



**Digital Asset
Exchange**

The future in DAE trading

White paper v2.0

Create by the Apollo DAE Team.



PREAMBLE

This paper has been prepared by the Apollo DAE team and may be updated as needed. Most topics discussed in this paper may change over time or become irrelevant as technology, business and trading evolves.

Apollo's primary goal is to create a digital asset exchange (DAE) platform that provides advanced yet easy-to-use trading tools, a liquid trading book, market and trading information, market protections from malicious traders, advanced security, and 24/7 reliable customer support. We have many more plans and goals than just these few, but these are the main features we aim to incorporate before opening Apollo for trading.

This version of our paper has been reduced in length. Head to our Github page to view our longer version that includes a few more details.



<https://github.com/ApolloDAE>

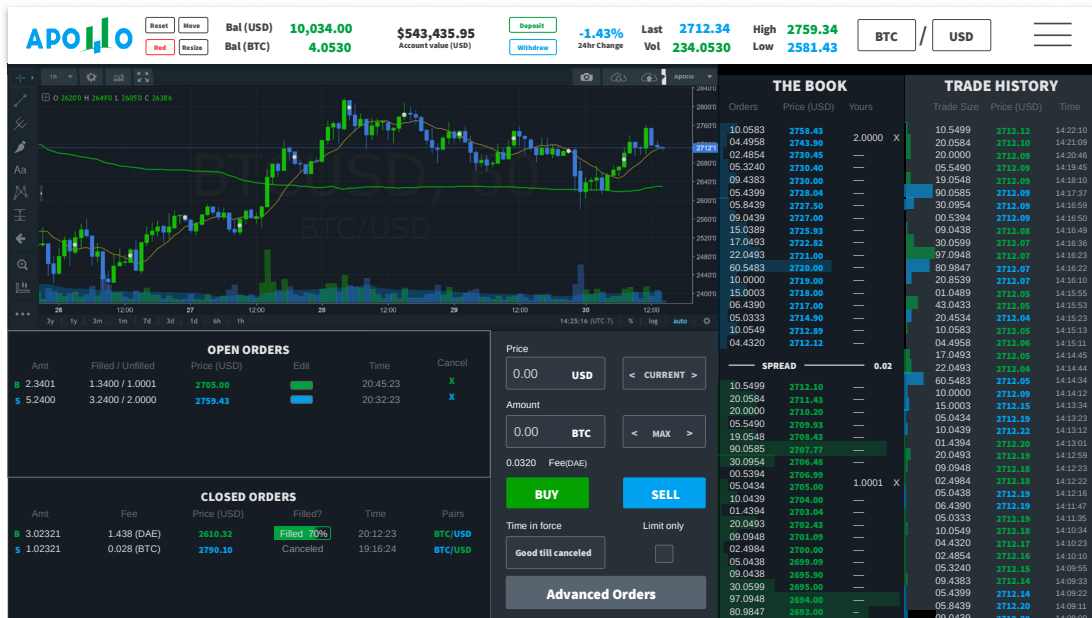


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Our Purpose



Apollo platform prototype

Our mission is to build the future of DAE trading (digital asset exchange). We are merging forex technologies with blockchain tech to give everyone a better trading experience. Everyone will want to trade on Apollo in 2018, which should force other exchanges to provide better services, thus creating a better community for digital assets.

Why participate in an exchange ICO vs a new blockchain ICO?

Cryptocurrencies are booming and new coins/tokens are being made each day. Over 4 billion USD worth of crypto is traded each day. Bitcoin accounts for around 35-45% of that volume! Most of the well know exchanges worldwide have trading volumes above \$200 million per day. There is a lot of crypto being traded daily but compared to forex daily volume (\$5 trillion), crypto has a lot of room to grow. This is a perfect time to establish a crypto exchange.

