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April 12, 2018
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BIBLEPAY

CHRISTIAN CHARITY CRYPTOCURRENCY

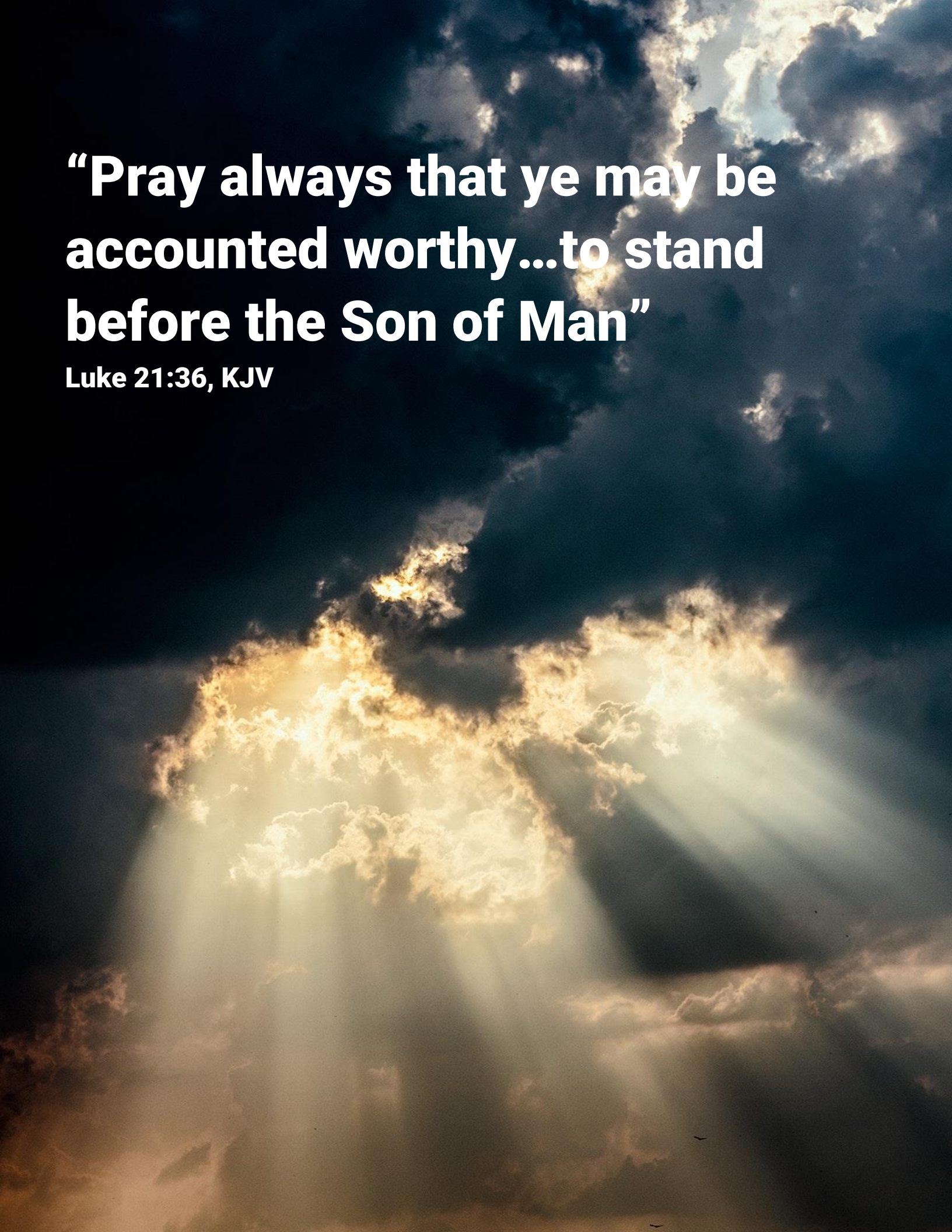Building Community

Global Efficiency

Deflationary

A Revolutionary Blockchain Solution

Spreading the gospel, supporting those in need, and enjoying a deflationary investment through decentralized autonomous charity

https://www.biblepay.org

"Pray always that ye may be accounted worthy...to stand before the Son of Man"

