

It seems the Eth community may have missed some valuable prior art, from 1988 by Mark Miller and Eric Drexler:

[Agoric](#)

Incentive Engineering: for Computational Resource Management

1. Introduction

The premise is simple, resembles current patterns emerging in the eth ecosystem, reduces network traffic, and results in a highly efficient gas market.

You can think of it as "[spectrum transactions](#)" in a single message (if you're familiar with those).

Proposed change

- The gasPrice

field is now optional, but if missing must be replaced by the following fields:

- firstValidBlock

: The first block this transaction is valid to be processed on.

- minGasPrice

: The lowest price a person is offering to mine their transaction, eligible on firstValidBlock

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- gasIncreasePerBlock

: A gas price increase per block.

- maxGasPrice

the ceiling gas price that this transaction can be processed for.

Effectively, this allows a person to determine the max price and the max time that they would like to wait for a transaction, and ensures they get a fast and cheap transaction otherwise.

This image shows a hypothetical price market over time:

The various triangles represent various transactions waiting for the current highest offered price to lower to them, at which point they "break through" the ceiling and are processed.

I just thought it would be valuable to put this out there for consideration, since there is active discussion on improved gas price models.