

CHAPTER ONE

The Goal of Bitcoin and Blockchain

CRYPTO CONSENSUS VIEW

Bitcoin is extremely inefficient but enables trustless, censorship resistant, and state-free money. Bitcoin's blockchain technology creates an opportunity to create other trustless, censorship resistant applications.

UNBOUNDED CAPITAL VIEW

Bitcoin is extremely efficient and will grow to become the foundation of an improved internet.

To understand how Unbounded Capital differs from the crypto consensus, it is necessary to understand how differently we see Bitcoin, the foundational technology for modern blockchains and cryptocurrencies. Today, we are focused on BSV and scalable blockchains while the crypto consensus is focused on BTC and non-scalable blockchains. However, these are more alike than different as they share the same direct origin: original Bitcoin. The differences in our views and that of the crypto consensus are more a manifestation of divergent understanding of what is possible and what is desirable for Bitcoin rather than a reflection of strictly technical incompatibilities, although these technical differences do exist and are growing. We think that Bitcoin – in the form of BSV or another blockchain similar to BSV in scalability – will be the dominant blockchain network that ultimately grows to subsume the internet. While the crypto consensus thinks Bitcoin is extremely limited,

they still view it as a success story, but as an extralegal store of value dubbed “digital gold.”

This difference in how we perceive Bitcoin informs how we differ from the crypto consensus in the goals and structure of a blockchain future. In our view, Bitcoin as BSV offers efficiencies that will lead to the internet broadly shifting onto BSV or an alternative scalable blockchain yet to emerge. Those efficiencies are rooted in the ability to centralize data. Data becomes more valuable as it centralizes, and Bitcoin’s innovation, which is best expressed on BSV, is rooted in becoming a database where that centralization can occur. As data is incentivized to centralize in one place – BSV’s blockchain – we expect that BSV or a competing scalable blockchain will be the dominant, if not sole, winner from the blockchain space.

The crypto consensus views the ability to generate trustlessness and censorship resistance as the main value of Bitcoin, but this comes at the expense of efficiency. Because Bitcoin as BTC is too inefficient for many use cases, other blockchains have to be developed which make tradeoffs to improve efficiency and can enable other more resource-intensive use cases. Working together as a series of distinct blockchains, the consensus view aims to form a network of decentralized protocols to supplement the internet. Because it isn’t clear which sets of tradeoffs or improvements for each individual blockchain will ultimately be necessary or successful, the diversified approach may seem prudent.

THE CRYPTO CONSENSUS GOALS

When it comes to Bitcoin, the crypto consensus is typically only interested in BTC, and it is BTC which informs their understanding of Bitcoin generally. The crypto consensus understands Bitcoin to be an extremely inefficient – but extremely valuable – system. This is because Bitcoin’s value is not the result of its efficiency, but instead the result of its revolutionary ability to send scarce digital value anywhere in the world without needing to rely on any third party financial institutions. The culmination of these properties makes Bitcoin a “digital gold” which can serve the same functions of gold’s historic use as a store of value, in addition to the added benefits that come from being digital. [The Bitcoin \(BTC\) wiki describes Bitcoin as:](#)

- **Permissionless and borderless.** *The software can be installed by anybody worldwide.*
- **Do not require any ID to use.** *Making it suitable for the unbanked, the*

privacy-conscious, computers or people in areas with underdeveloped financial infrastructure.

- Are **censorship-resistant** . Nobody is able to block or freeze a transaction of any amount.
- **Irreversible** once settled, like cash. (but consumer protection is still possible.)
- **Fast** . Transactions are broadcasted in seconds and can become irreversible within an hour.
- Online and available **24 hours a day, 365 days per year** .

The consensus claims that these additional properties of Bitcoin make it an exceptional store of value because ([also from the Bitcoin wiki](#)) stored Bitcoins:

- Cannot be printed or debased. **Only 21 million Bitcoins will ever exist** .
- Have **no storage costs** . They take up no physical space regardless of amount.
- Are **easy to protect and hide** . Can be stored encrypted on a hard disk or paper backup.
- Are in your **direct possession** with no counterparty risk. If you keep the private key of a Bitcoin secret and the transaction has enough confirmations, then nobody can take them from you no matter for what reason, no matter how good the excuse, no matter what.