Luke 21:36, KJV

Contents

Introduction

BiblePay (BBP) serves both as a decentralized autonomous charity, and as an investment. It combines many of the features of other cryptocurrencies such as Dash and Bitcoin with unique community-building features and a revolutionary approach to avoiding the irresponsible waste associated with typical heat mining. So much more than simple wealth generation, BBP endeavors to create a better world and show God's love to others via revolutionary technology.

PROBLEMS WITH BLOCKCHAIN TECHNOLOGY

Existing blockchain technology takes one of several forms, each of which has their own difficulty. Proof-of-Work (POW) systems suffer from extremely poor electrical efficiency, while Proof-of-Stake (POS) systems have inherent flaws in their ability to regulate bad actors. In addition, heat mining for most blockchain-based coins or tokens has led to the development of specialized hardware-based mining rigs that are outside of the reach of most individuals. Bitcoin alone generates more electricity than many countries around the world. Add to this the low-trust environment of lack of accountability, shady ICOs, significant pre-mining, and it is not hard to see why so many are looking for alternatives.

BIBLEPAY SOLUTION

BiblePay utilizes a new proof-of-work algorithm based on the King James Bible, called Proof-Of-Bible-Hash (POBH). It is unique in that every miner has the entire KJV Bible integrated, making it virtually impossible to port to GPU or ASIC mining, Another key aspect of mining is Proof-Of-Distributed-Computing (PODC), which is a greener alternative to traditional POW and is the primary consensus algorithm. BiblePay has built-in features that enable it to be self-funding and self-governing, based on the Dash masternode strategy, and had no ICO or pre-mine. Full accountability is built into the wallet itself – and 10% of every block can be seen to go to highly-efficient charities supported by the community.

Market Opportunity

VISION

Our goal for BiblePay is to provide a hedge against hyperinflation, while helping orphans and making mining accessible to everyone at the same time. We also desire to reduce heat generation by using the Bible Hashing Algorithm in place of Proof-Of-Work, and to make our heat generation more effective and positive via significant community contributions in Proof-Of-Distributed-Computing.

PROBLEM

A number of factors have arisen which materially affect the opportunity for BiblePay to have an impact, making now the right time for it to be introduced.

From a charity perspective, the last several decades have seen a consistent increase in average spend (GivingUSA), but a recent decrease in charity efficiency (True and Fair Foundation). In fact, in the UK more than 1:5 charities were found in 2016 to spend less than 50% of their total donations on charity, while in the US many large charities are spending less than 20% on their declared purpose (Mercola).
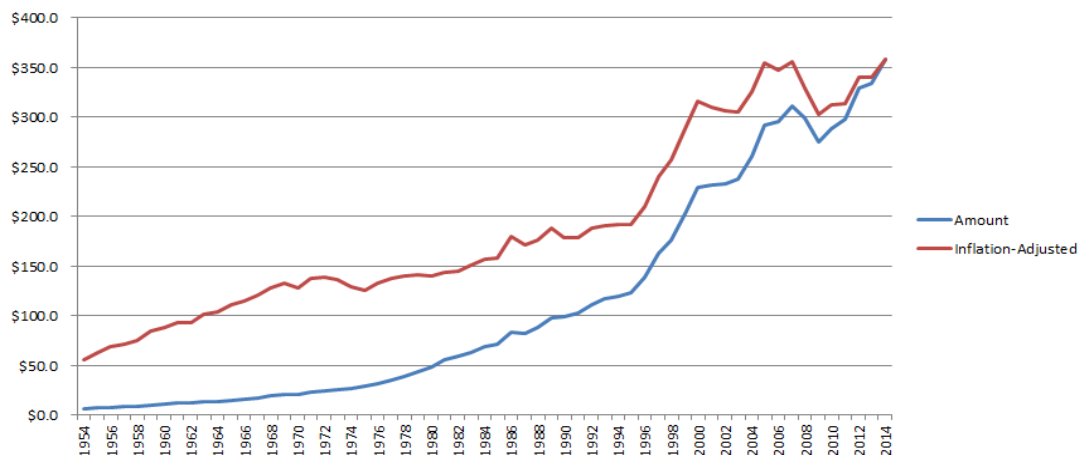
In addition, the buying power of those donations is decreasing with the rapid changes in inflation. Traditional currencies are becoming less and less impactful over time.

