

The logo for AVXCHANGE, featuring a stylized 'X' followed by the word 'CHANGE' in a bold, sans-serif font. A small 'TM' trademark symbol is located at the top right of the word 'CHANGE'.

AVXCHANGE™

Audio Video eXchange

White Paper

<https://avxchange.io>

AVXCHANGE April 4, 2019 v0.64 SUBJECT TO CHANGE

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Summary

AVXChange, or Audio Video eXchange in its simplest form is a retail platform for audio and video entertainment. More specifically, AVXChange is a custom, incentive based, Peer to Peer (P2P) file sharing platform designed for the exchange of audio and video media over the internet. AVXChange could further be described as a FinTech business established on the principles of Distributed Ledger Technology (DLT) set to revolutionize the distribution of proprietary data over the internet. Imagine a file sharing program with a polished interface and transaction mechanism which allows users to compensate intellectual property (IP) owners and incentivizes users by allowing them to earn for their role in distributing the product to market.

Unlike other P2P file sharing applications though, the AVXChange platform will be a distributed system using the principles of blockchain/distributed ledger technologies to eliminate centralized data points, thus increasing security and transparency as all nodes on the network will reach consensus on data and events. AVXChange will use its own form of cryptocurrency (AVX) which will facilitate quick and seamless cross border, global internet based transactions.

Please visit our website or watch our explainer video to learn more.

The Need

Convert Uncompensated to Compensated

AVXChange was engineered to address a need in the market to convert uncompensated P2P media file downloads into compensated media downloads by incentivizing P2P file sharing participants to purchase their files. Uncompensated downloads are when intellectual property owners receive no compensation for their work being downloaded. AVXChange file sharing participants are incentivized to compensate IP owners by allowing those sharing the files to profit from their involvement in the distribution network, economically compensating them for the usage of their bandwidth, processing, and storage resources. We believe there are several reasons why many users download content from P2P file sharing networks without compensating IP owners besides the lack of P2P platforms which enable the compensation of IP owners.

Traditional Model Challenges

Current compensated options for audio and video downloads on the internet (when intellectual property owners receive compensation for their work being downloaded) are dominated by a handful of players with exclusive content and centralized server systems. Using this option requires consumers to have several accounts with the various retailers (Netflix, Apple, Amazon, Google, etc.) to acquire all the possible content they may want. Not to mention that not all of these services are available in every country and the media files are often burdened by limiting Digital Rights Management (DRM) restrictions. Often the methods of payment are cumbersome with some payment methods from certain financial institutions or regions left unable to participate in the traditional marketplace. The AVXChange platform will be available in any country and will allow for a user to purchase any content¹ they want through a single interface. AVXChange will also allow the user to own the content and use it on all their devices free of DRM hurdles which make current compensated media file options tedious and complicated to use or share. We believe that all of the challenges associated with the current traditional retail digital download models are significant factors in contributing to uncompensated media downloads.

Market Size

On a global scale, the entertainment and media market was worth 1.72 trillion U.S. dollars in 2015 and is set to rise to 2.14 trillion by 2020². The entertainment and media market includes film, TV, music, internet, video games, advertising, print and outdoor. As far as digital downloads, in the United States, sales of internet video alone are projected to hit almost 20 billion USD by 2021³. The size of the market is growing every year and has already surpassed physical home video numbers. It is the goal of AVXChange to capture some of the traditional compensated download market, but possibly more importantly for IP owners, we are determined to convert a significant percentage of current uncompensated downloads into compensated downloads. AVXChange will offer video, audio, and possibly text based media throughout the world. Data indicates global online TV and movie industry would lose 51.6 billion U.S. dollars to piracy in 2022 alone⁴. The numbers show, and when one considers the size of emerging market countries and their rapid adoption of technology, the global market size for online audio and video entertainment is set to make online entertainment sales one of the largest industries in the world.