The crypto consensus understanding of Bitcoin – as a censorship resistant digital gold that cannot be inflated or seized – is best expressed today by BTC. BTC is currently not scalable, maxing out at about 7 transactions per second. While the crypto consensus would welcome improvements in scale through initiatives like the lightning network, these aren't thought to be necessary for BTC's success. Instead, much of the development is actually going toward features which advance the ability to use the system anonymously such as coin mixers, schnorr signatures, the liquid network, and the lightning network, which would add anonymity in addition to scale. These are thought to improve censorship resistance and are characteristic of the crypto consensus' disregard for building tools which are legally compliant and thus useful for existing businesses.

This digital gold store of value use case is part of the broader crypto consensus' goals for blockchain technology which also include what can be described as Web3 and DeFi. Web3

is the application of blockchain technology to create a more decentralized, trustless, and censorship resistant internet. DeFi is the same approach for financial services combined with potential efficiencies that come from creating a stack of financial protocols the way a stack of internet protocols exist today. These goals are described by Multicoin Capital in their [Mega Crypto Theses](#), where they outline three broad goals for blockchain: Web3, Open Finance, and Global State-Free Money. [In a recent blog post](#), a16z outlined a similar set of goals for their new \$515M fund which will invest in next-generation payments, modern store of value, decentralized finance, new ways for creators to monetize, and web3. We will examine these goals throughout this book, and in much greater detail in Part III.

UNBOUNDED CAPITAL'S GOAL FOR BLOCKCHAIN AND SCALABILITY

Unbounded Capital's vision of Bitcoin is not confined to its recent history as an abstract digital money that lives on the internet. Our broader value proposition for *Bitcoin and blockchain* is rooted in efficiency, not trustlessness and censorship resistance. If our vision – the vision being pursued most closely by BSV – is realized, Bitcoin will be used seamlessly by internet users many times per day, possibly hundreds or even thousands of times. It will not be a part of the internet; it will be the internet. To understand why Bitcoin will be foundational to the internet of the future, it's important to understand the shortcomings of the internet without Bitcoin. What about the internet needs to be fixed?

REBOOTING THE INTERNET

Imagine you were tasked with building a new internet from scratch. What features presently unavailable on the internet would you include? What negative aspects of the existing internet would you avoid? These are difficult questions. A typical internet user could probably think of some complaints, but imagining what features the internet lacks is much more challenging. Against what alternative would they compare? Because of the internet's under-the-hood technical complexity, it's reasonable for users to accept its current configuration as an inevitability. As an analogy, one could imagine a pre-iPhone cellular phone user suggesting he be charged less for weekend minutes as a desired improvement to his user experience. But, could he imagine the ability to visualize how a Williams Sonoma kitchen table would look in his dining room through the use of augmented reality? For the latter idea to be born, the platform of "cell phone" first needed

to be expanded to include cameras, video screens, powerful computer chips, internet access, and other features.

So what could the internet be once the platform is expanded by a degree similar to the transition from cell phone to smartphone? Through understanding the technologically revolutionary features of Bitcoin, Unbounded Capital has been given a glimpse into new features that, once incorporated, will expand what the internet can do. Like an inspired soon-to-be mobile app developer who was just given their first explanation and hands-on demonstration of the iPhone, Unbounded Capital's understanding of Bitcoin has given us a vision for where the internet should go and, importantly, how it will get there.

