

CHAPTER 10

ELUTHEROS FILTER MODEL

Eleutherus/GP uses a “filter model” that is explicitly designed to support public, permissioned, and private blockchain networks. So, the choice of the blockchain network would be entirely made by the user and not by Eleutherus/GP. With this, we stick to our resolve of keeping Eleutherus/GP a networking protocol that does not dictate usability terms and conditions to the user. After all, dictating usage terms isn’t what a networking protocol is supposed to do.

Moreover, it does not stop there, and Eleutherus/GP goes beyond supporting support public, permissioned, and private blockchain networks. It goes a step forward and lets the user make use of more innovative blockchain networking options like permissioned & private; permissioned & public; double-permissioned & private; permissioned & public with contracted mining; and more. Needless to say, the user has a wide assortment of blockchain networking options to choose from.

Coming back to the Bitcoin protocol, a point often overlooked is that the Bitcoin network (and nearly all other blockchain networks) make use of staged filtration systems. The 1st and “hardest” is the trustless validation of the proof-of-work in the block headers, while the 2nd and “softer” filter is the trust-based validation of the block contents. This can be compared to a water filter that usually gets rid of larger chunks of dirt in the first stage, and eliminates pathogens such as bacteria in the second. So, the key advantage of adopting this kind of filtration approach is to let the stage one handle most of it and keep things easier for stage two.

In the real-world scenario, this simply means that the second filter consumes more resources and must, therefore, be given less to do. It also means that there is a literal price to be paid to probe the network’s “soft underbelly” (that is, the trust-based block validations): getting past the 1st filter requires presenting a block header that contains a valid Proof-of-work, and that is unavoidably expensive to produce. In fact, very expensive: it is literally the “door price” to be paid to access the weaker trust-based aspects of the system (that is, the application).