# Daily Trilium Allocation to Landowners

## Background

The Alien worlds metaverse distributes tokens to members of the gaming community through various channels following predetermined rules including, mining rewards for players doing certain actions rewards, and daily land allocation to owners of Land NFTs.

A land NFT is a specific Atomic Assets NFT from the `alien.worlds` collections on the Wax blockchain with schema type of `land.worlds`. The tokens should be distributed from the `terra.worlds` wax account each day after that account receives the daily allowance from another pre-existing distribution service. Each account holding a land NFT is due an equal amount of TLM proportional to the number of land NFTs held by that account. And the total amount distributed should be the full available balance of TLM from `terra.worlds` to all the accounts holding land NFTs.
Eg. In the case where `terra.worlds` receives a daily allocation of 100 TLM, bringing it's TLM balance to 100.0000 TLM and there are four Land NFTS in the system two wax accounts hold one NFT each and a third account holds two land NFTs. In this scenario the two accounts holding one NFT should receive 25.0000 TLM each and the account holding two land NFTs should receive 50.0000 TLM.

In fact there are approximately 3000 land NFTs which are due allocations each day so the solution needs to consider the allocation to be completed in multiple batches. The actual account activity can be seen here https://wax.bloks.io/account/terra.worlds. This shows the process happening every few days but it should actually be every day.

## Problem Statement

Previously Alien Worlds has depended on an off-chain script that calculates the amount due to each wax account based on the owner details and then transfers the TLM to each due account. The problem with this process is that it can fail part way through the processing or an NFT could be transferred part through the process which could either lead to a double distribution or a missed distribution for some land NFTs. The process can also fail halfway through for other reasons such as CPU/NET issues or other blockchain congestion issues or if there is a smart contract installed on the destination account that either asserts or consumes too much CPU/NET bandwidth as a result of a TLM transfer. By moving this process into a smart contract installed on the `terra.worlds` account these partial process failures could be mitigated against.

Additional info:

Since the land NFTs could be freely transferred by the NFT owners the owner should be checked each day during the distribution process to ensure the daily TLM allocation goes to the correct account. Fortunately there is a pre-existing table in another smart contract

(`federation` on Wax) that maintains a list of the land owners and is updated upon each transfer of a land NFT so this smart contract could be relied upon that to determine the land NFT owner. The format of the table has the NFT ID associated with the owner of the NFT as follows:

`

```
struct [[eosio::table("landregs")]] landreg_item {
            uint64_t id;
            name     owner;

            uint64_t primary_key() const { return id; }
        };

        typedef multi_index<"landregs"_n, landreg_item> landregs_table;
```

`

I’m happy to answer any questions that need clarity either over chat or via comments in this document and I’m happy to discuss your proposed solution before you start coding and writing tests for it to ensure we are on the right path.