

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<sup>TM</sup>**

Audio Video eXchange

*White Paper*

<https://avxchange.io>

AVXCHANGE August 18, 2020 v0.71 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 content<sup>1</sup> 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 2020<sup>2</sup>. 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 2021<sup>3</sup>. 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 alone<sup>4</sup>. 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.

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

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

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

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

## Physical Precedent

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 books were first printed and records were first pressed. For example 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 can now emulate this process in the digital world but with key differences. The main difference being, in the physical world, when a book, record, DVD, or BluRay changes hands/is sold second hand, the IP owner gets nothing. On our network every time a copy of the digital product is sold, the IP owner will get their percentage of the sale. The users who supply the digital product are only able to do so because they themselves have previously purchased the same media file. In the physical world, a Blu-Ray movie disk is produced by a manufacturer and sold to wholesalers/distributors at a certain percentage of retail cost. Of that percentage, a portion goes to the IP owner, and the rest goes to the manufacturer. 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, with users acting as the distributors except for a majority of the money will go to the IP owners.

## The Advantage

### Incentives

Once a user has purchased a media file, the user then becomes an network 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, 40% will go to reward the file distributors and the authentication nodes.

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 user 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. The remaining 5% will go to pay for the network nodes<sup>5</sup>.

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<sup>5</sup> 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.

## Transparency

All sales and distribution information will be tracked and stored in a distributed ledger which is agreed on and viewable by all parties. No longer will content producers have to take the word of digital retailers as to the number of sales they made, or the number of streams of their work. Now they will know exactly how many times their work has been purchased and how much they have made with certainty. The users sharing the files will also know how much they have shared because all the nodes sharing will need to agree on the amount of data shared by each during each transaction. Once these transactions and micro transactions have been entered into the ledger, they are immutable, and can not be changed.

# Implementation

AVXChange will be powered by its own native token running on its own proprietary network and blockchain. AVXChange will use two different token types. An ERC20 based token, (AVX)<sup>6</sup> to be used as a security token. and a native token to be used by the network for commerce. This represents a change of plan. The ERC20 tokens were originally planned to be placeholders for the utility tokens. With changing legislation regarding definition of tokens by various jurisdictions and regulatory bodies it has been decided the ERC20 token will be used as a potential security type token. Almost 99% of ERC20 AVX tokens remain in the hands of founders, with the remaining tokens only given away as promotional offerings. 5% of founder tokens will be offered to private party individuals to join the founders and the investment will be for the purposes of finalizing the network node software, the client application, back end software/interface, platform marketing and preparation for Security Token Offering regulatory filings. With regard to the native AVX utility token, an Initial Exchange Offering (IEO) will be planned to coincide with the release of the software and opening of the network to the public.

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<sup>6</sup> <https://etherscan.io/token/0x9e984f28257ae9c57918515627b078deab4e11fe>

# 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 the following goals:

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

To solve some of the technical challenges many distributed application developers have faced integrating applications with distributed ledger/blockchain technology, AVXChange is planning on using a number of innovative approaches. These approaches include network layers, off-chain transaction auditing/reporting, multiple distributed ledgers (sidechain) to name a few. For the most part, the technology implementation specifics will remain guarded until we are closer to release at which time we are considering opening up source code for peer review and possible contributions.

# 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. 20<sup>th</sup> century broadcast (terrestrial RF, Cable, and Satellite) systems are also still competing for people's viewership when considering entertainment distribution in general. As digital natives<sup>7</sup> become the dominant demographic in the marketplace, these 20th century broadcast systems, scheduled, non-interactive ways of media distribution should lose relevancy.

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<sup>7</sup> <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 relatively 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 not been very specific. The company / platform is called Tron<sup>8</sup>, headed by Justin Sun<sup>9</sup>. 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)<sup>10</sup>. 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 paper<sup>11</sup>. 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 AVXIP<sup>12</sup> (Audio Video eXchange over Internet Protocol), a protocol conceived back 2007.