¹ AVXChange is a platform which intends to allow users to upload any content they wish to share

² <https://www.statista.com/statistics/237769/value-of-the-us-entertainment-and-media-market/>

³ <https://www.pwc.com/gx/en/industries/entertainment-media/outlook/segment-insights/internet-video.html>

⁴ <https://www.statista.com/statistics/778338/global-online-tv-movie-revenue-loss-piracy/>

Physical Precedence

The idea that a consumer has the right to sell the media they have already purchased is not new, it has existed ever since the time when records were first pressed. When a consumer goes to the store and purchases a Blu-Ray disk, they are able to enjoy that disk on any Blu-Ray capable device. They can then keep it and add it to their collection for later use or sell it to someone else. We seek to emulate this brick and mortar process for digital files over the internet. In the brick and mortar world, a Blu-Ray disk is produced and sold to wholesalers/distributors at certain percentage of retail cost. Of that percentage, a portion goes to the IP owner, and the rest goes to the licensed distributor and manufacturing process. Wholesalers then add a percentage, and finally, retailers will mark up the product to the retail market price. Money is shared throughout the distribution chain. The AVXChange platform will function in a similar way.

The Advantage

Incentives

Once they have purchased the content, the user then becomes an authorized distributor of said content and can begin to earn for sharing that content to other users. Every time a user purchases proprietary content over the AVXChange network, a fixed amount (for now, 60%) is set aside in an account for the IP owner. Of the remaining percentage, 39% will go to reward the file distributors and the authentication nodes, leaving 1% for the AVXChange platform.

A typical purchase will flow like this: an authenticated AVXChange user will be presented with, or search for and locate, media files they may wish to purchase. The media files will be priced similarly to the fiat currency market: they will select to download that product/media file and pay using the AVX cryptocurrency token. The payment is then segmented with a bulk percentage going into the account of the IP owner. The AVXChange distributed network will then return to the AVXChange client a list of all the authorized distributors (AVXChange users who have already purchased the selected media). The client will then begin to download the media from the sources available. The distributors will then be compensated based on the percentage of file data they sent to the purchaser. This will account for 35% of the media cost. 4% will go to pay for the nodes⁵, and the remaining 1% of the cost goes to AVXChange to cover administrative costs.

⁵ Nodes are computers users allocate to support the distributed network

Performance

As the size of the video files increase to meet the higher resolution standards (4k, etc.), the network load also increases. In time, a distributed network will be able to offer higher quality content at higher speeds than centralized server distribution models. The future will offer even higher resolution and added dimension (3D) ballooning file sizes even further. Distributed network distribution is the solution to slower downloads from centralized servers. As more people purchase a particular file on the AVXChange network, there will be more people offering that file, thus increasing the ability to provide that file at the highest speeds possible.

Implementation

AVXChange will be powered by its own token running on its own proprietary network and blockchain. The AVXChange Token (AVX) will be the currency of the commerce on the network. The AVX tokens may be exchanged for other cryptocurrencies at the given exchange rate at the time. Initially, the AVX tokens will be distributed internally within the organization. As the network nears beta stage, 5% of the tokens will be offered to one buyer or group of buyers to help fund the release of the platform. The funds raised will be for the purposes of finalizing the network node software, the client application, back end software/interface, and platform marketing. An Initial Coin Offering (ICO) will be planned to coincide with the release of the software and opening of the network to the public. AVX tokens will be earned by sharing media as well as by acting as a node which supports the network infrastructure. Like most other cryptocurrencies, AVX will be limited in the number that will be released so they should eventually appreciate in value do to their finite nature. As the network is used, a large percentage of the tokens will be parked in the accounts of intellectual property owners, even further reducing the circulating supply of AVX tokens. The cost of content will stay competitive with fiat currency based market competitors. Hypothetically, the purchasing power of the AVX token will increase over time allowing for the purchase of more content for the same number of AVX.

Technology

The AVXChange network will be a custom built platform which includes the distributed ledger/database, cryptocurrency, a layered node network, a client application, and backend administrative application/interface. The ledger and cryptocurrency will be secured using cryptographic algorithms, blockchain type hashing, and custom consensus methods. From the onset, the design and development of the platform has had the following goals:

- Incentive based
- User identity protection
- Immutable transaction transparency
- Distributed ledger
- Equitable
- Scalable
- High performance
- Cryptocurrency based

Most of the technology implementation specifics will not be given as there are other entities trying to develop similar platforms. For security reasons this information will not be provided until network launch time at the earliest.

