Oracle on Juno

Delegator's guide by notional.
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Introduction

Adding an Oracle to Juno is without a doubt one of the most sizable feature changes that we have ever made to the chain. Because of this, I wanted to walk through both pro and con positions, because in this case both are valid. We support implementing the Oracle at notional, but we also wanted to provide this document to the community so that people could be well informed.

What is the Oracle?

Basically, it's a system that can feed prices directly into Juno. It does this by querying various price feeds every block, and delivering prices to the chain. Together, the validators provide prices for various assets from all over so that decentralized finance applications on Juno can use those prices.

The Oracle leverages the consensus mechanism of the chain at a low level in order to provide agreement on prices. Then, contracts for Juno can use these prices as valid since they have been validated by the validator set.

What are the risks of the Oracle?

It's essentially complexity. The Oracle adds numerous transactions to every single block that Juno will produce, forever. It also becomes a hard dependency for contracts that leverage it. So, removing the Oracle from Juno at some future time, would also require either breaking those contracts or somehow replacing the price feed with the same interface. Frankly, most likely the contracts would break.

- We are adding a complex piece of software to Juno that we most likely cannot remove.
- Block sizes will increase.
- Alongside block size increases, because of increased decentralized finance traffic, demand for shorter block times will also increase.
- With shorter block times and more information in each block, the chain itself grows more quickly, increasing operational expenses.

What are the benefits of the Oracle?

In numerous discussions as a team, we reached the conclusion that if we really want to build a synchronous decentralized finance ecosystem on Juneau, we need either an oracle or much

much faster IBC queries, for example to osmosis, which has fresh price information for nearly every IBC asset, and many assets outside of IBC, for example ethereum and bitcoin.

If we are leveraging osmosis prices, that is asynchronous, that is to say that there is a delay in getting those prices, whereas with the Oracle, those prices are delivered directly to Juno, and can be queried directly from Juno, without any significant performance hit.

- IBC queries are too slow to be a viable alternative for synchronous decentralized finance
    - Nobody wants to build asynchronous decentralized finance
- We want to build out synchronous decentralized finance.
- Many teams want to build synchronous decentralized finance, and Juno would become the first environment where that is possible in a permissionless setting.

Summary

If you're voting no, that should likely be due to complexity.

If you're voting yes, that should likely be due to a desire to build out synchronous decentralized finance applications on Juno directly.

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Juno does not die if 57 passes.

Juno does not die if 57 fails.

If 57 passes, Juno will have an easier time building out synchronous decentralized finance, and it's block times will get shorter due to demand and block sizes will get larger, due to the Oracle transactions and most likely due to demand also.