Finally, cryptocurrencies – a potential solution to the inflation issue – have a variety of issues ranging from trust, to malleability, to a lack of privacy, to inefficiency. Proof-of-Work cryptocurrencies such as Bitcoin are amongst the worst from a heat waste point of view, as the total energy expenditure has been rising exponentially in recent years and is now accounting for more than 0.14% of the world's total energy consumption (CoinTelegraph).

BiblePay addresses the following five key issues:

Giving Over Time

Charitable giving has skyrocketed in the last 60 years, from roughly $1B annually to more than $350B. At the same time, efficiency is decreasing.

1. Community / Purpose

Many cryptocurrencies aim only to provide a novel way of creating wealth for its holders, with the utility of the currency being the means to the end. These cryptocurrencies are unlikely to have any wider positive impact on the world around them in a direct fashion, as they have been created primarily as wealth-generating vehicles rather than impact vehicles.

2. Accessibility

It is an unfortunate reality that for a large number of potential consumers, having a meaningful stake in a cryptocurrency is difficult, as mining rapidly evolves to include more specialized hardware configurations, which are cost-prohibitive to the masses. For those that could benefit the most from such a technology, it remains tantalizingly out of reach.

3. Governance

In cryptocurrencies that lack a unified, well-understood governance structure, highly-fractured sub-communities arise and tensions between groups of holders can slow development and ultimately hinder the coin. Users need sufficient power to create change, and networks need to be fast enough to approve proposals and implement budgets. In addition, it must be possible to determine a "true" consensus to avoid proof-of-stake fork issues.
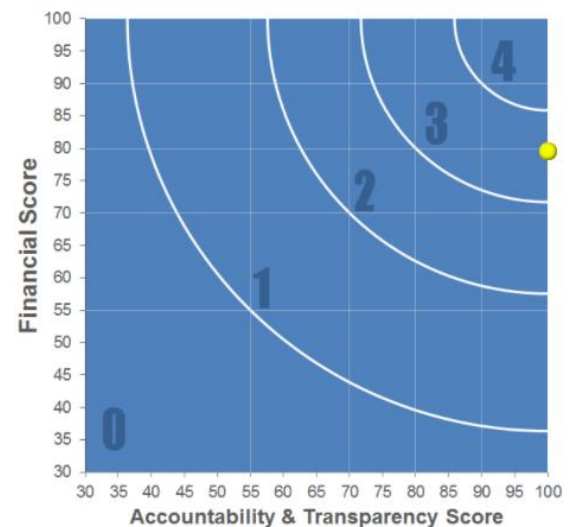
4. Environmental Waste

Proof-Of-Work algorithms by their very nature require a large amount of energy; however, this computational energy is often wasteful in nature, serving little purpose other than to control difficulty and introduce security. As such systems scale, the environmental impact is consistently rising.

5. Privacy

Blockchain technology often serves as an example of the unrelatedness of security and privacy. Many people do not wish their personal details and complete transaction history to be public knowledge. This is especially true in charitable giving, and privacy in charity is especially encouraged in Matthew 6:4.