THE PROGRESSION OF THE INTERNET

We can radically improve the efficiency of the internet with scalable blockchains. Despite appearing in the browser as a single source of information, the internet is a complex series of distinct communications of data stored across many disparate networks and databases; hence the name “inter-net”. This decentralization of information presents many inefficiencies. When users and applications wish to access some information stored online, they need to locate the data and then route it to its destination. Services like Google have done an exceptional job of indexing the internet to make the data location process more user friendly, but because of the internet's decentralized and nonuniform network design they are aiming at a moving target. Users are familiar with the 404 error or “dead links” which occur when a piece of requested online information is not found. This occurs because a relevant piece of data was moved, deleted, or stored on servers that happen to be temporarily down at the time of a request. While a 404 error is typically nothing more than a minor inconvenience for the average internet user, it's indicative of a more meaningful problem. The inefficiency of locating and accessing data online has downstream consequences that render would-be verticals implausible.

In recent years the success of cloud storage has reduced the inefficiency and unreliability of online data. Cloud networks have done this by providing expertise and economies of scale in provisioning servers. Giant companies like Google and Amazon via AWS house data in large data centers which offer redundancy and improved availability. These services have been able to significantly lower the cost of storing information online. For end users, this manifests as the ability to use online services to upload large files containing

images and videos on the internet “for free.” This shift has increased the usefulness of the internet and dramatically reduced the price of its essential tools.

This transition has caused many to become sentimental for the days before our reliance on giant tech companies. What this perspective often downplays is how the benefits from economies of scale have not only improved the internet, but also made it usable for the first time for many people. What is ironic about this centralization of servers is that the data is still highly decentralized. More data moves to the cloud every year, but that data is kept fully segregated from the data of other cloud customers. This is where a scalable blockchain comes in. In the same way that centralization of server provision improved the internet, the centralization of data on a scalable blockchain will catalyze an even greater leap in the value provided by internet applications. Because blockchains in the meaningful sense of the word are public, it accomplishes this centralization without reliance on specific massive tech companies like Facebook, Apple, Microsoft, Google, and Amazon. The internet on a scalable blockchain will be able to offer improved versions of the best aspects of today’s internet, eliminate inefficiencies, and enable brand new features. With scalable blockchains, internet users can have an even better cake and eat it, too.

THE INTERNET WITH BITCOIN

The smartphone’s platform-expanding features included affordable access to powerful computer chips, HD cameras, HD video screens, high speed internet connections, ubiquitous biometrics, and more. A scalable blockchain’s data-centralizing capabilities will lead to internet platform-expanding features that include micropayment functionality, user-centric data ownership, digital scarcity, digital permanence, and a distributed trusted timestamping authority. All of these features are properties of the world’s first successful **scalable, public, and immutable database called Bitcoin.**

A **public** database is one that is not owned and operated by any single third party like Google or AWS. A key feature of a public database is the ability for any user to read and write data to and from the database. This combination of having no central operator and having open access to reading/writing data often elicits blockchain’s description as “decentralized,” but the database’s decentralization is better described as being public (we will explore this more deeply in future chapters).

An **immutable** database is one which ensures that, once written, data on the database is permanent. This means no more dead links, but also extends to many more significant benefits. Consider the massive, and growing, problem of hackers illegally accessing sensitive data online. These criminals are often difficult to track down because of their ability to delete essential evidence like server access logs. Server logs stored on an immutable database would go a long way towards making covering a criminal's tracks more difficult. A **scalable** database is one that theoretically has no upper bound on size and is able to grow as demand for its use increases. **The existing internet is also scalable, but what a scalable blockchain scales is far more valuable. The internet scales with disparate, ephemeral data. A scalable blockchain scales with centralized, immutable data.** This kind of blockchain solves a variety of problems that, prior to Bitcoin's invention in 2008, made achieving such a database impossible. Today, the only version of Bitcoin and the only blockchain that is trying to achieve Unbounded Capital's vision of Bitcoin is Bitcoin Satoshi Vision, which trades as BSV. Hence, in the same way that we describe a stack of computer communication protocols and databases as "the internet," from here on out we will refer to this scalable, public, and immutable database simply as "Bitcoin."

