## Telos Block Producer Minimum Requirements

The intent of this document is to clarify the *minimum* requirements for Block Producer's to participate in the Telos Blockchain Network (herein referred to as the "TBN"). There are multiple phases of participation, with each level having more stringent requirements than the previous - this is intended to address the growing requirements of the network over time.

The specifications stated herein are subject to revision, as well as when the network will move from stage to stage - as determined by a vote of ⅔ + 1 of the current Block Producers at the time of the proposed revisions.

Regardless of their level of participation, to participate in the TBN at any phase - Block Producers candidates are required to provide, and abide by the following:

**A. Disclosures:**
1. Block Producer Account Name
2. Block Producer Public Key
3. Block Producer Organization Info:
    a. Candidate Name
    b. Candidate Website URL
    c. Candidate country of registration for registered entity or residence of primary owner if not a registered entity as 2-letter ISO country code
    d. Candidate server location(s)
        i. Location name
        ii. Country as 2-letter country code
        iii. latitude
        iv. Longitude
4: Network Emergency Contact(s)
    a. Name
    b. email address
    c. phone number - in a non-public, password protected, repository commonly accessible to any of the 51 paid Block Producers and Standbys.
5. Block Producer Entity Ownership
    a. Disclosure of each beneficial owner of block producer entity along with percentage of ownership. [enforced by smart contract]
    b. Disclosure of accepted third-party identification verification service and identification hash for each beneficial owner (* to be implemented).

**B. Practices:**
1. Sync with an approved NTP server at least once per 24 hours.
2. Adoption of account blacklist maintained by the Elected Arbitrators.

## Phase One - Minimum Requirements

1. Endpoints:
      a. P2P endpoint
      b. HTTP API endpoint
      c. HTTPS API endpoint

2: Nodes:
    1. Testnet Node
        a. Minimum RAM (per node): 8GB
        b. Minimum Disk (per node): 100GB

    2. Producing Node
        a. Minimum RAM (per node): 16GB
        b. Minimum Disk (per node): 100GB
        c. Firewall: Active
        d. Plugins: chain, producer.

    3. Full Node
        a. Minimum RAM (per node): 16GB
        b. Minimum Disk (per node): 100GB
        c. Firewall: Active
        d. Plugins: chain, chain_api

## Phase Two - Minimum Requirements

1. Endpoints:
      a. P2P endpoint
      b. HTTP API endpoint
      c. HTTPS API endpoint

2. Nodes
    1. Testnet Node
        a. Minimum RAM (per node):  =/> current set ram + 2GB
        b. Minimum Disk (per node): 150GB
        c. Firewall: Active

    2. Staging Net Node
        a. Minimum RAM (per node): =/> current set ram + 2GB
        b. Minimum Disk (per node): 150GB
        c. Firewall: Active

    3. Producing Node
        a. Minimum RAM (per node): =/> current set ram + 2GB
        b. Minimum Disk (per node): 150GB
        d. Firewall: Active
        e. Plugins: chain, producer

4. Full Node
   a. Minimum RAM (per node): =/> current set ram + 2GB
   b. Minimum Disk (per node): 150GB
   c. Firewall: Active
   d. Plugins: chain, chain_api
   e. SSL Proxy


**Phase Three - Minimum Requirements**

1. Endpoints
   a. P2P endpoint
   b. HTTP API endpoint
   c. HTTPS API endpoint

2. Nodes
   1. Testnet Node
      a. Minimum RAM (per node):  =/> current set ram + 2GB
      b. Minimum Disk (per node): 300GB
      c. Firewall: Active

   2. Staging Net Node
      a. Minimum RAM (per node):  =/> current set ram + 2GB
      b. Minimum Disk (per node): 300GB
      c. Firewall: Active

   3. Producing Node
      a. Minimum RAM (per node):  =/> current set ram + 2GB
      b. Minimum Disk (per node): 300GB
      c. Firewall: Active
      d. Plugins: chain, producer

   4. Full Node
      a. Minimum RAM (per node): =/> current set ram + 2GB
      b. Minimum Disk (per node): 300GB
      c. Firewall: Active
      d. Plugins: chain, chain_api
      e. SSL Proxy


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