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# [WD] Dual staking: olas service staking + bio token pseudo staking

## Summary:

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Approved for external use by: N/A

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Owner: Mariapia Moscatiello

Contributors: Aleksandr Kuperman Andrey Lebedev

Approvers: David Minarsch

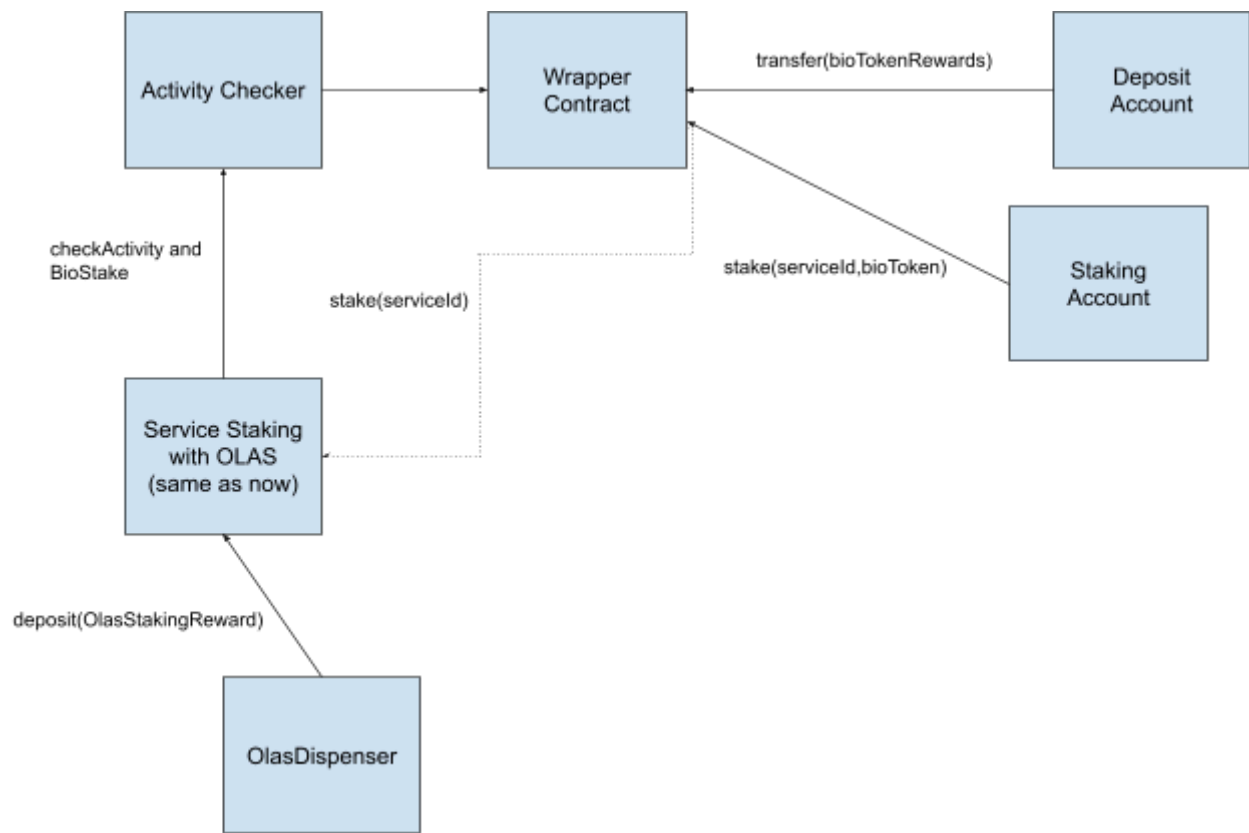
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## Dual staking contract for staking OLAS service and BIO tokens

The DualStakingToken Contract would be a coordinating contract for OLAS service and BIO tokens. The proposal is that it performs as follows:

1. Has a `stake(serviceId)` function that accepts a specified **deployed** service Id and amount of specified BIO tokens proportional to the OLAS staked amount.
2. Creates a record for the service Id, its owner and the amount of BIO tokens deposited.
3. Allows anyone to send BIO tokens to fund available BIO token rewards (via regular ERC20 `transfer` method). Rewards in BIO are set as a ratio based on OLAS `rewardsPerSecond`.
4. Stakes service Id to a specified OLAS service staking contract.
5. Activity checker for the service staking contract checks OLAS service activity as specified, plus refers to the DualStakingToken contract to check that a specified service multisig has corresponding record with staked BIO tokens.
6. During `claim` / `withdraw`, OLAS rewards and BIO rewards are transferred to the service Id multisig.
7. The `checkpoint()` function in the DualStakingToken Contract performs the Service Staking checkpoint.
8. BIO PoAA part includes the wrapping of EAS attestation calls via multisig calling the corresponding function in DualStakingToken contract.



## Implementation link

[https://github.com/valory-xyz/autonolas-staking-programmes/tree/main/contracts/dual\\_token](https://github.com/valory-xyz/autonolas-staking-programmes/tree/main/contracts/dual_token)