



VIDSTREAM®

Introducing the
VIDSTREAM ecosystem

WHITE PAPER PRESENTATION

VIDSTREAM©

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INTRODUCTION

Online media-streaming is one industry that has shown vivid signs to be the perfect replacement of traditional telecast and radio broadcast. Researchers tracked 165 online video views and 1.53 billion logins over a year, and they found that total TV viewing over the internet grew by 388 percent in mid-2014 compared to the same time a year earlier. With websites like YouTube, the use of online media streaming has been on the increase. People now have access to a massive archive of media files, and even live broadcast.

Like every traditional online base technology there are numerous limitations in the way we stream media files; this range from security issues, streaming speed, and monopoly of control by companies that run such platforms. Streaming is absolutely on their terms, and the underlying procedures on how these videos are accessed are their exclusive reserve. Also, the data controlled by these platforms are usually vulnerable to damage or compromise since they operate a centralized database and control server, which can be attacked or hacked.

The entire concept of any blockchain based technology is built immune to such limitations stated above. From a decentralized database to the science of cryptography and a blockchain system of sharing data; all of these systems are several steps further from the conventional way of sharing data and interacting on the web.

Vid-stream is a media streaming platform that is proposed to be built based on the blockchain technology. It is meant to operate a decentralized database and control server. Also like all blockchain based system, it is meant to be self-regulated and as transparent as can be. From the pioneering blockchain based system, Bitcoin; Vid-stream will be built several steps away from its limitations.

This paper is written to give a clear and concise plan on how this Vid-dream will become a reality, the team behind this dream and the benefits of participating.

Also due to the complexity of this project the vid team thought it wise to execute the project in phases, all of which were clearly explained in this paper.

THE BLOCKCHAIN CONCEPT

While the internet changed the way we transfer information, the Blockchain system has and is changing the way we transfer information, the way we store information, the way we secure our information, the way we transfer money and most importantly the transparency in all of these processes.

One of the greatest pitfalls in the way we store and manipulate data on the internet is; like laying all eggs in one basket these eggs which are data, in this case, are vulnerable to attack and destruction. This is something we have seen over the years in our use of the internet; a central database or a single channel of information getting hacked and information or money been stolen or manipulated. Also, we have seen the monopoly and manipulation in the flow of these data or values by the landlords of all these databases or money vaults. But with the Blockchain system, it is metaphorically laying or placing the same eggs in several baskets which are data in this case. Since data can be cloned or duplicated this allows for this data to be available in many locations at the same time; in other words, the database is decentralized.

The blockchain is a continuously growing list of records, called blocks, which are linked and secured using the science cryptography. Each block contains typically a hash pointer as a link to a previous block, a timestamp and transaction data. By design, Blockchains are inherently resistant to modification of its data. Functionally, a Blockchain can serve as "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way." For use as a distributed ledger, a Blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks and a collusion of the network majority.

Decentralized consensus has therefore been achieved with a Blockchain. This makes Blockchain potentially suitable for the recording of events, medical records, and other documents management activities, such as identity management, transaction processing, and documenting provenance.

The first distributed Blockchain was conceptualised by Satoshi Nakamoto in 2008 and implemented the following year as a core component of the digital currency bitcoin, where it serves as the public ledger for all transactions. The invention of the Blockchain for Bitcoin made it the first digital currency to solve the double spending problem, without the use of a trusted authority or central

server. The Bitcoin design has been the inspiration for other cryptocurrency or Blockchain based technology like this one.

Benefits of any Blockchain based system

Several benefits come with the Blockchain technology, for the sake of this whitepaper, we would be covering the most important aspects and also those that would have an enormous effect in the way we stream multimedia files.

SECURITY

Cyber-security has been one area of great concern since the early days of the internet up till date. Internet based companies have sunk billions of dollars trying to improve the security of what they do from hackers and other forms of complications that can compromise the security of what it is they do.

The idea behind a multi-local control system (which is a decentralised database and control server), and a constantly changing users ID, concealed with the science of cryptography makes any blockchain based system impossible to hack or encounter a database crash or complication.

There has always been the problem of reliably exchanging information in data science, especially in an unreliable network where some of the users cannot be trusted. Blockchain technology solves this issue by effectively handling the challenge. The security model of a blockchain will assume some users will attempt to manipulate valid data and create friction by generating false data. Blockchain platforms ensure data integrity by using a variety of consensus and messaging techniques. It is achieved by preventing valid data from being deleted or modified secretly, and by rejecting invalid data. This type of technology is worthy as it offers three significant advantages when combined with traditional cyber defence strategies.

