Federation Coupon System

Introduction

Federation Coupon system creates 2 types of coupon for given FedCoup token. These coupons called as B coupon and S coupon. B coupon symbolically represents coupon for Buying things, services etc., S coupon symbolically represents coupon for Selling things, services etc.

Idea here is, when user gets B & S coupons for given FedCoup token, user can transfer or accept B coupons. When B coupon accepted, the equivalent number of S coupons will be deducted from acceptor's account. Doing this process, the equivalent FedCoup tokens will be returned to the acceptor's account.

Essentially two processes involved in the FedCoup system. In split process, the given FedCoup tokens will generate two coupons (B & S) and in merge process (accept process) the given B coupon merged with S coupon and generates FedCoup tokens back.

Problem Solving

In today's economy, many merchants providing their own coupons to increase their sales. These coupons might be one-time coupon with expiry date or it might be reward program which might be used only on their sales for future purchase. If coupon or reward provided by one merchant, might not be accepted in another merchant. There is simply no collaboration between them and they use coupon to promote only their sales. Customers also has to keep multiple coupons or reward cards for each merchant and it's not easy to maintain these reward cards. Also, if customer earns reward in one merchant and it could not be used in another merchant. Because merchants don't accept other merchant coupons as no value for those coupons apart from its origination place.

To address these problems, FedCoup uses smart contract to create coupons and distribute them according to its defined principles. If merchant wants to give coupons for their customers, they can purchase FedCoup tokens and generate S, B coupons using that token. The B & S coupons will be equal in quantities to make sure balance exist in the system. The merchant can give B coupon to customers and customers can use these B coupons wherever accepted. Also, merchant can accept B coupon from other customers which is not a regular customer and by doing that so, equivalent FedCoup tokens returned to the merchant. The merchant can't accept more than their S coupon balance. This way, one merchant coupons can't be consumed by another merchant. And also, S and B coupons are balanced in the contract at any point of time.

Concept Illustration

Let's say Bob uses 10 FedCoup tokens to get B & S coupons. When Bob calls FedCoup contract to create coupons, the FedCoup contract deducts 10 FedCoup tokens from Bob's account and create B, S coupons. Formula to create B, S coupons are

$$Number\ of\ S\ coupons$$
$$= S\ coupon\ allocation\ factor * number\ of\ FedCoup\ tokens$$
$$* coupon\ multiplication\ factor$$

$$Number\ of\ B\ coupons$$
$$= B\ coupon\ allocation\ factor * number\ of\ FedCoup\ tokens$$
$$* coupon\ multiplication\ factor$$

So, with above formula, Bob will get

$$1.0 * 10 * 100 = 1000\ S\ coupons$$

$$0.9 * 10 * 100 = 900\ B\ coupons$$

These created coupons will be added to the Bob's account.

Now, Bob can use these B coupons wherever its accepted. Also, Bob can transfer these B coupons to someone else. Let's see the scenario for B coupon acceptance. Let's assume Alice is a merchant, who likes to promote her products to increase sales. Alice decided to give discounts for B coupons. If user provides 500B coupons, then Alice says she will provide 10% discount on her product sale. Here, Alice ready to accept 500B coupons from Bob for 10% discount.

In this case, FedCoup contract gives 5 FedCoup tokens to Alice for accepting 500B coupons. Only rule applied here is, Alice should have 500S coupons while accepting that 500B coupons from Bob. FedCoup contract takes 500B coupons from Bob account and 500S coupons from

Alice accounts and adds 10 FedCoup tokens to Alice account. To calculate number of tokens, below formula used

$$Number\ of\ FedCoup\ tokens = \frac{number\ of\ B\ coupons}{coupon\ multiplication\ factor}$$

