

STAKING THE SEED TOKEN

Parsl



Supply Chain, Blockchain, Trust

Based on feedback from our active and engaged community, Parsl is changing the way we calculate rewards for participants in our rewarddrop. We will make the system more transparent, primarily by utilising a staking smart contract instead of taking unannounced snapshots of SEED token holdings. We will then be able to produce an accurate picture of an account's SEED holding over the entire rewarddrop period, rather than a single point measure that comes from taking snapshots.

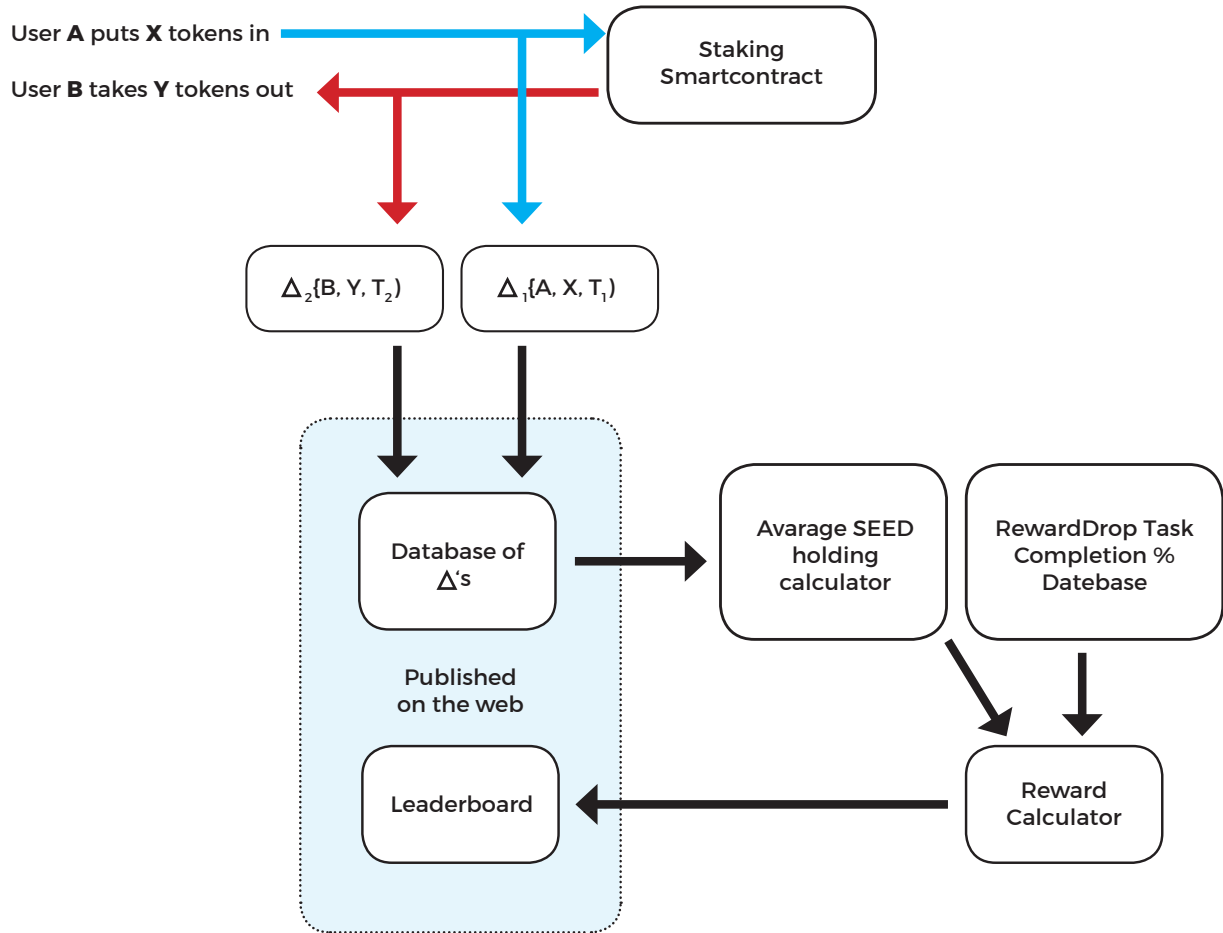
The following describes how we will do the calculation, which will be fully transparent and verifiable by anyone who chooses to do so.

Initially, all account staking balances are 0.

When an account moves tokens into the staking contract (or removes them), a delta is created. The delta is time stamped and exported to a standard (EG. SQL) database.

The list of deltas is shown on the rewarddrop website, so they can be verified by the public, and so they can also be used for calculation purposes by the public. We provide all the data so that our numbers can be checked.

Our RewardDrop backend will then calculate a user's average staking balance for the month in question. Once the average balance for every user has been calculated, the rewards for each user can then be calculated (obviously we need to include the rewarddrop task completion percentage as well), and they are then published on the RewardDrop Leaderboard.



Below is a guide that allows anyone to calculate the average SEED holding for any account, at any time.

Let A = SEED Balance for eos account A
 B = SEED Balance for eos account B

A and B will vary over time, and so are a function of the time, t

We are considering the calculations for a particular RewardDrop period, we call RDP. It begins at a time $t = T_0$ and finishes at a time $t = T_F$.

At $t = T_0$, A and B will have initial balances, A_0 and B_0

We will now proceed to calculate the average balance of EOS accounts up to anytime, t.

Between T_0 and t , there will be N number of deltas, labelled Δ_1 to Δ_N .

Each $\Delta_n = \{ \text{eos account, SEED (positive is increase), timestamp} \}$
 $= \{ E_n, S_n, T_n \}$

For example, if the first delta, Δ_1 , n was the result of account A putting 100 SEED tokens into the staking contract at 10am on the 5th January,

$$\Delta_1 = \{ A, 100, 10:00 \text{ 05/01/2019} \}$$

Note: The notation A_1 means the change in balance for account A in Δ_1

Depending on N , we use a different formula, as follows;

if $N = 0$

$$A = A_0$$

if $N = 1$

$$A = \frac{A_0 (T_1 - T_0) + (A_0 + A_1) (T_t - T_1)}{T_t - T_0}$$

if $N = 2$

$$A = \frac{A_0 (T_1 - T_0) + (A_0 + A_1) (T_2 - T_1) + (A_0 + A_1 + A_2) (T_t - T_2)}{T_t - T_0}$$

if $N \geq 2$

$$A = \frac{A_0 (T_1 - T_0) + \sum_{n=2}^N (\sum_{i=0}^{n-1} A_i) (T_n - T_{n-1}) + (\sum_{i=0}^N A_i) (T_t - T_N)}{T_t - T_0}$$