To begin, blockchain platforms assume compromise from trusted insiders and adversaries, instead of trying to defend boundaries from compromise. The basis behind their design is to ensure data is protected in a contested cyber environment.

Secondly, they embrace the overall power of the network in a bid to ensure effects of malicious actors are resisted. This simply means that; the system will take advantage of the asymmetry of many against the few.

Lastly, security provided by blockchain platforms are not dependent on trust or secrets. There are no administrators to be trusted, or passwords to be exposed.

Blockchain platforms offer an inherent security function. Therefore, they are capable of operating securely and successfully on the open internet as a result of these advantages. This can be done while being fully exposed to hostile actors and without a trusted central authority.

EMPOWERED USER

The algorithm of any blockchain based system ensures that decisions are taken by the community, that is a balloting system by members of the community to confirm every transfer or transaction. Also due to the blockchain system, decision or consensus reached cannot be changed by a few group, but subject to communal balloting.

HIGH QUALITY DATA

Blockchain data is complete, consistent, timely, accurate, and widely available.

TRANSPARENCY AND IMMUTABILITY

Changes to public Blockchain are publicly viewable by all parties creating transparency, and all transactions are immutable, meaning they cannot be altered or deleted.

THE FUTURE AND BLOCKCHAIN TECHNOLOGY

In just eight years of its existence, the blockchain technology has created and is creating a rippling effect in the way we exchange value and transfer data and generally in the internet of things. In most recent times, it is beginning to show great influence and promises in other industries. Some of which are:

Banking:

Although the use of cryptocurrencies like; Bitcoin, and several other coins have been able to solve the transparency, autonomy, security and several other challenges in the way we bank. These solutions are still within the community of those who are open to the validity of these cryptocurrencies.

But from valid speculations, we are beginning to perceive the following challenges in the global banking industry

Elimination of intermediaries: With blockchain technology, people will be able to transact businesses together as free agents instead of under a hierarchy of intermediaries.

Faster transactions:

Transactions can take several days for clearing and final settlement, especially outside of working hours. With blockchain technology, transaction times can be reduced to just minutes and are processed 24/7.

Reduction in operational costs:

By eliminating third party intermediaries and overhead costs for exchanging assets, blockchain present exciting potential in its ability to massively reduce transaction fees.

High levels of transparency and security:

Any changes made to public Blockchains are publicly viewable by all parties. This creates transparency and process integrity as users can trust that transactions will be executed exactly as the protocol commands. Further, all transactions are immutable – meaning they cannot be altered or deleted.

Cybersecurity:

Blockchain platforms break many of the flaws associated with traditional network security. First, they assume threats from outsiders and insiders. Secondly, they rely on cryptographic data structures instead of failure prone secrets. This, in turn, offers foundations on which to add security protocols. And lastly, they use algorithmic consensus mechanisms. Such properties render them fault tolerant and able to align the efforts of honest nodes to ignore fraudulent ones. All of this makes blockchain technology the long awaited puzzle piece to the problem of cyber security.

THE BASIC CONCEPT OF MEDIA STREAMING

The idea of streaming media is less than two decades old, and yet it has experienced impressive growth. Using streaming technologies, the delivery of multimedia data over the Internet now reaches many millions of people. Using their personal computers, offering live sport, music, news, entertainment and on-demand is now just a few clicks away. With broadband networks being deployed in many countries and media file compression technologies advancing rapidly, the quality of media services over the Internet is increasing rapidly. A variety of user terminals can now be deployed, ranging from office desktops to personal digital assistants (PDAs) and mobile phones.

There are two modes for the transmission of media over the Internet:

The download mode: the user can play the downloaded file only after the whole file has been downloaded from a server to his/her computer. The full file transfer, in the download mode, can often suffer unacceptably long transfer times, which depend on the size of the media file and the bandwidth of the transport channel. For example, if downloaded from <http://www.vidstream.com>, an MP3 audio file encoded at 128 kilobits/s and of 5 min duration will occupy 4.8 MB of the user's hard disk. Using a 28.8k modem, it will take about 40 minutes to download the whole file 2.