New blockchain's are being made weekly, and pretty soon, daily. There have been 1000's of digital coins/tokens since the birth of BTC. How many of those 1000's do you actually use each day, not including trades? Your answer is probably around 1-10. That number is low, mostly because 1000's of coins are clearly scams, pump and dumps, and the rest have outdated technology, or never got integrated anywhere. Investing into a new blockchain could pay off, but it's a huge gamble because a better coin could be made at any time.

In just one year, an exchange handling \$200 million in trades per day will have processed \$73 billion in trades. That is more than 99% of every altcoin's market cap combined! This doesn't tell us much other than showing that exchanges are used a lot. We think a quality exchange is needed and is more beneficial than creating another blockchain. Additionally an exchange has better odds of being around decades into the future versus the majority of altcoins.



Exchange Problems and Solutions

Below are just a few issue we see with current and new exchanges, along with a short explanation of our solutions.

#1) Lack of good customer support

Most of Apollo's team is made up of cryptocurrency investors and traders that use exchanges such as GDAX, Poloniex, Bitfinex, Bittrex, CHBTC, YUNBI, and more. Some have even tried less popular exchanges like Liqui, BitShares, CEX, and Cryptopia. With most of these exchanges, you get **no immediate customer support** and instead they make you wait for an email response that could take days, weeks or, especially with GDAX, 3 months. Some traders may never need customer support, but when something goes wrong and you do need urgent help, few of these exchanges will be there to help.

Our Solution

Option 1: Support categories and limiting users who abuse the system

This will be our initial approach to customer support. We want to be prepared for massive migration to our platform, and will be hiring 200-500 customer service agents, costing up to \$40 million a year.

Support with categories isn't new and so is limiting users who abuse the system. The idea is to provide different levels of urgency for a support request. If a user needs urgent help, they can select urgent and be connected immediately to an agent via email, chat or phone. A user can also choose other levels of urgency to get a response within the day, a few days, or a week via email. Fairly simple.

The catch is, however, a user could be banned from using urgent or semi-urgent support if they abuse the system. Abuse would be choosing not to wait a few days for a response on an issue that clearly wasn't an urgent problem, or wasn't going to cost a user money. (Typically, questions that could be answered using our knowledge base).

If our agents think a issue using urgent support would not qualify as urgent, then our agent would ban the users account from urgent support for a few days up to a few weeks.

When/if this happens, management would review the support case and verify if the agent was correct or not.



Option 2: Offer support with categories and require a deposit

If our support system ends up being abused too often or it costs Apollo more than we make in revenue to support all of our users, then we will use this option. This is the same option as above, except we would charge users a small fee to initiate any urgent customer support. The fee would be around \$1-10. The fee would be refunded after the initial contact if the support case was indeed an urgent Issue. If not, we will keep the deposit to pay our support agents.

Option 3: Pay for urgent support or manager support

As a last resort, we feel it would be better to have users pay for urgent support instead of not offering it at all. Therefore, if the time comes that we can't afford to keep urgent chat, email and phone support, then we will work out an average cost per case based on previous analytics. This amount, shouldn't be too expensive, we estimate it would be in the \$1-10 range.

In the end, we understand that if our platform runs perfectly, then a vast majority of users should never need to contact us. Having too many support issues would usually mean we have a problem with our software and need to fix it. Before using options 2 and 3, we would make sure there is nothing wrong with our systems first.

#2) Low liquidity (mostly new exchanges)

There is one main issue with new and smaller exchanges: very low liquidity. It could take years for a small exchange to get enough users to increase the liquidity on their books. It's the main hurdle new startup exchanges have to face. They may have a better platform with a few more features, but it may take years for users to migrate to the exchange since they can't offer the volume users need to trade without massive price swings. To increase their order book, some exchanges offer zero-fee trades, or even pay for users to trade on their exchange!

Everyone loves free trades, but it's not financially practical. Like we said above, customer support should cost \$40 million or more, and a team of 75 managers and developers would cost around the same. How will an exchange pay their employees, or pay for better tech, servers, security, insurance, or other overhead costs if they charge really small fees? Some will say, "less fees, more users, more volume, more profit". Sure, that may work for a while, but eventually the cost per user will overtake the revenue per user, if the company scales up as users increase.