Maximizing Impact

In order to ensure that BiblePay has the largest possible impact, it has been chartered to work only with highly efficient charities. The first selected charity at launch was Compassion International, a well-recognized and highly-efficient charity supporting care of underprivileged children throughout the world. Subsequent charities are selected as budget allows and voted on by the community. To ensure continuity of service in our charitable commitments, buffer funds are reserved as a hedge against the risk of declining prices in either BBP or its main trade partners, BTC and USD.

BiblePay works only with highly-efficient charities such as Compassion International
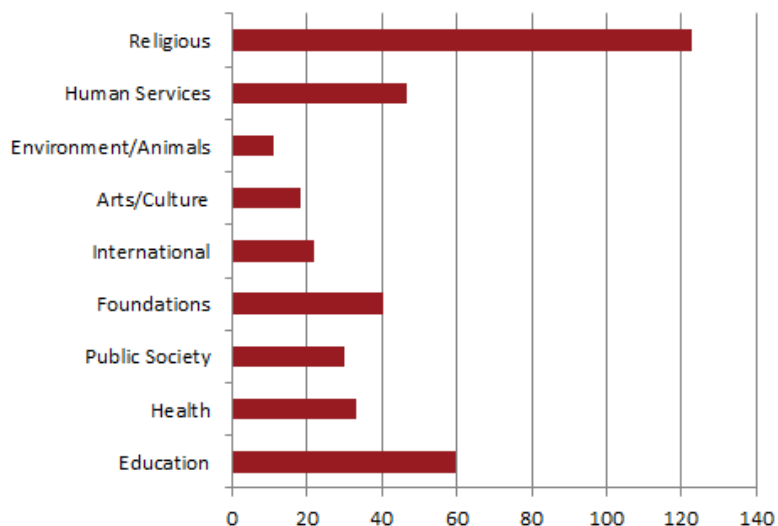
OUR CORE VALUES: We are honest, efficient, caring, helpful, and dedicated to providing a quality service while not compromising integrity.
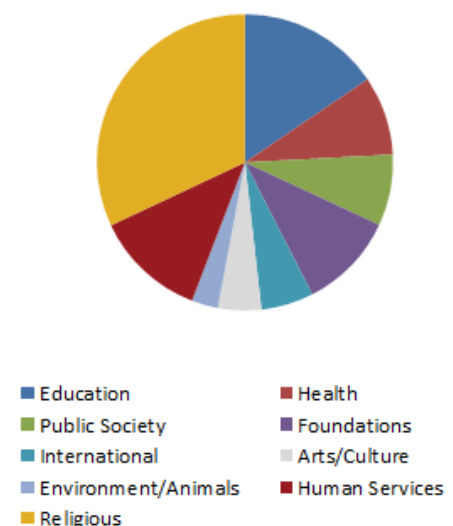
With this focus, and the high requirement on efficiency, we believe that we are positioned to have a significant impact in the community. In addition, a significant market exists for religious charitable contributions, as the graphic below (GivingUSA) indicates – more than 32% of all 2016 charitable contributions, or more than $120B USD, were dedicated to religious charities. Human services also rounded out the top 3, and received a very healthy $46.8B USD. It would not require a very large percentage of penetration to see BiblePay realize its goals.

While initial charities were selected by the development team, all subsequent partnerships are proposal-based, meaning that a member must put up a stake to submit a proposal which is put up for vote and, if successful, added to the budget. In this way, it is possible for any organization, which the community decides is worthy to be supported, to reap the benefits of BiblePay.

Annual Charitable Contributions (in Billions USD)

Contribution Percentages

BiblePay One-Pager

BiblePay is not a token, but a clear cryptocurrency. While the coin itself has many of the same properties as other cryptocurrencies, and is intended to be utilized for payments and exchange, there are other features of the BiblePay system that are worth discussing in greater detail. The following sections give some basic statistics and overview information of BiblePay.