The streaming mode: this could either be a live streaming or archived streaming. It involves the continuous downloading and playing of a media file at the same time without waiting for a complete download and also without saving the file during this process. In this process, the file is

broken into bits which constitute little kilobytes which are downloaded from a central database of the media streaming site. Or it could be from a device where it is being recorded in real-time (that is it is continuously being recorded, uploaded online and played by the end user in all of this process); this is accessed from the web server of the live media streaming site through the media file's URL. The entirety of this paper is centred on this streaming mode. Below these two streaming methods are thoroughly explained:

Live streaming

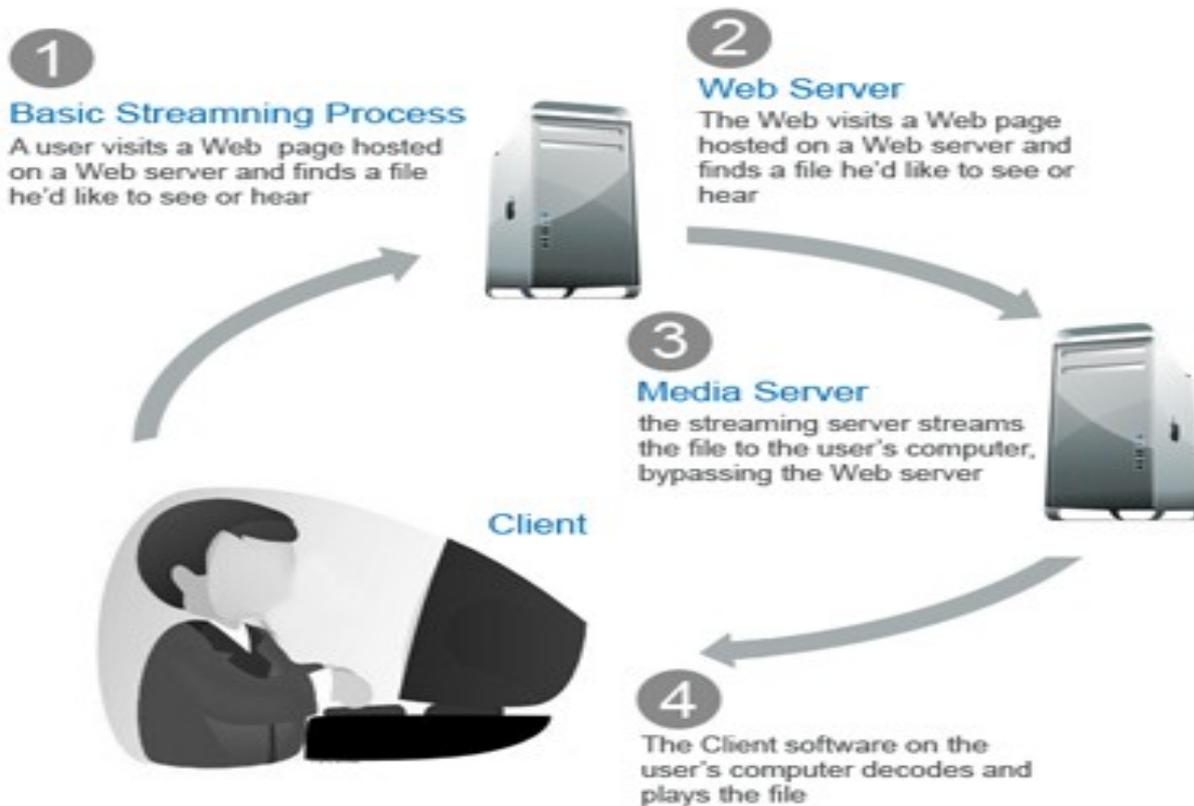
This involves the access and playing of a media file that is at that time being broadcasted over the internet. This is made possible using real-time protocol (RTP) (which is an internet transmission protocol designed for end-to-end real-time, transfer of streaming media), a real-time streaming protocol (RTSP), or a real-time transport control protocol (RTCP).



Archived Streaming

In this type of streaming, the media file is uploaded online to the database of a media streaming site. These files could further be multiplied into several versions and these separate files are all chopped into tiny bits whose usually sizes are several kilobytes. Thus whenever any person on the web requests for this file with its unique URL, the version requested is downloaded from the database of the media streaming site to the person's device in a serial succession of this tiny bits. This data is instantly converted to a comprehensive media file through a plugin in the web browser of the person's device and this files after being played are discarded. These streams of tiny bits continue to flow, and the rate of this flow is determined by the network of this user, the video quality requested and the accessibility of the media streaming site's database. A perfect example of an archive streaming media site is YouTube.