Competition

Traditional

It should be obvious to most that the aforementioned handful of players with exclusive content and centralized server systems are the current main competition. 20th century broadcast (terrestrial RF, Cable, and Satellite) systems are also still competing for people's viewership when considering entertainment distribution in general. As digital natives⁶ become the dominant demographic in the marketplace, these 20th century broadcast systems, scheduled, non-interactive ways of media distribution should lose relevancy.

⁶ <https://www.techopedia.com/definition/28094/digital-native>

Online Streaming

Companies such as Netflix, Hulu, YouTube, etc. offer a significant amount of competition to our business model. We do not anticipate displacing these entities, but rather see ourselves as offering a complementary product. Some of the primary differences between our models are, we offer an unlimited selection of digital media to be owned and used at the consumers discretion, with or without network connection. Streaming services most often allow you access to varied licensed content available for a fixed amount of time (NetFlix) or monetize content through the use of advertising (YouTube). (This advertising often interrupts the content stream.) Users of the AVXChange network will not be subjected to advertising which interrupts their content as they will be paying for the content. AVXChange users are also economically incentivised to participate, where there is no economic incentive to participate in online streaming service other than the relative low cost of entry.

P2P

Existing uncompensated free P2P networks should be considered competition. The most popular P2P file sharing protocol currently is the BitTorrent method, where centralized tracking points are used to notify users which other users have the file they are looking for. BitTorrent is popular because it is effective at disseminating popular files in a rapid way. It allows users to share bits of the file as soon as they receive them, thus creating the torrent like effect. This feature is not new to BitTorrent, and has been in place since as far back as 2000 on networks such as Napster and Gnutella. A significant problem facing BitTorrent is the fact that after people complete their download they most often stop sharing the file. Very often, downloads do not complete because there are no seeders (people who have the entire file) left on the network. This problem is eliminated on the AVXChange network where users are economically compensated for sharing their files. As far as competition in the distributed systems, cryptographic tokenized file digital media distribution platforms, there is only one worth mentioning.

Blockchain-Cryptocurrency-Incentive Based-P2P File Sharing

Tron / BitTorrent

A company / platform based in Singapore appears to be trying to do something similar to AVXChange, though details on their implementation have been not very specific. The company / platform is called Tron⁷, headed by Justin Sun⁸. Though, Tron is billing itself as a multipurpose platform, “one of the largest blockchain-based operating systems in the world”. They have a coin, TRX, with a market cap of around 1.7 billion US (Jan, 2018). Tron has demonstrated an interest in monetizing the torrent process using cryptocurrency. They recently purchased the company/platform BitTorrent (for 127 million US)⁹. The exact methods and algorithms they will be using are not know at the time of of this writing, though they have released a BitTorrent Token white paper¹⁰. The BTT white paper, mentions the challenge they face trying to make their incentive program backwards compatible with their existing protocols and client application. It looks like they plan on doing both things. It is worth noting that the AVXChange platform is a licenced technology from AVXIP¹¹ (Audio Video eXchange over Internet Protocol), whom have been developing the protocol as far back as 2008.

The Audio Video eXchange over Internet Protocol was conceptualized as an incentive based P2P file sharing solution since inception. In fact it was the need for the incentive based mechanism within the distributed computing, resource sharing, P2P environment, that was the catalyst for and the cornerstone of the protocol. As AVXChange is based on the AVXIP protocol, and is their exclusive licensee, AVXChange is free from hurdles faced by BTT in that we have no need to re-write protocols which never intended to use incentives, nor do we need to be concerned with backwards compatibility. Also, BTT will be running on the Tron platform which looks to be designed as a multi purpose solution ‘blockchain-based operating solution’ rather than a specific purpose driven platform. The AVXChange team does view Tron as a competitor, though perhaps more importantly, we see them as validation of the concept of adding incentive schemes to P2P file sharing systems. We believe we will be able to outperform them through extensive prior strategizing, development, and a better approach to market.