Basic Characteristics

Go-Live Date	June 30, 2017
Ticker	BBP
Sub Unit	1 mBBP=0.001 BBP
Lowest Unit	0.00000001 BBP
Mining Strategy	ASIC/GPU resistant – CPU only
Base Platform	Dash
Algorithm	Proof-Of-Bible-Hash
	Proof-Of-Distributed-Computing

Circulation Characteristics

Hard Cap	5,200,000,000 BBP by 2050
Circulation Type	Deflationary
Circulation Rate	Decreasing by 1.5% / month

A published emission schedule is also available on our website/wiki. Difficulty began at 7 min/block.

Fairness

One of the fundamental principles in designing and creating BiblePay was that of fairness. To that end, there was absolutely no pre-mining, and no Initial Coin Offering. There is no reserved supply and no inconsistent rewards – every participant has the same ability to reap the benefits of BiblePay.

Wallet Features

BiblePay incorporates a significant number of exciting, distinguishing features into its wallet. Some of the features, such as InstantSend and PrivateSend, are derived from Dash, although others such as native ecommerce, prayer requests and tithing are unique to BiblePay.

Economics

The block reward is carefully structured to both serve the BiblePay mission and to appropriately reward effort. To that end, the basic block economics breakdown is:

➢ 10% to charity through sanctuary-voted budget
➢ 5% to IT
➢ 2.5% to PR, 2.5% to Peer-to-Peer features
➢ 3% to Proof-Of-Bible-Hash miners
➢ 38.5% to Sanctuaries
➢ 38.5% to Proof-Of-Distributed-Computing

Sanctuary and Treasury

The BiblePay network is self-regulated by a series of masternodes known as Sanctuaries. These masternodes enable the PrivateSend and InstantSend capabilities, as well as serve as a Decentralized Autonomous Organization (DAO), collectively. They vote on proposals and on distribution requests, and with the high stake requirement, help to ensure the security of the overall network.

The treasury completes the DAO – it is simply the portion of funds which are spent according to the budgets voted on by the sanctuaries. Treasury distributions require minimum voting of a net 10% of sanctuaries, and all IT, PR, and Peer-to-Peer budgets are funded out of the treasury block rewards.

Proof-Of-Bible-Hash Details

The wallet uses the X11 blockhash to maintain the reference pointers for the blockindex map. However, it uses the BibleHash to regulate difficulty and prove that a full node generated the biblehash (by requiring a txindex lookup, a block hash, or a receiving address to be present in the suffix of the hash).

In greater detail, see the below points on Proof-Of-Bible-Hash:

1. The BibleHash function is fed an input X11 hash of the current block template at a point in time. This starts as a uint256. It is also fed the reference to the last block index (and previous height and previous block time).

2. The BibleHash function encrypts the x11 hash uint256 using AES512 into a ciphertext vector. This ciphertext vector is then converted to base64. (These functions were chosen to raise the bar to reduce the likelihood of porting the hasher to a GPU as AES512 requires the OpenSSL library).

3. The resulting base64 is then md5 hashed.

4. The md5 hash is 32 bytes long. The BibleHash function breaks the md5 hash into 8 octets of 4 bytes each.

For each 4-byte octet, the hex is multiplied * the IVerseFactor (.4745708). This IVerse factor points to the corresponding KJV Bible verse between 0-31101. This resulting verse is chained to the output and this process repeats for octets #2-8, while appending the verses to the chained verse output.

5. When the BibleHash function reaches verse #8, it breaks up the source four byte octet into four elements: a Hex 2 byte source resulting in a lookback block offset from 0-255, a hex one byte source resulting in a transaction offset of 0-15, a hex one byte source resulting in a transaction output offset of 0-15, and a one byte source

resulting in a datatype pointer of 1-3 (by multiplying 0-15*.1875) (used to determine if this bible verse will need to reference a blockhash, transaction ID or a receiving address).

