Use cases involving a transfer of OzCoins

These use cases describe in which situations the transfer of OzCoins (OZC) can occur and how it is implemented in the smart-contract.

All the use cases have the same structure:

* Description - a short description which sets the context for the use case
* Pre condition - what conditions have to be met in order for the use case to be viable
* Contract and function - which functions on what contract have to be called
* Accounts involved - which Ethereum accounts are involved and who owns them
* Value in ETH - the value of the transaction in ETH
* Value in OZC - how many Oz Coins are being transferred
* Steps - the steps to execute the use-case

OZC denomination:

Gold at US$1,000.00Oz

* Denomination Value in OZcoin US Dollar Value Oz of Gold
* OZCoz 100 OZC US$1,000.00 1
* OZC 1 OZC US$10.00 0.01
* mOZC 0.001 OZC US$0.01 0.00001
* uOZC 0.000001 OZC 0.00001 0.00000001

**P2P transfer**

When someone decides to transfer a certain amount of OZC from one account to another for a reason that is unknown. This occurs when OZC is traded on an exchange, for example. Or if someone accepts a payment for goods or services via OZC. Or someone buys the OZC from the OZcoinGold website by direct deposit to the escrow bank account with a reference to their wallet public key.

**Pre-Condition**

The transfer is issued by an account that holds OZC. The recipient account exists on Ethereum.

**Contract and function**

TokenInterface.transfer

**Accounts**

Two unregistered accounts: a sender and a recipient account.

The OZC Fees account owned by Oz Coin Inc.

**Value in ETH**

No ETH is required, except for the gas of the transaction.

**Value in OZC**

The minimum is 1 OCT + a 0.1% fee. (% fee can be set by administrator)

1 OCT is transferred from the sender to the recipient. 0.001 OCT is transferred from the sender to the OZC fees account. 0.1% of 1 = 0.001

**Steps**

1. The sender calls the function on the contract with the amount in OZC as the parameter. She can use either Mist or the OzCoin Wallet for that.
2. Provided the sender has enough funds and enough ETH to pay for the gas, the smart contract transfers the OZC from the sender to the recipient
3. The smart-contract transfers the fee in OZC to the OZC Fees account.

**Buying OZC from an Affiliate**

There are only 3 way to buy OZC: on an exchange or by direct deposit into the escrow account, referencing your account public key or from an affiliate. I suggest that Oz Coin itself acts as an affiliate. This will make reasoning about the system easier.

As long as the OZ Coin Account can be registered as the affiliate company and the affiliate. This way the 5% for the affiliate company and the 5% for the affiliate are both paid into the OZ Coin Account

When buying from an affiliate, the transaction is performed in ETH and the OZC always comes from the central Oz Coin Mint Account. I suggest that you can only buy from a wallet if it is an affiliate wallet, but that they can buy from the Oz Coin Mint account or any other affiliate account.

**Pre-Condition**

The user has created an account in the OzCoin web-app by clicking on a link at an affiliate web-site. The affiliate might be Oz Coin Inc itself, or it might be any affiliate registered by Oz Coin’s administrator.

Because an affiliate is required, I assume the only way to buy OZC from an affiliate is through the Oz Coin wallet. Yes

**Contract and function**

TokenInterface.buyCoins

**Accounts**

The buyer account, the affiliate account, affiliate company account, the OZC Mint Account, the OZC Fee Account, the TokenInterface contract.

**Value in ETH**

The number of OZC to buy multiplied by the price in ETH for one OZC plus the gas for the transaction.

**Value in OZC**

The minimum amount iz 1 OZC.

**Steps**

1. The user creates an account with the OzCoin wallet by clicking on a link at an affiliate company or affiliate web-site.
2. The affiliate company and affiliate’s address gets linked to the user’s address
3. The user clicks on the “Buy OZC” button in the wallet and enters the number of OZC she wants to acquire.
4. The price of the OZC is calculated in ETH according to the latest price set in the contract
5. The smart-contract transfers the OZC to the user’s address
6. The smart-contract splits the ETH
   1. 90% to the OZcoin Main Account
   2. 5% to the affiliate company account
   3. 5% to the affiliate account
7. There is no transfer fees when buying OZC from an affiliate. Transaction fees always apply and is charged in fractions of an OZcoin.

**Affiliate Company and Affiliate Accounts**

The Affiliate Company is an account that only the Administrator can approve. Each Affiliate account has to be linked to an Affiliate company account. This can be compared to a head office with sales people. Each Affiliate Company can have an unlimited number of affiliates linked to it but all the affiliate wallets in that group is linked to that affiliate company. The result is that whenever any affiliate in a specific affiliate company group purchases OZcoins from their affiliate wallet the affiliate company receives 5% commission and the linked affiliate receives 5%.

The affiliate company’s 5% commission and affiliate’s 5% commissions are paid and subtracted from the purchase price ether. Because only affiliates can buy and sell OZcoins through their wallets, it means that only affiliates that sell their OZcoins will pay the commissions.

When OZcoins are bought in any other way, no commissions are payable to the affiliate company or affiliates.

The OZcoin Transaction fee, which is paid in uOZcoin and is calculated as a percentage of the OZcoin transaction, is paid on every OZcoin transfer and buy transaction.