Our Solution

Exchange connections:

Connecting to other well know exchanges and sharing order books will be our solution. We have many options for connections, and you can read more about them in our longer white paper. The basic idea is to use backend API connections to trade users orders on other exchanges if the volume is not available between Apollo traders. Everything is handled on our trading engine with under 1 sec execution times. Users don't have to specify anything when trading, our engine will automatically get them the best trade possible from our exchange or the exchanges we connect with.

These connections also double as protecting our users from flash crashes. By offloading massive orders equally across all connected exchanges, a malicious trader would have to place huge trades to get a coins price to drop low enough to cascade margin calls and stop loss orders.

#3) No market information

Almost all exchanges provide no market information or insight. Go to any exchange and look for information on assets such as Bitcoin, Litecoin, or Ethereum and you will find that they probably don't tell you what it is, how the coin or asset works, what makes it popular, where is it being used, or what its roadmap is for the future. You can even visit the asset's website and not find all of that information. We agree that users need to do their own research on assets, but we also think that an exchange should provide information on coins that are trading on their platform and keep that information up to date with any news. This allows for an informed trading market instead of an impulsive market.

Our Solution

Create a trading information center:

We will be adding a place for traders to research coins, projects, teams and etc. It's basic knowledge that traders should have before investing into any altcoins. We also want to provide more intel on where the majority of traders think a coin's price is headed. We may integrate a platform like santiment for this.



#4) Market manipulation

Trading crypto is awesome. However, crypto trading is full of market manipulations. You have tons of pump and dumps (PnD), spoofing, flash crashes, phishing and etc. It's a big problem for most traders and newbies.

Our Solution

Limit manipulations:

There are a lot of ways to try and limit market manipulations, and we explain a few in detail on our long white paper if you want to read more. In short, to stop pump and dumps, we don't plan on listing any coins that are prime for such actions. To fight spoofing we will hide orders from accounts that are suspected of spoofing. With flash crashes: use exchange connections to spread out massive orders and use a market index price to determine when to enact margin calls. Phishing: use Remme.io technology to eliminate fishing for users that don't use Civic.

#5) Exchange and customer security

With more exchanges popping up, some may wonder what security measures the exchanges use to protect their company and user funds. Most will choose to keep a big portion of their funds offline in cold storage and hold 1% - 5% of funds in a hot wallet. This is great, but not sufficient. Exchanges need to implement security standards better than the standards used by banks, stock markets and forex markets. They should encrypt everything, change keys frequently, restrict access to keys directly, store keys on hardware security modules, use Two Factor Authentication (2FA), change passwords regularly, and takes steps to prevent phishing.

The best advice any long-term cryptocurrency holder gives new investors is: "Don't leave your coins on exchanges." We want to provide a more viable alternative to this. Users on Apollo will have their funds protected and secured **better** than most users could do by themselves.



ICO Problems and Solution

New ICOs are popping up every day, which can either be great for innovation or end up causing more problems than what they're promising to fix. We have been following many ICO projects and have noticed there are a lot of great projects, as well as a lot of near impossible projects, along with the typical scam projects. Almost all projects, however, set out to raise way too much capital with their ICO and then leave their investors wondering what the raised funds are being spent on. It's also widely speculated that most ICOs will fail to launch because their projects are either technically impossible, run by inexperienced members, and/or funds get wasted on unnecessary expenses.

A more recent issue for ICOs has been hackers stealing their funds or siphoning funds from investors by passing out non-company Ethereum addresses. Some of these wallet thefts and website hacks could have easily been avoided, but the ICOs were started by inexperienced people (who may also cause the project to fail later on). Even if a group does have the necessary experience, their token contracts were made from a generic ERC 20 standard and not much thought or effort had been put into their contracts. Did these hacked ICOs have even just one auditor check their work?