Then the BibleHash calls out to the full node for the resulting DataType from the chain by reading the disk, retrieving the result, and appending the result to the final chained bible verse (verse #8).

6. Then the resulting chained verses text contents are MD5 hashed to provide a concise input to the X11 hasher.

7. The MD5 hash is X11 hashed.

8. The X11 hash is sent through a business logic filter requiring the full node business logic of the latest Mandatory version of BiblePay (IE some business logic from the wallet adjusts the resulting hash depending on block number).

9. Next, if the block is older than the late block threshold, the X11 hash is modified to be easier to solve.

10. If the block is a TITHE_MODULUS block, the block is easier to solve.

11. The resulting X11 hash is sent out of the function as the hash result.

Proof-Of-Distributed-Computing Details

Proof-Of-Bible-Hash (as a POW variant, described earlier) is supplemented by our Proof-Of-Distributed-Computing mechanism, which will be familiar to those who have utilized POS algorithms. PODC works by aligning the BiblePay miners to one or more distributed computing projects that are aligned to BiblePay's mission. After creating a Cross-Project-Identifier (CPID), miners add the CPID to their controller wallet, and then associate to one or more devices running the BOINC software package.

Becoming linked to the BiblePay team in each approved project allows for the BOINC Recent-Average-Credit (RAC) to be utilized as the basis for a staking requirement. When the miner puts up a sufficient stake balance of BBP to cover the requirement for the BOINC RAC, they are added to the daily superblock that distributes payment to each successfully staked miner according to their magnitude, or their individual share of the team total. RAC is calculated as a running average over 14 days, so users will also be compensated for historical work once they stop computing, as long as they maintain an accurate stake balance.

In order to have the greatest integrity possible in the PODC consensus system, PODC update transactions are executed periodically based on task completion (and can also be manually triggered, especially when no current distributed computing tasks are running) These update transactions ensure that the stake balance is available and that the data log is complete and accurate, by validating the task start time reported by the controller wallet against the time in the distributed computing source system (e.g. Rosetta@Home or World Community Grid), blocking any SQL credit tampering and ensuring that the signature of the task owner matches the CPID/wallet combination of the reporter, preventing any takeover attacks. Miners who have not completed a task within the configured network time (currently 24 hours) are considered to have a magnitude of 0 and to be ineligible for superblock rewards.

Some projects can have individual project weights adjusted to reflect alternative difficulty/credit calculations - this is applied universally to every member of the BiblePay team in each project. Also, staking requirements, which can be adjusted over time, are not all-or-nothing - partial staking allows for even new users to receive a partial reward from the daily superblock. Users are encouraged to balance their own computing power contributions to their available stake balance to ensure accurate rewards.

In cases of abnormal network activity, a hierarchical approach to disaster recovery has been implemented, ensuring that miner rewards from the superblock are accurately calculated and distributed with the best information possible.

Security Details

There are several well-known attacks on major cryptocurrencies, which have been considered and evaluated against the inherent security of the BiblePay system.

