Dynamic TAO

Dynamic TAO (D-TAO) is a planned evolution of the integrated tokenomic and governance model that underlies the Bittensor network. It represents a significant step in Bittensor's trajectory toward more thorough decentralization.

Dynamic TAO is now live on Bittensor <u>testnet</u>!

TIP

Testnet tokens do not have any value.

What to expect with Dynamic TAO

Most operations will remain unchanged, including the main workflows for miners (e.g., registering on subnets) and validators (e.g., setting weights). Simply update the Bittensor SDK and/or `btcli`, and you will be prepared to work with the Dynamic TAO-enabled Bittensor test network.

To update to the the Dynamic TAO-enbaled versions of the tooling, run:

```
# update the SDK to the most recent dTao enabled release candidate
pip install bittensor==8.5.1rc5
# update BTCLI to the most recent dTao enabled release candidate
pip install bittensor-cli==8.2.0rc9
```

DANGER

The changes to `btcli` and the Bittensor SDK are not backwards compatible.

The migration to Dynamic TAO includes breaking changes. Older versions of the SDK and `btcli` are not compatible with Dynamic TAO. If a participant on your subnet does not upgrade their tooling, they will fall out of consensus.

See:
- <u>Bittensor SDK release page</u>
- <u>Bittensor CLI release page</u>
- <u>Upgrade the Bittensor SDK</u>

TIP

Please help us evolve this technology! If you notice bugs or have clarifying questions, let us know on Discord.

Subnet tokens/liquidity pools

After upgrading, the most visible difference is the addition of one new token per subnet in the bittensor network. Run `btcli subnet list` to view information about the subnets and their currency reserves:

For example:

Subnets
Network: rao

		Price		Market Cap						
Netuid	Name	(τ_in/α_in)	(α * Price)	Emission (τ)	P (τ_in, α_in)		Stake (α_out)	
0	τ root	1.00 τ/T	τ 5.93m	τ 0.0000	-, -	T 5.93m	5.93m T /21M	
3	γ templar	0.02 τ/γ	τ 57.32	τ 0.0197	τ 31.44, 1.43k γ	1.18k γ	2.61k γ /21M	
9	ι pretrain	0.02 τ/ι	τ 55.38	τ 0.0194	τ 30.91, 1.46k ι	1.16k ι	2.61k ι /21M	
1	α apex	0.02 τ/α	τ 54.45	τ 0.0192	τ 30.65, 1.47k α	1.14k α	2.61k α /21M	
2	β omron	0.02 τ/β	τ 54.45	τ 0.0192	τ 30.65, 1.47k β	1.14k β	2.61k β /21M	
4	δ targon	0.02 τ/δ	τ 54.45	τ 0.0192	τ 30.65, 1.47k δ	1.14k δ	2.61k δ /21M	

...

Gradual impact on consensus dynamics

The rollout of Dynamic TAO is calculated to have a gradual impact. When Dynamic TAO is first released, the weight of all validators (in terms of stake) will remain unchanged, because a biasing variable known as *TAO weight*, which controls the relative weight of TAO and alpha currencies, will heavily favor TAO—which currently has 100% weight since alpha currencies don't exist. Over time (an estimated 100 days), this *TAO Weight* will shift to favor alpha currencies over TAO.