All of these problems get ignored over and over by investors, and we think it has to do with the way ICOs allocate tokens to investors. The typical ICO sale uses an early investor incentive program. Be the first to invest, get more tokens than everyone else. Be the last to invest, get shafted. This approach only works in favor of the company raising funds and the first investors to send coins. It does not typically benefit any other investors and usually causes massive blockchain congestion.

Apollo's ICO Token Solution

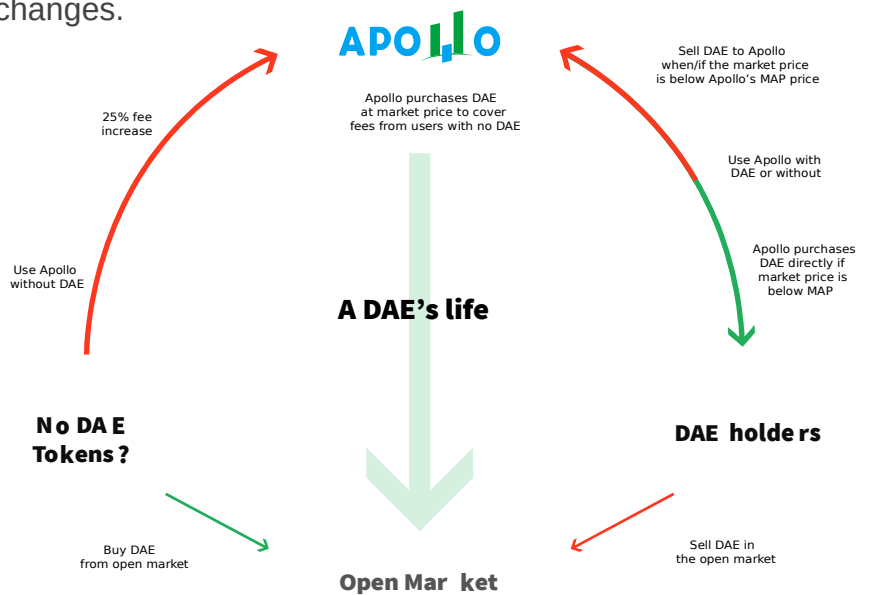
Our token sale is a completely new concept to ICOs, which we hope will pave the way for future ICOs to operate better. To start off, let's first explain why we need funds and how our tokens will work.

In order for us to bring Apollo to an operational state, we will need to raise funds to cover the costs of starting a massive exchange.



Below is a small list of where raised funds will be needed at first:

- Pay team members (such as the developers) to finalize our full exchange platform.
- Have expert security advisors help us implement secure protocols and use the best security practices.
- Purchase and/or hire the infrastructure needed to run Apollo securely in multiple locations and build a secure private blockchain as a backup reference for all transactions.
- Make connections with existing exchanges.
- Legal and license fees.
- Auditing services.
- Customer support setup.
- And much more.



To raise the capital we need, we will be selling “DAE tokens”, aka Digital Asset Exchange tokens. These tokens will have many uses for buyers (unlike many other ICOs out there), but our main objective is for the DAE tokens to be used to pay fees on Apollo, for now. We are setting up our platform to automatically charge a user in DAE tokens for any transaction they initiate on our exchange. This includes, but is not limited to: exchange fees, withdrawal fees, customer support fees* and deposit fees*.

A user does not have to own DAE tokens in order to use any of Apollo’s services. However, based on how we are setting up DAE pricing, it would be beneficial for a user to own DAE before using Apollo as it would save the user money. If a user does not own DAE, then Apollo will charge the user the standard fee rate and then Apollo will purchase DAE tokens to cover the user’s fees. It’s almost that simple... but not completely.

When Apollo has to purchase DAE tokens to cover fees by a user who does not own them, Apollo must buy the DAE tokens at market price or at the minimum set asset price (whichever is higher). If the market price is higher than the set minimum asset price, a simple market buy will be executed on Apollo’s exchange.

* May not be added to the exchange in the first place.



What is M.A.P. (Minimum Asset Price)?