⁷ <https://tron.network/>

⁸ <https://www.linkedin.com/in/justinsuntron>

⁹ <https://www.engadget.com/2018/07/25/blockchain-company-tron-buys-bittorrent/>

¹⁰ https://www.bittorrent.com/btt/btt-docs/BitTorrent_Token_Whitepaper.pdf

¹¹ <https://avxip.com>

Upfiring

Upfiring¹², should also be considered a competitor in the area of blockchain, cryptocurrency, incentivized P2P file sharing. Even though we consider them a competitor we would like to point out a number of significant differences between our approaches which make Upfiring significantly different. First as of the writing of this white paper, Upfiring (in Beta) is set up to more closely resemble the torrent process, namely, there is no central search mechanism. The upfiring files will be published independently by individuals on different web pages, or portals, much like torrents are today. You would use Upfiring when you stumble upon and want to download a file you find on an independent web-site or repository. As all Upfiring files to be used on the network are encrypted, another key difference is a user only pays UFR (Upfiring token) when a user decides to decrypt the file they download. There seems to be no mechanism in place to compensate people who share the files for the bandwidth they provide based on how much data they provided like AVXChange does. Upfiring was also made to run on top of the Ethereum network using smart contracts, whereas AVXChange is running on our own custom platform/network built specifically for our application. Running on the Ethereum network provides an established network with good security for Upfiring, and also enables them to quickly develop a project, however running on Ethereum also limits their scalability and transaction rates to that of the Ethereum network. Since the AVXChange platform is built specifically for the purpose of incentivized P2P file sharing which compensates all parties, it's built to scale and allow for thousands of micro and macro transactions to occur virtually simultaneously. Because Upfiring is running on the Ethereum platform there is also a cost associated with that, gas, so users of Ethereum are required to keep ETH (Ethereum tokens) deposited in their Upfiring client application as well as UFR.

Team

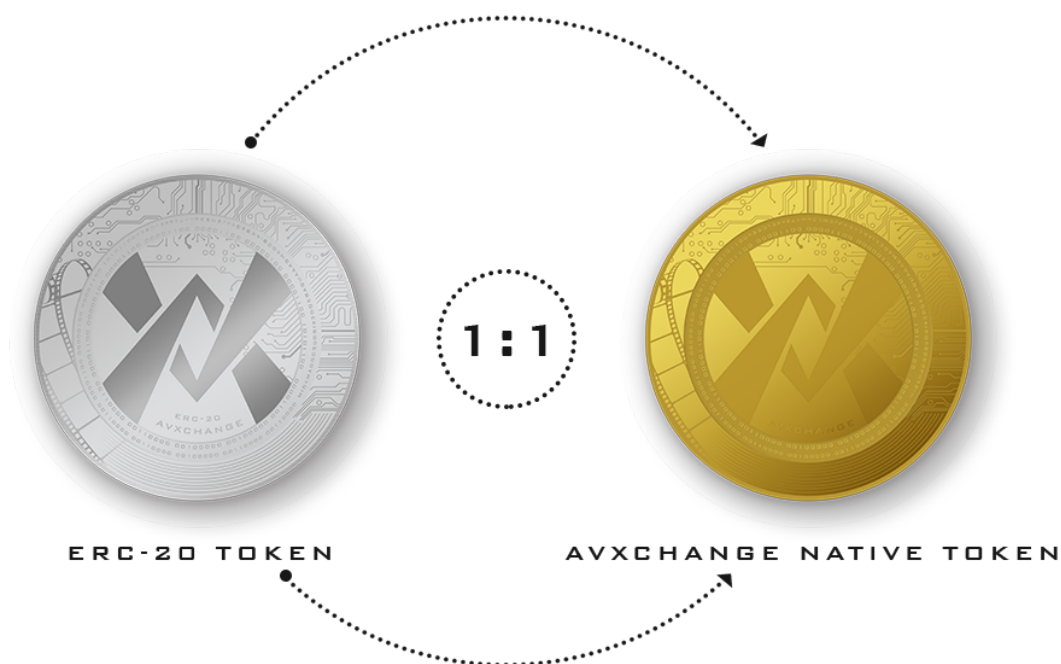
The AVXChange team is comprised of a talented and driven multinational group of computer scientists, engineers, designers, and enthusiasts dedicated to building a transparent, fair, and incentivized P2P file sharing platform which compensates all parties involved in the distribution of intellectual property. The general public can expect more specific team member information around the time the public Beta is released. The development of the application is being done by Resonant Marketing Group.