HOW STREAMING VIDEO & AUDIO WORK



THE SETBACKS IN THE WAY WE STREAM

Several limitations have plagued the traditional way we stream. All of these restrictions make a lot of available media files inaccessible, compromised or sometimes lost. Below are some of these severe drawbacks in the traditional way we stream.

Vulnerable media files

Since most streaming files have full access to manipulate or do with all media files in their database as they see fit; the authenticity of such files are in this regard entirely at the mercy of such site owners. Also, since the streaming channel is a single line of uploading to a central database and download, this usual practice like every other web file or information transfer makes it vulnerable to hacking.

Non-transparency

The total process of how the search engine protocol of some of these big media streaming site's streaming protocols are vague to the end users and owners of these files.

Absolute control by media streaming sites

While the owners of these sites will say otherwise, the fact remains that all media file streaming is done absolutely on their terms; thus the owners of such videos have little say over the streaming process.

A centralised database

This is the one disadvantage in the way the internet works it makes all that we transfer on the web vulnerable to attack and accidental damage.

DECENTRALIZED OR CRYPTO-MEDIA STREAMING

Just the way crypto currency has effected a continuous revolutionary ripple in the way we bank and exchange value, so also, crypto-streaming would create an even greater effect in the way we stream media files be it audio, video or multimedia files. This is the future of video streaming. The viability of this idea is what the vid-team has for months been researching about; in other words, this is the "vid-dream", and you are more than welcome in making it a reality.

The traditional way of streaming which was explained in the previous chapter has always and still is through a central channel or database. Also, the entirety of what the blockchain technology revolves around is decentralization and multiplicity of databases and channels to access a file, which is also transparent, immune to attack and exclusive personalisation by any entity. Thus in the light of media streaming, this involves the use of the same blockchain science, cryptography and incentives to data maintainers (mostly known as crypto-currency miners) for balancing or solving ledger math or imbalances and finally a transactional fee to wallet providers.

The process like all blockchain network would involve three categories of people in all transactions or data transfer which are:

- **The users:** Consisting of the person sending the data and the person receiving the data.
- **The miners:** These are those that confirm data transfers, balances (or solve ledger problems which subsequently generates or mines a specific percentage of cryptocurrency to the wallet of the miner who solves the problem first), and they all keep record of the data transfer and data content.
- **The wallet providers:** these are web based platforms that act as wallet providers or provide applications on which users can engage in the transfer of cryptocurrencies. They charge a

little percentage for every confirmed transaction together with a specific number of miners depending on the cryptocurrency's network rule.

THE FUTURE OF DECENTRALIZED MEDIA STREAMING WITH VID-STREAM

The vid-team through a series of thorough research on the growth of the blockchain technology and the current media streaming industry has been able to project the welfare of this growing industry in relation to an ever rising and promising piece of art; the blockchain technology. Below are some likelihood in this promising new way of media streaming:

- **Decentralized media streaming database:**
One potential catastrophe that can befall any media streaming site like YouTube is the destruction of its database; that would mean a great loss to many users, but for a decentralized media streaming site like vid-stream that wouldn't be a problem, since it has multiple databases around the world. Also, since miners are likely to be in every nook and cranny of the globe the speed at which this media files can be accessed would be unthinkable.

- **Limitless Streaming Privileges:**
Every media streaming site currently on the web has a size limit of videos that can be permitted; whether it's YouTube or any other. With vid-stream, such limitations won't be necessary since the database would be a pool of large data centers all over the world with large databases.

- **Reasonable and balloted terms of restrictions:**
The terms for restrictions in the vid-stream network would be decided by a poll from participants of the platform making every decision based on equity.

- **Absolute transparency:**
Every blockchain based network is usually open source and designed with a transparency in the way activities are carried out in the platform. Vid-stream also operates this way, every video is open to everyone and no video can be deleted by any individual unless it is in violation of the agreed rule of the vid-community.

- **The system can't be put down:**
So long as the internet exists no blockchain based system can be put down by any individual, since its existence isn't centralized, except it becomes underused. This is the same model on which the vid-stream system works.

- **Reward system that encourages:**
Unlike traditional streaming sites, vid-stream's algorithm is written to reward participants for the most trivial task carried out on the platform. For as little as uploading a video on the network, there is a reward for that and for every thumbs-up comes a chunk of vid-coin. This would be well explained in the vid community chapter.