So, number of FedCoup tokens will be added to Alice account is

$$\frac{500}{100} = 5\ FedCoup\ tokens$$
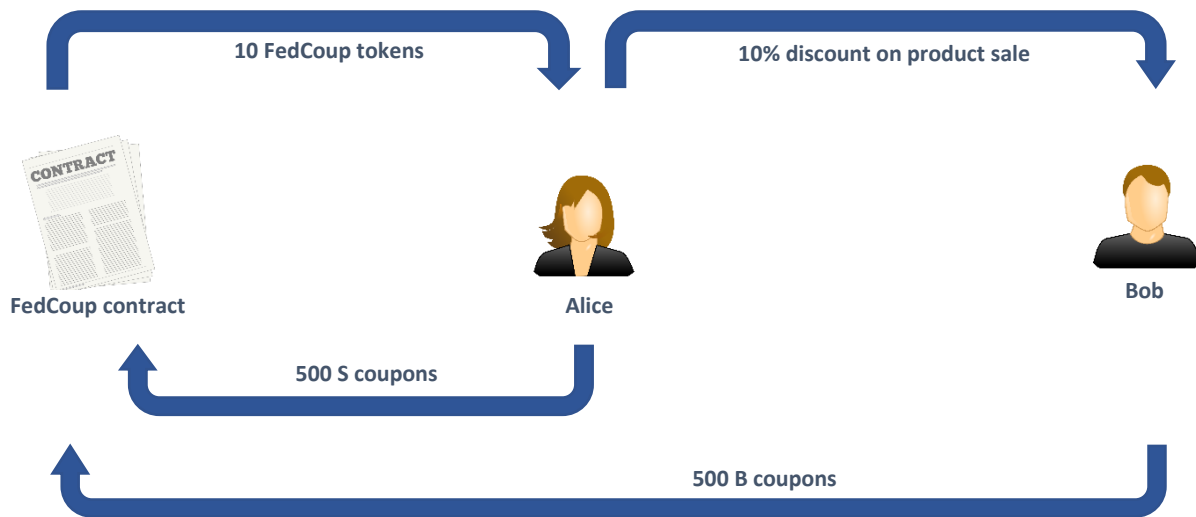
Let's assume this scenario, Alice is a merchant and don't want to purchase any product and sell only her products. In this case, Alice can transfer B coupons to any of their customers to appreciate consumer engagements. Alice can give B coupons to any one, not only for his customers. This way, Alice trying to market her products and keeping her customers engaged. The receiver of B coupons can use it in any merchant place (wherever its accepted), not only Alice's place. Alice is not going to lose these coupons, because other merchant cannot accept B coupons more than their S coupon balance by FedCoup contract. This way, balance maintained between S & B coupons. Alice also can accept B coupons from anyone until she has S coupons.

Let's say, Bob wants to transfer his B coupons to his friends and families or anyone else and don't want to use that for trade (it means other person has to accept B coupon, other person can accept B coupons without trade also. FedCoup don't restrict the B coupon acceptance in any manner. It's up to the two parties, how they want to use their coupons). In this case, FedCoup contract applies the transfer cost. The transfer cost for B coupons will be less compared to S coupons transfer cost. Formula to calculate coupon transfer cost

$$Deducted\ coupons = number\ of\ coupons\ to\ transfer * coupon\ transfer\ cost$$

$$FedCoup\ residual\ coupon += Deducted\ coupons$$

Reason for transfer cost is to enforce use B coupons for acceptance. Otherwise, B coupons will go on in the circulation and it might never be accepted. It's possible to become its own entity without merging. Also, if Bob don't want to use S coupons (to accept B coupons from others), he can transfer that to others. But in this case, transfer cost will be so high. Reason for this to promote users to accept B coupons from others for trade (or nothing). This way users are encouraged to use S coupons and in turn they will get FedCoup tokens which they can use it for coupon creation again.

Token Supply

At any point of time, total supplied tokens are 1 Billion.

FAQ

Why it's called Coupons?

When users create coupons with FedCoup tokens, contract automatically creates two coupons for the user. User can give B coupon to anyone and can keep the S coupon. If user has any product or service, that time they can accept the B coupon from other user for some discount (or nothing) and that will automatically be converted back to FedCoup token. This way user creates the coupons and distribute it and later get it back their FedCoup tokens.

What will happen if users use the coupon as value?

If coupons continuously transfer between the users, it means coupons are not accepted and merely used it as a value for trade. To avoid this problem, each transfer set with cost and this way if continuously traded without acceptance, then over the period by transfer cost it will go down. The coupons which is collected during transfer will be accumulated as residual coupons.

What will happen to accumulated residual coupons?

The residual B & S coupons which is accumulated due to transfer cost, will be allocated to the partners who are willing to integrate FedCoup into their trade.

Why transfer cost for S coupon is more than B coupon?

Main intended purpose of S coupons is to accept B coupons from the user for trade. If users want to transfer S coupon to another user, then there might be a scenario like no one (less) will use S coupon to accept B coupons. To avoid this problem, S coupon transfer cost will be very high. Due to this high transfer cost, receiver of the S coupon reluctant to accept as they will receive less S coupons even though sender transfers more S coupons. For sender also, instead of transferring S coupons, if it's used to accept B coupon, the equivalent FedCoup tokens returned without any cost.