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.

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<sup>8</sup> <https://tron.network/>

<sup>9</sup> <https://www.linkedin.com/in/justinsuntron>

<sup>10</sup> <https://www.engadget.com/2018/07/25/blockchain-company-tron-buys-bittorrent/>

<sup>11</sup> [https://www.bittorrent.com/btt/btt-docs/BitTorrent\\_Token\\_Whitepaper.pdf](https://www.bittorrent.com/btt/btt-docs/BitTorrent_Token_Whitepaper.pdf)

<sup>12</sup> <https://avxip.com>

## Upfiring

Upfiring<sup>13</sup>, 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 transactions, Ethereum 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 a talented and driven multinational group of computer scientists, engineers, designers, and enthusiasts dedicated to building a transparent, fair, and incentivised 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.

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<sup>13</sup> <https://upfiring.com/>

# AVXChange Korea

AVXChange Korea represents a strategic partnership with Korean business leaders to provide necessary financing as well as initial market proof of concept and to aid in registration for AVXChange planned AVXChange security token offering. AVXChange and AVXChange as entities are held by founders at the same percentage and considered sister companies. All tokens issued are tokens which will be associated with and work with AVXChange as a global network and brand whether tokens are issued from AVXChange or AVXChange Korea.

## Fundraising and Token Details

- In an effort to diverge from the common ICO/IEO, 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.
- AVXChange is currently preparing for a STO which will be regulated in Singapore and USA by MAS and The SEC respectively.
- Current ERC20 AVX tokens will be exchanged for AVXS STO tokens upon STO approval with MAS and SEC.
- ERC20 AVX currently being held from airdrop and bounty campaigns will be exchanged for AVXS(STO) at a rate that will be determined by the expected company income for 3 years post launch. AVXChange will share the exact calculation method and rate of exchange once it is deemed necessary and by our discretion upon legal counsel.
- If a current ERC20 AVX holder chooses to not exchange AVX for AVXS, they will be able to exchange with the AVXChange native AVX tokens upon official network launch through the AVXChange application.
- 50,000,000 AVXS Tokens will be minted for the STO. 20,833,333 AVXS will be sold during the STO period. The remaining 29,166,667 AVXS will be held by AVXChange Global.
- 1 AVXS will be valued at \$1.00USD during the STO fundraising phase.
- 50% of company net profits will be allocated to holders of AVXS.
- To facilitate STO listing and finalize beta development, we are planning on bringing additional founders on board.

# Token Distribution and Fund Distribution

- Total 20,000,000,000 AVX
- 50,000,000 AVXS (Security Token)
- 2.5% AVX private sale to raise funds for STO registration that will be converted to 20,833,333 AVXS
- 1% AVX to Airdrop and Bounty participants
- 96.5% AVX held by founders and company to convert to AVXS and convert to Native Tokens

## Fund Distribution

- Sales : 2.5%
- Operation : 15%
- Marketing : 15%
- Ecosystem Contribution : 15%
- Company Reserve : 22.5%
- Team & Advisor : 15%
- Founder : 15%

## 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 official application launch. In other words, founders and developers will not be able to liquidate any tokens until 6 months after the official launch 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 IEO/Vesting Schedule				
IEO	Cliff 1 (25% Released)	Cliff 2 (25% Released)	Cliff 3 (25% Released)	Cliff 4 (25% Released)
Q2 2021	+6 months	+6 months	+6 months	+6 months

# 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 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
- 2020 Q3 Sell 5% of tokens to help fund software finalization and marketing push
- 2020 Q4 Release beta for testing.
- 2020 Q4 Open code for public audit.
- 2021 Q2 Launch official client application.
- 2021 Q2 IEO of Native AVX utility token to coincide with official client application release
- 2021 Q3 Reach 100,000 users
- 2022 Q3 Reach 1,000,000 users
- 2023 Q3 Reach 10,000,000 users
- 2025 Achieve 100,000,000 users

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<https://resonantmq.com>

## 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.