One common technique is the well-known "51% attack" (now thought in practice to operate at as low as 30% with lesser probability of success) in which a miner or small group of miners takes sufficient control of the computing power to affect inappropriate changes. This is also commonly executed with botnets, so is sometimes referred to as the "botnet" attack. Within BiblePay, this attack is considered to be much more difficult than in many other cryptocurrencies, due to a few factors, although Proof-Of-Distributed-Computing is a foundational aspect of that defense.
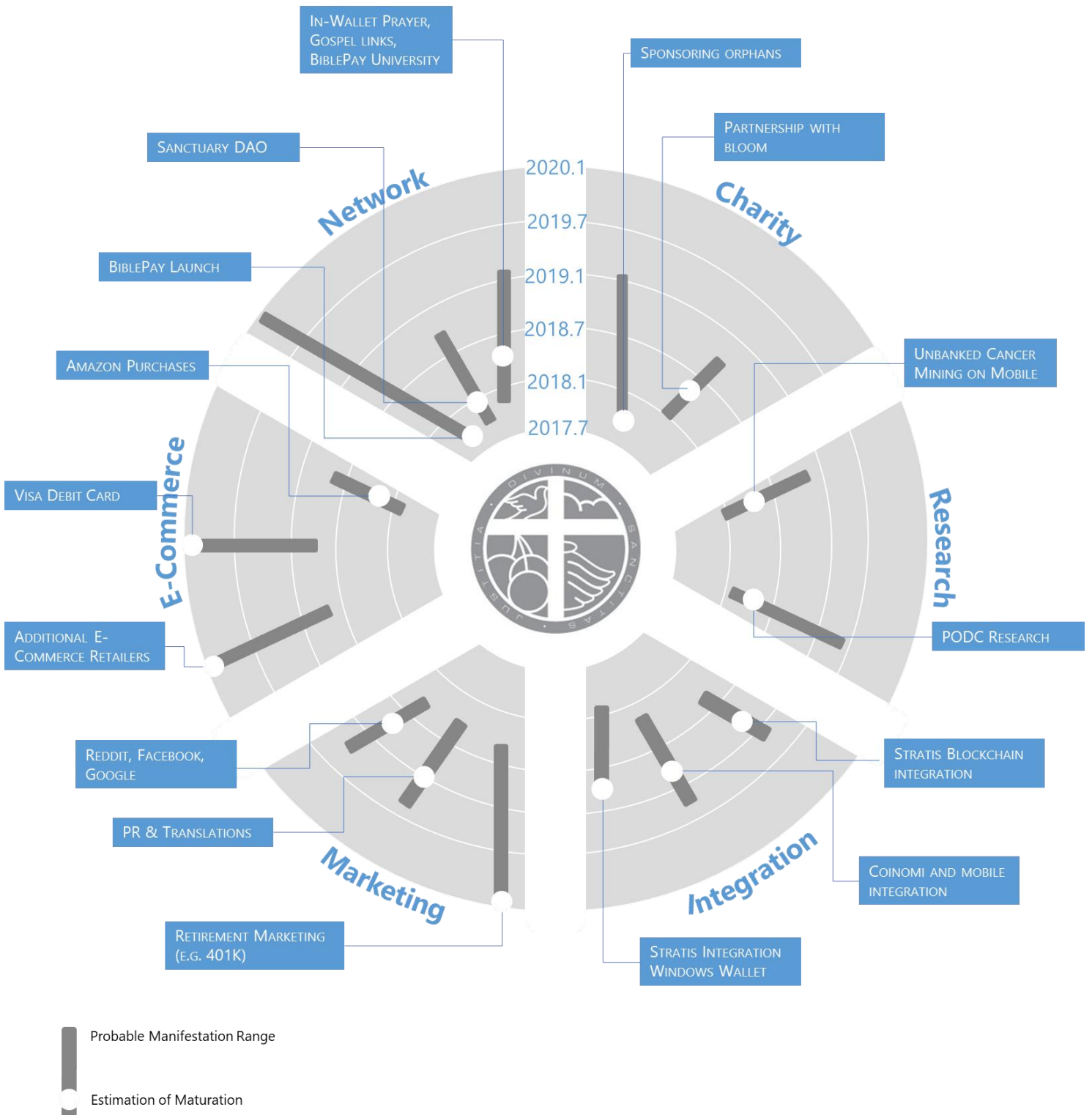
First, we require a distinct CPID to mine each block and limit the amount of blocks that can be solved by a given CPID in a given block range, so an attacker would require not only 51% of the hash power, but 51% of the distinct CPIDs as well in order to affect such an attack. This is not only cost-prohibitive, but also time-limited, as the each CPID would need to have a sufficient RAC built up over time, and in the lower-probability versions, each such failed attack would still result in an increase of difficulty for each subsequent block, and thus opens up plenty of opportunity for other legitimate CPIDs to solve a block and wipe the attack out.