- **High processing speed:**
The vid-stream mining CPU designed for VID miners is targeted to be able to process thousands of videos in milliseconds.

- **Balloting:**
Unlike every other centralized media streaming systems; vid-stream's algorithm allows its members to suggest a change and have any reasonable suggestion voted on.

THE VID ECOSYSTEM

The Vid-stream platform is a decentralized video streaming community that would be built based on the blockchain algorithm; that is there would be no central database where information would be stored, but rather on the PC of those who would be running the vid node on their system (usually called miners).

The vid script is open sourced and can be reviewed and contributed to by any developer in order to improve the platform without changing the initial idea it was built on.

The Vid blockchain would be completely transparent and stand alone; also the vid-team is already trying to partner with Bitmain in order to build vid mining CPUs for the vid-streaming platform which would be able to process thousands of videos within seconds. All videos uploaded to the platform will be encrypted by the miners running the full node and made available on the vid blockchain.

Since the vid-team would be initially responsible for building the platform, they would therefore in that light, be responsible for drafting and implementing the GO-rules for the platform. But all rules made shall be subject to change by the majority of the community, through the VID-Ballot. Besides this initial decision making by the vid-team, the vid-community would be responsible for making key decisions on how the platform is meant to function. These include decisions like; how the vid search engine is going to operate, how videos are going to be ranked, restrictions to the type of videos and regulations regarding video size and quality and many others. This subject was well explained in the community rules section of this paper.

Vid-stream is designed to reward any participant for the minutest contribution made to the platform; even during the Initial Coin Offering (ICO) stage of the project. This incentive intelligence is unique from those of all other blockchain based platform. Since it not only rewards miners but it is intended to reward every class of persons in the community. This subject is well explained in the Participation and reward section of this paper.

The Vid-ballot is a unique part of the vid-algorithm that allows for the voice of every member to count in the community.

Vid community Rule suggestion

The Cardinal ideology of any blockchain based network is absolute trust through security, transparency and efficiency. With vid-stream, we decided to take this whole Ideology to the next level, with a system that allows the users to be the ones making the major decision on what rules will guide the way we interact at vid-stream.

Every rule spelt out in this chapter is suggestive, since they would act as a guide to help you understand and most importantly play the decision role in making the vid-house rule. At vid-stream, every participating member has a say on how the community functions. So in this regard, everyone who participated financially during the Vid-stream's (ICO) is a key descion maker.

Also, rules that affect the welfare or community members are always subject to change through the vid-ballot.

SUGGESTIVE RULES ON HOW VID-STREAM WILL COMMENCE

- Video ranking shall be open and subject to change by a 70% majority of the community.
- Any decision voted on will not be voted for again until 12 MONTHS later.
- Search engine procedure shall be open and subject to change.
- There shall be no pornographic, sexually offensive, hateful or racially biased videos allowed, and if tagged by such by 5% of Vid-Stream users, then such video will be automatically deleted.
- Privacy of searchers shall not be violated.
- The free space-limit permitted for each user shall be 1 Tera Byte. And this limit is subject to change by a 70% majority of the community members.
- If the space-limit of any user is exceeded, then such user will have to pay at least **100** VIDCOINS for extra space. This amount is to be shared across a number of miners housing such videos in their database. In other words, the more miners that have a user's video in their database the more amounts will be paid. All of this will be decided fully during the community development and also subject to change by a 70% majority of the community.

- Materials violating copyright laws shall not be allowed except user does receive all necessary permission from the rightful owner of such content.
- Spam shall not be included in the search result.

Every user counts

At vid-stream users are not treated as customers but as shareholders of the network. That is why the vid-dream is a step further from the blockchain-mantra "decentralised transparent and digitalized."

With a very efficient and sophisticated voting feature; called the VID-BALLOT, every user gets to bring up key suggestions that can be voted on, and if an 80% majority of the community agrees on such, then such changes are automatically implemented by the system.

Since the script is open source every change suggested on that involves an amendment of the algorithm, then an 80% majority of the community must agree.



PARTICIPATION AND REWARD

Unlike traditional streaming sites, vid-stream algorithm is written to reward participants for the most trivial task carried out on the platform. For as little as uploading a video on the network, there is a reward for that and with every thumbs-up comes a chunk of vid-coin.