The public nature of Bitcoin's feature-rich database allows the internet to vastly exceed its current data centrality, further capitalize off economies of scale, and create unparalleled data interoperability and coordination. We believe the transition from the current internet to an internet on Bitcoin will culminate in several major shifts:

- **Bitcoin will dramatically improve upon the network centrality of our current internet by being the single public database**

With Bitcoin as the internet's database, data uploaded to the internet will become much more valuable since it can be easily accessed by any party its uploader desires. Rather than uploading data for its usefulness on one particular application, users will upload data which can be used by an unbounded number of applications. Because Bitcoin is public, over time the competition to process this data will drive prices lower, over time, than they are today. This will result in users being able to put more data online and have more services interact with it in interesting and useful ways.

EXAMPLE: Instead of your preferred streaming service competing for your favorite shows (Netflix winning the exclusive rights to show *Seinfeld* at the expense of Hulu), you have access to every show you like in one online application and you pay the show's creators directly. The owners of this online content will benefit as more people are able to access it through any number of applications which host and share it.

● Bitcoin will introduce native privacy to the internet

Despite Bitcoin's public nature, data written to Bitcoin can be as private as the user desires. While it's true that content uploaded to Bitcoin *can be accessed* by anyone, the information *is not automatically viewable* to the public. The improvement that Bitcoin makes over the existing internet is in allowing owners of data to grant access to any party they choose that is stored on the database every party is already using. Data stored on Bitcoin can be optionally encrypted or stored behind built-in paywalls such that users retain full privacy rights while benefiting from the opportunity for interoperability.

The ability for internet users to upload data and manage the data's access options independent of the applications they are using and the cloud services those applications likely use significantly improves user privacy online.

EXAMPLE: On today's internet, sensitive private information like electronic health records (EHR) are tightly regulated. The goal of this regulation is to minimize the inherent risks to individuals' privacy that come from making the information accessible online. The introduction of regulatory red-tape has had the negative impact of restricting EHR access to parties whose access could improve patient experience and outcomes. Because the benefits of digitizing medical records are so great, many patients and healthcare companies are willing to accept regulatory restrictions on EHR's utility as well as the remaining risks. By using Bitcoin, patients and healthcare companies can virtually eliminate the privacy risks of online health records without needing as strict regulatory controls. The ability for users to own and control access to their personal information could improve the usefulness of health records without sacrificing privacy.

● Bitcoin will offer unrivaled digital permanence

Data written to Bitcoin will persist regardless of the success or failure of individual companies. Data stored on Bitcoin will always exist in the location that it was added. As the churn of dominant tech companies sees competitive upstarts replace former leaders, the valuable user data stored by these businesses will persist. This level of dependability is unique to Bitcoin and cannot be rivaled by any single operator offering a private database. This is a necessary complement to the existing web which excels at creating data which can be cheaply edited or deleted, but struggles to guarantee any type of permanence.

EXAMPLE: Bitcoin would make the recent trend of "digital book burning" obsolete. Benign but politically unpopular information currently able to be censored by an existing tech giant would remain accessible despite one powerful company's protest. Companies like YouTube, which censor information uploaded to their servers, would no longer be able to effectively remove the information from the internet. Instead, they would

simply choose not to display it on their website. Other websites that wished to keep this information accessible and searchable would likely fill any demand for the information by doing so.

NOTE: *With Bitcoin's properties of improved privacy and digital permanence, one can imagine that it might enable the proliferation of undesired illegal content. Since all data uploaded to Bitcoin is tied to a specific private key, uploading anything illegal becomes very risky. Bitcoin ironically enables more privacy by making it economically feasible for users to retain control over their data, but also impedes criminal activity by leaving a trail of evidence that sufficiently motivated law enforcement could track and use to identify the culprit. There are also methods to prevent specific data from being served to end users without altering the blockchain's immutability or removing the evidence trail of that data having been uploaded.*

- **Bitcoin will remove dangerous security risks associated with big data tech companies**

When data is stored on private databases, there is an implicit categorization. If a hacker breaks into Apple servers, they know that they are getting Apple data. On Bitcoin all types of information are stored on the same database and can be individually encrypted. This leads to safety in numbers. Hackers can't easily distinguish what data is associated with what applications. Breaking into a honeypot of data on a private server can be worth the cost. Trying to uncover the same information transaction by transaction on Bitcoin is not feasible and would not be cost effective even if it were.