Regarding the "time window" attack currently used to artificially deflate the block difficulty such that a miner can quickly solve many blocks in a hurry, thus creating an opportunity for double-spend or other illegitimate activities, BiblePay mitigates this risk by having a smaller-than-average timestamp window for solutions (15 minutes, roughly the solve time for 2 blocks), and do not allow clock times to be off by more than 5 minutes.

In these ways, the security of BiblePay, granted by the combination of PODC and POBH, ensures that the chain's integrity remains uncompromised and that users can rest secure in the knowledge that the most well-known and well-exploited attacks are not applicable here. As additional attack methods are revealed, the BiblePay team is committed to quickly evaluating and mitigating any weaknesses in the system.

Development Roadmap

Network

In-Wallet Prayer, Gospel links, BiblePay University

Sanctuary DAO

BiblePay Launch

Amazon Purchases

Charity

Sponsoring orphans

Partnership with bloom

E-Commerce

Visa Debit Card

Additional E-Commerce Retailers

Research

Unbanked Cancer Mining on Mobile

PODC Research

Marketing

Reddit, Facebook, Google

PR & Translations

Retirement Marketing (e.g. 401K)

Integration

Stratis Blockchain integration

Coinomi and mobile integration

Stratis Integration Windows Wallet

2020.1
2019.7
2019.1
2018.7
2018.1
2017.7

Probable Manifestation Range

Estimation of Maturation

Disclaimers

The purpose of this whitepaper is to present the BiblePay cryptocurrency. The information set forth herein may not be exhaustive and does not imply any elements of a contractual relationship. Its sole purpose is to provide relevant, reasonable information to potential investors and participants in order form them to determine whether to undertake a more thorough analysis of the offering.

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2) Any error, omission, or inaccuracy in any such information, or
3) Any action resulting therefrom.

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This whitepaper contains forward-looking statements or information that relate to BiblePay's current expectations and views of future events. BiblePay has based these forward-looking statements on its current expectations and projections about future events and financial trends that it believes may affect its financial condition, results of operations, business strategy, financial needs, or the value or price stability of BiblePay. Undue reliance should not be placed on these forward-looking statements.

Cryptocurrencies are a high-risk investment and may not be suitable for all types of investors. Before purchasing any cryptocurrency, one must ensure that the nature, complexity and risks inherent in the trading of cryptocurrency are suitable for his/her objectives. Cryptocurrencies should not be purchased without understanding the extent of exposure to potential loss.

Cryptocurrency exchange rates have exhibited strong volatility to date and the extent of exposure to potential loss could extend to the entire cryptocurrency investment. Many factors outside of the control of BiblePay will affect the market price of cryptocurrencies, including, but not limited to, national and international economic, financial, regulatory, political, terrorist, military, and other events, adverse or positive news events and publicity, and generally extreme, uncertain, and volatile market conditions. Extreme changes in price and ability to sell/exchange may occur at any time.

Citations

PAGE 5 & PAGE 7, GIVINGUSA
https://givingusa.org/

PAGE 5, TRUE AND FAIR FOUNDATION
http://www.trueandfairfoundation.com/content/file/feature/review-hornets-nest-report-into-charitable-spending-UK-charities-12-dec-15.pdf

PAGE 5, MERCOLA
https://articles.mercola.com/sites/articles/archive/2013/08/07/worst-us-charities.aspx

PAGE 5, COINTELEGRAPH
https://cointelegraph.com/news/bitcoin-mining-uses-more-power-than-most-african-countries

PAGE 5, CHANNEL4
https://www.channel4.com/news/factcheck/how-much-charities-spend-good-causes

PAGE 6, CHARITY NAVIGATOR
https://www.charitynavigator.org/index.cfm?bay=content.view&cpid=42