee
6. : This fee is proportional to the amount of computation required to add the transaction to the network.
7. Length fee
8. : This fee is proportional to the encoded length of the transaction, essentially the amount of space it consumes in the block.
9. Congestion fee
10. : A multiplier applied to the Weight fee based on block fullness of previous blocks (Notice blocks not block, becausefee_multiplier
11. is a function of both the current fee multiplier and the fullness of the preceding block. A kind of guard against sudden rise/fall of fee).
12. Tip (optional)
13. : This is an optional fee that can be attached to a transaction to incentivize validators.

Fees calculation for non-DA transactions

The formula for the final transaction fee for most transactions looks like this:

Weight fee = [Congestion multiplier * Weight of transaction] Final fee = Base fee + Length fee + Weight fee + Tip(optional) * Executing most transactions like transferring funds and creating proxys don't vary in terms of fees since * processing a transaction that transfers1 * AVAIL requires the same amount of computation as processing a * transaction that transfers1000 * AVAIL. * This however changes when we talk about transactions that post new data to the network. We will look at it now.

Fees calculation for DA transactions

The formula for the final transaction fee for data availability transactions looks like this:

Weight fee = [Congestion multiplier * Weight of transaction]*[submitDataFeeModifier] Final fee = Base fee + Length fee + Weight fee + Tip(optional)

What's different?

submitDataFeeModifier

Posting new data to the chain is a core component of the Avail network. To ensure the fees for doing so remain viable, thesubmitDataFeeModifier can be adjusted when needed after going throughAvail's governance process .

This multiplier is used to adjust theWeight fee component of the final fee for alldataAvailability_submitData transactions.

To query the current value of thesubmitDataFeeModifier :

1. Go to thechainstate page of the Avail explorer(opens in a new tab)
2. .
3. Query thedataAvailability_submitDataFeeModifier
4. method.

Significance of the data input

- For most extrinsics on Avail, the 'raw size' of the input parameters doesn't matter much. For DA transactions
- however, the size of the data being posted makes a lot of difference.

- The size of the data being posted is directly proportional to the amount of computing resources required to
- generate commitments for it. Hence, the 'Length fee' varies significantly.
- And of course, the bigger the data, the more storage space it will consume on-chain. Hence, 'Weight fee' will also
- vary significantly.