EXAMPLE: Infamous hacks of large companies like Equifax, which had sensitive personal information of nearly 150 million people compromised, have demonstrated how single points of vulnerability on private databases pose an opportunity to malevolent actors. If a hacker identifies that a database is controlled by Equifax and contains valuable personal information, they can attempt to access it and weigh the costs of doing so against the potential benefits of the theft. For the equivalent hack to occur on Equifax built on Bitcoin, the hackers would have needed to first identify the valuable Equifax data amongst all data on Bitcoin, and then do roughly 150 million times the work to access it since each file is uniquely encrypted. This increased cost would render hacks similar to the Equifax breach economically nonviable.

- **Bitcoin will provide alternative business models to companies currently dependent on indirect and inefficient internet business models**

The predominant business model on the internet requires many companies to sell ad

space to advertisers or user data to data brokers. Businesses that would prefer to directly charge users are often unable to because the value of their microservices fall below online payment minimums. Bitcoin's data centrality makes micropayments a reality. This means businesses can charge as low as fractions of a penny per service with Bitcoin.

EXAMPLE: Spotify offers its users a choice between a “free” option that requires that they listen to and view ads and a “premium” option that removes ads for a monthly subscription fee. Would users unwilling or unable to pay the subscription fee be willing to pay directly per song to opt out of ads? Would Spotify and the artists they work with prefer this model?

● **Bitcoin will unbundle services that are currently, but unnecessarily, packaged**

Bitcoin's low transaction fees and micropayment capabilities enable the selling of products that are otherwise unfeasible to sell. As a result, many services that were bundled together can now be unbundled. Because many online companies depend on the internet's ad-based and data-based business models, once they accrue a large user base they are encouraged to keep them locked into an ecosystem. This presents scenarios where users are forced to accept subpar or unnecessary service on feature A because they are interested in retaining access to feature B. Because Bitcoin is public and all information is stored on the same database, new types of coordination between distinct services become possible. Businesses leveraging Bitcoin may ultimately be forced to compete for users on each unique product or service. This makes an a-la-carte configuration of features A through Z possible.

EXAMPLE: Imagine an app user (Alice) who loves Instagram's discovery algorithm but prefers TikTok's video editing functionality. On the current application landscape, Instagram and TikTok have their own private databases which accumulate Alice's information to generate the companies' value. Because these services aren't willing to communicate, Alice will have to alternate between each application and enjoy her favorite features separately. On Bitcoin, both Instagram and TikTok could interact with the same data, which Alice owns and controls. This data could include images and videos that Alice uploads, as well as her follower lists and private messages. By charging micropayments per microservice, Alice's preferred features of Instagram and TikTok can be leveraged on the same super-application and both Instagram and TikTok can generate revenue by focusing on the features they create that users value most and charging directly for them.

- **Bitcoin will enable exclusive core functionality for businesses and applications to leverage**

Features unique to Bitcoin like micropayments, data ownership, tracing, scarcity, permanence, and time stamping will be utilized by creative entrepreneurs in unexpected ways. Just as internet entrepreneurs unexpectedly used near-instant communication to invent new categories like Social Media and products like Twitter, Bitcoin's novel properties will create new categories and essential products of the future.

EXAMPLE: Games leveraging Bitcoin today are creating unique tradable items that can exist outside of and between games. Imagine a sword used in League of Legends functioning in Minecraft as well. The interoperable virtual world of Ready Player One is possible once data can be made scarce, owned, and easily integrated across applications.

CASE STUDY: ONLINE MUSIC MARKETPLACES

Examining the individual features unique to the scalable blockchain-enabled internet offers a glimpse into how current internet businesses could improve, but when a business is conceived and built natively on this improved internet, entirely new experiences are possible. While it's true that the internet improved the distribution of newspapers by putting their contents online, internet-native businesses like Twitter have arguably had a bigger impact on illustrating what the internet is capable of achieving. What is an example of a scalable blockchain-native business we might expect to emerge?

