

However, in the case of Eleutherus/GP, the idea is to derive the P2P network settings by treating the ChainID as an unstructured P2P “magic number”<sup>27</sup>.

#### **4. Facilitates the creation of independent test and development networks**

Like any other blockchain network, even Eleutherus/GP networks must establish fully independent parallel networks that can be used for development and testing purposes. For instance, in case of Bitcoin, this was done using TestNet.

In the case of Eleutherus/GP, the ChainID is used in a very similar manner. Basically, the EluGPos/GP networks contain several additional versions of ID\_input (ID\_input\_2, ID\_input\_3, etc). Using any of them in place of ID\_input results in a different P2P overlay, and a separate network that may be different from the production network (AKA the MainNet) in all respects except for the proof-of-work operation. This is activated by a flag (eg ChainID-1, ChainID-2, etc) or editing the ElutherosGP.conf file (much like the -testnet flag and testnet=1 settings in Bitcoin).

Operation-wise, the ChainID is like any other field in the header: it is calculated by the mining software and included in the header format prior to the calculation of the proof-of-work on the header. Also, it is independently verified by the receiving nodes, just like any other field in the header.

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<sup>27</sup> In the computer science sense of the term