This would be subsequently updated in the course of this project. But some of the activities that attract reward include:

- Uploading high quality videos
- Referring a new user
- Every positive remark your video earns

THE LITTLE STEPS TO THE FUTURE

(The Vid-roadmap)



This project due to its complexity is designed to be executed in three phases; which are:

Go-stage

This stage will seek to ensure funds are sourced for. This would be done through strategic promotion. At this period, coin tokens and ICO exercise will take place.

Project execution stage

Program Development proper (major algorithm development, script writing and Vid-stream interface design and development) will happen at this stage. All work at this point will be done by the vid-team. Strategic promotion will continue at this phase of the project, but will be targeted towards platform promotion. Vid mining machine orders will be made for customized mining machines for vid-coin mining and data storage.

Trail stage

This stage will commence with the actual launch of the platform. However, the vid-team will be responsible for the management of the platform for the first 4 months of operation until the platform is stable enough to be released to the public. Also at this stage, all mining activities shall be mostly handled by the vid-team's mining farm, after which the farm will be sold out to willing miners. Also during this trial stage, miners will be gradually integrated into the platform as much as is necessary and as is needed. Promotion will continue still at this stage, but all promotion will be targeted towards integrating users as well as miners into platform. All promotion will be targeted in the web environment of such users.

Final Decentralization and Release of open source File

This stage the vid-team will relinquish all control of the platform to the community and also release the vid-stream open source file to the public. Also, the vid team mining farm will finally be sold out to any willing and capable miner.

VIDCOIN FEATURES/USAGE

The Vidcoin and Vid-Stream platform will have very unique features. These will make it stand out. Below are some of the features the vidcoin and vid-stream platform will have:

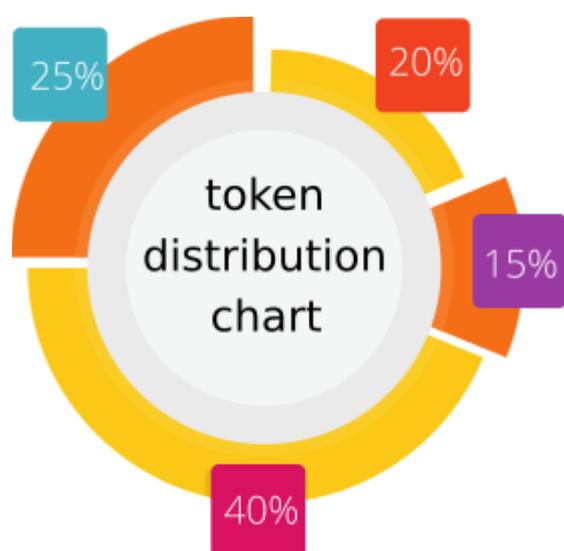
- Vidcoin holders can send and receive Vidcoin in any wave supported platform.
- Vidcoin can be traded on online exchange platforms.
- Vidcoin can be used to purchase video contents.
- Vidcoin can be used to promote video content on Vid blockchain.
- Vidcoin would be able to process up to 1000 transaction per second.
- All vid token holders will be able to use their coins at most 2 months after purchase.
- Vidstream will not be based on the Ethereum blockchain to avoid high price volatility.
- Vidcoin will have it's own unique blockchain where all transactions will be carried out.

TOKEN SALES

All Vid token holders will be able to transfer their vidcoin to any Wave-compatible wallet. Vid-token holders will be able to sell their coin to other individuals that are interested in purchasing it based on the seller's price. Also, the coin would be available for purchase and trading on exchanges like bittrex, bitfinex, poloniex etc.

Due to recent laws in China and the USA by their respective financial regulatory bodies prohibiting citizens of these countries from participating in ICOs, we appeal to interested citizens of these countries affected to carefully study this guide and participate with description.

ALLOCATION OF TOKENS



- Pre-mined coin: 1,000,000,000 Vidcoin
- Pre-sale / Early adopters: 25%
- Public Sales: 40%
- Rewards / Promotion: 25%
- Team: 15%

CONCLUSION

While this is still a proposition that is well planned out, we the members of the Vid-team are convinced of this possibility that has the potential to reshape the way we stream media files on the internet.

Although this would be the end of many businesses, it definitely would usher in new opportunities in the multimedia streaming industry for content providers especially.

In this regard, we are imploring anyone who believe in this revolutionary possibility to come aboard the vid-dream team and make any possible contribution to make this dream a reality.