In the sales industry, M.A.P. stands for Minimum Advertised Price. Most people don't know this term, but it means that a reseller can't advertise to sell a product below the manufacturer's M.A.P. price, and the reseller is usually not allowed to sell a product below MAP, privately or publicly

We use the M.A.P. reference since DAE is an Apollo product. As a product, we want to ensure our buyers that we will honor certain asset prices on our exchange as compared to market values. At the end of our ICO, the minimum asset price for DAE will be set at 120-400% of the price that DAE tokens are sold to ICO buyers. This does not mean DAE will instantly be worth double, nor does it guarantee a buyer can profit off of this. What M.A.P. does guarantee our token buyers is that when they use their token to pay their fees on Apollo, their DAE will be worth more than they purchased them at in the ICO. In simple terms, DAE holders will save more than 50% on fees, on Apollo.

MAP will change based on a few rules that are currently not set in stone. We would like to see how the DAE market price trades in comparison to our MAP price before setting exact guidelines on MAP price increases and decreases. What we do know for sure is that the MAP price will never set under the ICO sale price. We are also confident that the MAP price should never need to be decreased, and should only increase over time. Our current plans are to increase the MAP rate after collecting a set amount of fees from Apollo transactions.

A Bonus 2nd ICO Token - AVO

Wait, what...? Yes, you read that right. We are issuing 2 tokens in our ICO DAE sale (at no extra cost for the second token). You will not only get DAE tokens, but also AVO tokens. AVO stands for Apollo Voting Tokens. The AVO tokens will have no market value. They will not be transferable and their only purpose is to be used as a voting system.

AVO is being made to assure ICO buyers that we will not waste their capital from the ICO sale. Yes, it's a big issue with ICO's right now: companies are raising funds and then doing whatever they want with the funds raised. With no accountability projects end up failing. We want to appease any worries and assure token buyers that we are headed in the right direction and that the control is in their hands.



What does AVO do?

After the ICO, AVO holders will have to vote to allow Apollo to use company funds.

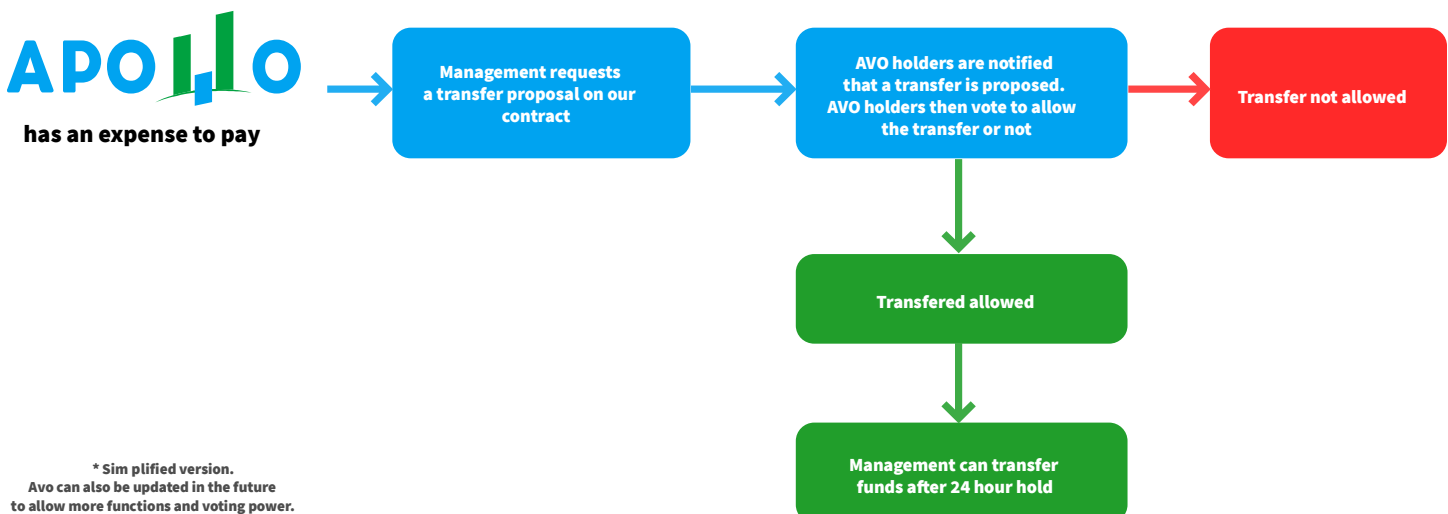
Let's walk through the steps on how voting will work:

We expect 50% or more of the funds invested in our ICO sale to be in Ether. The rest of the funds raised will be in Bitcoin and various other altcoins. Bitcoins and other altcoins will be left in cold storage until Apollo's platform is operational. At some point in time, bitcoins, altcoins and some ether will be used as collateral to connect to other exchanges (and not be expensed).

Ether, ERC 20 tokens and DAE tokens that are in our smart contract will be our main source for paying employees, contractors, businesses and operational costs. Our smart contract is built to **not allow** any transfers unless we hold a vote and the AVO holders approve the transfer within the given voting timeframe. If AVO holders vote no, then a transfer is declined and we would have to either try explaining to AVO holders the purpose of the transfer a little more or move on.

This voting system is also used to secure our contract from hackers. Since AVO tokens are non-transferable, a hacker would have to own the majority of AVO tokens at the time of the crowdsale, which would take a lot of equity to achieve, and it still would not give a hacker access to our smart contract funds since they would need the contract owner's keys to initiate a transfer.

AVO The current system





Apollo Token Sale Dynamics

Finally the best part of this whole paper, the token sale. We are using a 2 part token sale.

Part 1)

- ICO opens, initial deposits allowed for 1 week.
- All buyers who deposit during the first week must include a vote on what price DAE tokens should start at in part 2.

Part 2)

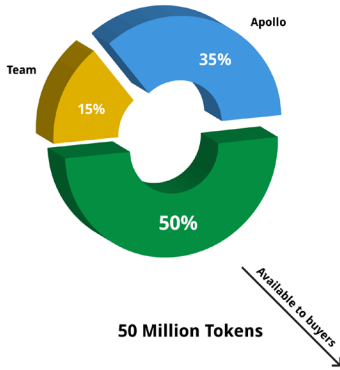
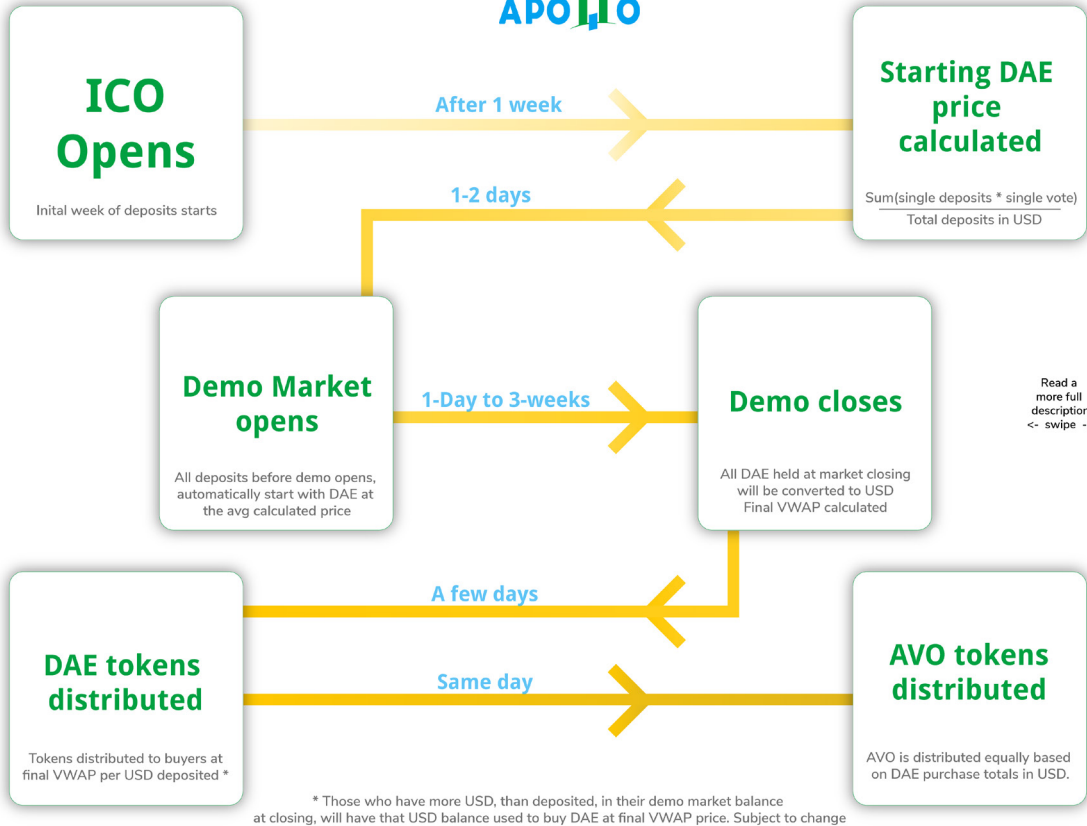
- We will open our alpha trading platform up and allow buyers to purchase DAE directly in a demo market.
- Any buyers who deposited prior to part 2 will automatically purchase DAE in the demo market at the average price that all buyers voted on.
- During the demo market, buyers can purchase or sell DAE tokens for USD equivalent.
- Buyers do not have to participate in the demo market, or in the initial deposit week. Buyers can deposit funds at any time and do nothing else. The demo market just gives buyers a chance to try out our platform, and possibly earn more “USD” to use to buy DAE at the final calculated price
- After the demo market, EVERYONE will purchase DAE at the same price