The music industry, from production through consumption, has been one such industry fundamentally transformed by the internet. We expect the blockchain-enabled internet to continue this trend. The development of the first online music store in the 1990s foreshadowed the potential of the internet as a tool for easily distributing and consuming music. Eventually, the downsides of digitizing music were realized as creators and owners of music experienced the difficulty of maintaining effective ownership when songs could be easily copied and illegally shared on platforms like Napster. In 2003, Apple alleviated some of this problem by releasing iTunes, the most successful online music marketplace to date, which aimed to make legally buying content so easy that it was not worth the effort or legal risk to pirate it.

Since then, legally accessing on-demand online music without first buying it was made possible through the rise of popular streaming platforms like Spotify. Spotify and its

streaming competitors have proliferated a “third-way” for online music which gives artists an additional monetization method through inclusion in a massive online music catalog which users can access through a freemium model. The freemium business model collects revenue from ad sales (generated through the “free” option) and monthly user subscriptions (the “premium” option) and distributes it to Spotify and owners of the music that is streamed. With Bitcoin, a fourth mode of music distribution can be enabled – one that will improve the experience for both artists and music consumers as well as simplify the business model of platforms like Spotify.

THE PROBLEMS WITH STREAMING

Although streaming services like Spotify have proven to be the preferred online music option today, the model is far from perfect. Each major participant in the model has problems that a Bitcoin-native alternative can remedy.

● Artists

The ability for music streamers to listen to unlimited online music for free or relatively low monthly payments has presented some downsides for artists. **The average payout per stream** to an artist on Spotify is between 0.6 and 0.84 cents (\$0.006 - \$0.0084). This has inspired protest from high-profile artists like Taylor Swift, who temporarily stopped licensing her music to Spotify and **credited streaming with** “(shrinking) the number of paid album sales drastically” and leading to a loss in control for artists and labels, who she predicted “will someday decide what an album’s price point is.”

● Listeners

Taylor Swift’s rift with Spotify also identified a shortcoming for users. **A Business Insider article** contemporaneous to the Swift/Spotify feud articulated this problem as “In a word: permanence.” Accessing inexpensive online music is great for listeners in the moment, but what about the future? For fans of Taylor Swift’s music, its removal from their Spotify libraries highlighted their position as music renters rather than music owners. The convenience of renting access to music libraries like Spotify doesn’t come with the guarantee of long term access. The article’s author notes the fragility of a business like Spotify going under or how “at any moment, the whim of an artist, or a licensing negotiation gone sour, or a quirk of copyright law, could quietly erase vast swathes of

treasured music collections.” This lack of control over access to a music listener’s favorite artists is amplified by the competitive nature of streaming platforms, which vie for exclusive rights to certain artists and albums.

● Spotify

As one of the most successful recent companies in music and technology, Spotify may seem like exclusively a benefactor of the streaming model. However, the additional complexities undertaken to achieve this success have required that they deviate heavily from their core mission of connecting musicians with fans. In the process of delivering this music service, Spotify became a participant in the advertising industry and needed to innovate and maintain new backend cloud infrastructure. In an interview about their backend design and transition to a Google Cloud infrastructure, **Ramon van Alteren, Director of Engineering at Spotify, was quoted saying** “If I’m really honest, what we really want to do at Spotify is be the best music service in the world, none of that work on data centers actually contributes directly to that.”

If there was a way for Spotify to provide a better service without having to maintain this infrastructure, would they prefer it?



The Business Insider article about the streaming model’s lack of permanence concluded by weighing the pros and cons of the existing options: ownership and streaming,

“Owning music has its own problems, of course. It’s expensive, and takes up significant storage space. You can lose physical hard drives storing music libraries, too. In contrast, music streaming offers powerful convenience — tens of millions of songs in your pocket, anytime and anywhere...(however), custodianship of (my music library) is not a responsibility I’m willing to grant to Spotify, or Apple, or anyone else.”