¹² <https://upfiring.com/>

Fundraising Details

- In an effort to diverge from the common ICO, raise money for concept, AVXChange has been funded by founders. Only a small percentage of coins may be sold to finalize development, and marketing prior to release.
- In Q1 of 2019 we created 20,000,000,000 ERC20 AVX Tokens to act as placeholders until the main net and Native AVX tokens are available.
- Each of the ERC20 AVX tokens will be worth the same amount of native tokens when they are released. There will be a period when the ERC20 AVX tokens will be traded in for native AVX tokens at a rate of 1:1.
- 5% of coins may be sold in Q1 2019 to finalize development and for a marketing push. It would be preferred to get these funds from a single source though we may offer a very early pre-sale to the general public at an estimated market cap of \$20m US (fiat). Our ICO in Q3 price will be at \$50m US (fiat) market cap evaluation

ERC-20 AVX Token to Native AVX Token Exchange Diagram



Token Distribution

- Total 20,000,000,000 AVX
 - o 55% (6,000,000,000 AVX) - Public via ICO to coincide with official platform release Q3 2019.
 - o 5% (1,000,000,000 AVX) - Private party or general public via presale
 - o 5% (1,000,000,000 AVX) - To be given to beta testers, key influencers, and through bounty programs in beta stage to build network.
 - o 5% (2,000,000,000 AVX) - Development team
 - o 20% (8,000,000,000 AVX) - Founders
 - o 10% (2,000,000,000 AVX) - Entity (AVXChange)

Total=20,000,000,000 AVX

Founder Vesting

A vesting schedule is to ensure there are no major dumps of tokens occur and that all interests are aligned, aligned specifically around the interest of making sure AVXChange continues to develop and lead in the market and that the tokens maintain or gain in value with as few dips in value as possible.

The founders will be bound to the following vesting schedule: Founders and development team will have 2 years vesting with 6 month cliffs. This means 25% of their tokens will mature each 6 months after ICO. In other words, founders and developers will not be able to liquidate any tokens until 6 months after ICO date, at which point 25% of their tokens will be unlocked. This will follow for the next eighteen months until all tokens have been released to founders and development team.

Tentative ICO/Vesting Schedule				
ICO	Cliff 1 (25% Released)	Cliff 2 (25% Released)	Cliff 3 (25% Released)	Cliff 4 (25% Released)
9/9/2019	3/9/2020	9/9/2020	3/9/2021	9/9/2021

Timeline

- 2007 AVXIP domain registered
- 2008 AVXIP Initial business plan created
- 2012 began to conceptualize the use of blockchain and cryptocurrencies as solutions to solve legal and technical obstacles
- 2016 integrated blockchain and cryptocurrencies into the design / implementation
- 2018 Q2 AVXIP makes agreement for RESONANT MARKETING GROUP to develop the platform.
- 2018 Q2 AVXIP makes AVXChange the first and exclusive platform licensee for a period of at least 3 years.
- 2018 Q2 AVXchange.io, AVXchange.org, AVXchange.net, and AVXchange.info, AVX-Change.com registered
- 2018 Q4 Websites launched and explainer videos released for AVXChange and AVXIP
- 2019 Q1 Begin to build social sites/network
- 2019 Q1 Release beta for testing
- 2019 Q1-Q2 Sell 5% of tokens to help fund software finalization and marketing push
- 2019 Q2 Give up to 5% of tokens away to key influencers and beta testers to work with and give exposure to the platform
- 2019 Q3 Launch official client application
- 2019 Q3 ICO to coincide with official client application release
- 2020 Q1 Reach 100,000 users
- 2021 Q1 Reach 1,000,000 users
- 2022 Q1 Reach 10,000,000 users
- 2023 Achieve 100,000,000 users

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On the shoulders of giants

A dedication to the long list of scientists, developers and innovators who have come before, made discoveries, identified problems and needs, and developed solutions. We hope to honor your work with ours and continue in the effort to provide knowledge, truth, and innovation.