The purpose of the demo market is for US to get a final sell price of DAE, which will be the VWAP of DAE during the demo market. There is no risk in participating in the demo market. If your final USD balance is less than what you deposited during our ICO, your USD balance will be adjusted to equal the total amount of USD you deposited. Having more USD than you deposited will result in getting a bonus amount of DAE, most likely in the amount of extra USD you have.

Only 50 million DAE tokens will be sold. If there is not enough tokens to include all buyers, then bonuses will be reduced or eliminated. If that is still not enough, then we will start refunding buyers in the order that they deposited during part 2. If that still leaves too many buyers, we will start refunding buyers that deposited in part 1 based on their vote price, starting from the smallest vote price, up to the largest price.



APOLLO



DAE Distribution

After ICO demo market

ICO Demo Market Ends

All DAE's tokens being held are sold at the last market price before closing.

Final VWAP is calculated

VWAP
(Volume Weighted Average Price)
The average buy price of DAE = $\frac{\text{Sum}(\# \text{ of DAE bought} * \text{Price})}{\text{Total DAE bought}}$

Two options for distributing DAE

Everyone will get DAE at the final VWAP per USD

Final USD balance > Initial Deposit

Your final USD balance will be used as your total funds for purchasing DAE at VWAP *

OR

Final USD balance < Initial Deposit

Your initial deposit balance will be used for purchasing DAE at VWAP

* This is a bonus and may be subject to change. If DAE supply would run out before all buyers get DAE, these bonuses would be reduced or cut out completely.



Summary

Apollo will be the next best crypto exchange, even if we don't raise funds in our ICO. We have additional options to get funding. However, we think it is better to let our community buy and own our Tokens, versus a single or a few big investors. Don't miss out on your opportunity to own a piece of the future.

We also have many more plans beyond just a simple/complex trading platform. The future is bright for Apollo.



Thanks for reading our paper. This was a short version compared to our longer version on github. Hopefully this one wasn't too long and easy to follow. If you have any questions, visit our Slack channel, Twitter or Facebook accounts to get a quick answer. You can also email us at info@apollodae.io