A FOURTH WAY FOR ONLINE MUSIC: NETWORK CENTRALITY, DATA OWNERSHIP, AND MICROPAYMENTS

The next iteration of online music through a uniquely Bitcoin-enabled service could provide a solution that improves on the shortcomings of streaming experienced by all three parties. Imagine an online music alternative where content could be owned, maintained, and sold by artists and record labels through platforms with the identical functionality of Spotify, where users could pay directly for access to virtually any song without needing to listen to ads, become locked into recurring subscriptions, or fear ever losing access to their music.

Because Bitcoin enables data ownership on the world's single public database, artists and labels would be able to include their music in a collection larger than Spotify's without negotiating a contract directly with any single company. Once uploaded to the Bitcoin-enabled internet, the song would be accessible by any party under the terms set by its owner, realizing Swift's vision of the ability to set her music's price point. Once uploaded, online piracy would be disincentivized because of the native timestamping of the files. Illegitimate copies of the original would be provably inauthentic since they postdate the original and would be linked to the uploading music pirate through a digital paper trail, all of which could be used by motivated record labels as evidence in court.

Platforms like Spotify would add value through services they currently excel at, like indexing and curating music, to deliver it from the artist to the listener. Rather than focusing resources on licensing music, maintaining backend infrastructure, and selling advertisements, Spotify could refocus all of its resources on providing the best music specific features and charging micropayments of a fraction of a penny per microservice. Users who are interested in inexpensive on-demand music could then pay per stream. **Estimates of Spotify user activity** suggest the average user listens to 25 hours of content per month. If we assume this streaming is entirely composed of songs that average three minutes per song, this suggests that users listen to around 500 songs per month. At that rate of consumption, the average user could afford to pay artists more than double their current average rate, at almost 2 cents per stream (\$0.01998), without paying more than Spotify's premium \$9.99/month subscription fee.

This would have a few major impacts. First, it would enable light users of Spotify to forgo the free version's interruptions of ads without locking into a monthly fee and overpaying for their consumption. It would also incentivize artists to create more content as they are directly rewarded by its consumption. Without knowing the ultimate market price of

a stream in this type of environment, it's also possible that the per stream price would be such that particularly heavy current users of Spotify premium would be able to listen to their current quantity of music while still paying less than their monthly fee. In this paradigm, concerns expressed by “music renters” over their libraries’ permanence would be all but eliminated as the disappearance of an artist’s music from the internet, while possible, would be highly disincentivized. Once uploaded, an artist’s content requires no additional payment or negotiation to remain accessible and its purchase through pay-per-stream services would be all upside for the artist. Access to music through Bitcoin would marry the data permanence benefits of music storage desired by listeners preferring ownership with the convenience of centralizing the world’s music collection into a single and easily searchable repository.

Additional benefits for artists and record labels would include the cost reduction and removal of time delays that result from existing digital rights management and payment options. Artists who might currently be compensated by checks or direct deposits for their share of the content’s revenue on a per month basis would be able to get paid instantly as music is streamed. Further, despite the low price point per stream, a payment as low as 2 cents could be automatically divided up and sent to each individual party who owns a right. Taylor Swift imagined a future where artists and record labels could simply control the price of their music. For artists like Swift, features like real time fractional payment would likely increase the appeal of such a system.

Another possible arrangement on Bitcoin would be an affiliate model of music distribution. Once Spotify no longer needs to provide the service of maintaining the complicated backend infrastructure of their platform, they are effectively music sellers who connect musicians with their fans. It’s likely that artists would be interested in paying Spotify and others to provide this service. Artists like Swift could pay Spotify on a per stream basis for increasing the reach of their music. If Spotify remains particularly good at curating bespoke playlists for its users, artists would be incentivized to seek inclusion on those playlists. Because the data would be easily accessible on Bitcoin to any entrepreneur interested in competing with Spotify, the barriers to entry to getting into that industry would be dramatically reduced. By opening this arrangement up to other music curators providing this service, artists could reach more music listeners through a variety of competing recommendation platforms and user interfaces. **BlareCast** is a Bitcoin-native Spotify competitor building on BSV. In the future, companies such as BlareCast could potentially port over to a yet-to-emerge scalable blockchain.