

## EOS Argentina - Feedback on The EOS Resource Model Proposal

### Comments on the pricing function

In the proposal, the price as a function of utilization  $u$  is

$$p(u) = \text{min\_price} + (\text{max\_price} - \text{min\_price}) * (u ^ (\text{exponent} - 1.0))$$

where  $\text{min\_price}$ ,  $\text{max\_price}$  and  $\text{exponent}$  are configurable parameters, and  $u$  goes from 0 to 1.

Our concern is that this function does not seem to be sufficiently justified.

In particular, we believe there should not be a maximum price. As in RAM pricing, by using a proper function the price may go from zero to infinity.

The main problem associated with imposing a maximum price is that nobody knows how the market will behave in the future. If we attempt to solve this by setting a very high maximum, then we are prone to suffer inefficiency in a normal case scenario, unless the  $\text{exponent}$  parameter is too high. But if  $\text{exponent}$  is too high, then the price will be almost equal to  $\text{min\_price}$  for a very long  $u$  interval. The latter situation means that in a low demand scenario, the price is being directly imposed by a parameter instead of letting the market find the price.

A possible solution to this issue is to use instead a function more similar to the functions typically used in automated market makers. For example:

$$p(u) = K1 / (1 - u)^2 - K2$$

Where  $K1 - K2$  will be equal to  $\text{min\_price}$ , and  $C = 100K1 - K2$  will be the price at  $u = 0.9$ . Thus, we are proposing only two configurable parameters like  $\text{min\_price}$  and  $C$ . Alternatively, the exponent 2 may be another number larger than 1, and possibly configurable as well.

### Further comment

- It sounds reasonable to use  $\text{min\_price} = 0$  for CPU.
- $\text{min\_price} > 0$  for NET might be useful to disincentive large data transactions, therefore reducing the costs of storing the blockchain history. The sustainability of storing the full history is necessarily conditioned to a sufficient decrease of storage costs over time. Still it might be the case that a careful increase in the cost of NET can be beneficial for the network.

The above observations lead us to think that it might not be a good idea to have the same parameters for both CPU and NET.