January 08, 2024

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Stamps Protocol

Monthly Update. December 2023

Content

Note to Readers: This PDF report contains hyperlinks to various reference sources and additional reading material for your convenience and further education. We have carefully selected these sources, believing them to be credible and genuine in their content. Please take advantage of these links to expand your understanding of the subject matter.

Key Takeaways

- In December, the Stamps Protocol experienced a significant surge in minting activity, making it a record month since its launch in March 2023. Several noteworthy milestones were achieved, including the highest number of mints in a single month (113,562), the highest total monthly fees paid to miners, the largest amount of Bytes contributed to the network, and the creation of the most expensive Stamp.

- During January, the minting activity of the Stamps Protocol continued to increase, reaching over 200,000 Stamps by as early as January 2, 2024.

- In December, the majority of Stamps minted were SRC-20 Stamps, a trend observed in other protocols and networks. The high network fees for Bitcoin made minting Classic Stamps prohibitively expensive, with an average cost of around $170.

- As a result of the initiatives introduced in the previous month, the Stamps Development Fund received contributions primarily aimed at supporting the Open Indexer Development work. Additionally, we observed the SRC-20 backing of a Pixel Art use case, which is a positive indicator. Lastly, witnessing the dynamic growth of the Stamps Ecosystem is encouraging. With the emergence of new developments, January promises to be another eventful month for the ecosystem.

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Stamps Protocol: Refresher

Stamps is a blockchain protocol created by MikeInSpace that enables storing images on-chain on Bitcoin transaction outputs. It utilizes the Counterparty platform, a long-standing Bitcoin meta layer, to broadcast Stamping transactions to the Bitcoin Network. The protocol enables the creation of Bitcoin NFTs, especially low-resolution pixel art.

In our initial research paper, we dived into the details of the Stamps Protocol, accessible via this link. We cordially recommend studying the comprehensive report.

Our monthly update reviews important milestones and developments in December 2023. If you missed our last reports, please visit this link to catch up.

Key Stats

The data for Stamps Protocol in December revealed a significant increase in minting activity, making it the largest month since its launch in March 2023. This surge in activity was primarily driven by the active participation of SRC-20 enthusiasts. **The monthly total number of mints reached a remarkable 113,562, surpassing the previous record of 38,042 by almost three times.** Interestingly, this monthly total even exceeded the cumulative total up to November. The protocol had only achieved the milestone of 80,000 cumulative stamps by November.

As of January 3, 2024, there were a **total of 204,097 stamps.**

Total Bitcoin Stamps Minted
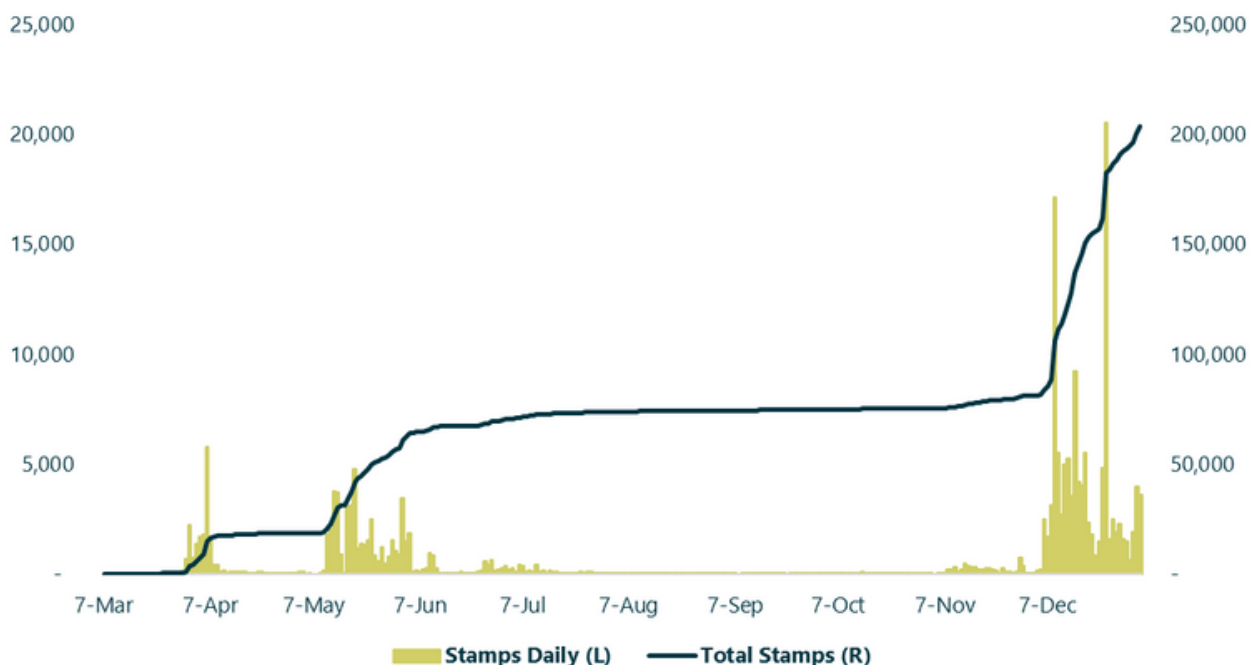
Source: SQRR Research. Data: stampchain.io.
Data as of 03 January 2024.

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Continuing a similar pattern to November 2023, the figures for December 2023 also showed that **minting activity was mainly driven by SRC-20 assets, which accounted for approximately 99% of all mints in December.** Notably, SRC-721 experienced the highest

number of mints in a single month since its inception, with 955 mints. However, these figures were overshadowed by the large number of SRC-20s minted. For Classic Art stamps, the on-chain fees were exorbitantly high, resulting in a significant decrease in total mints in December, with only 97 mints recorded (the lowest for any month).

Minting Trend (monthly) & October Mint Types
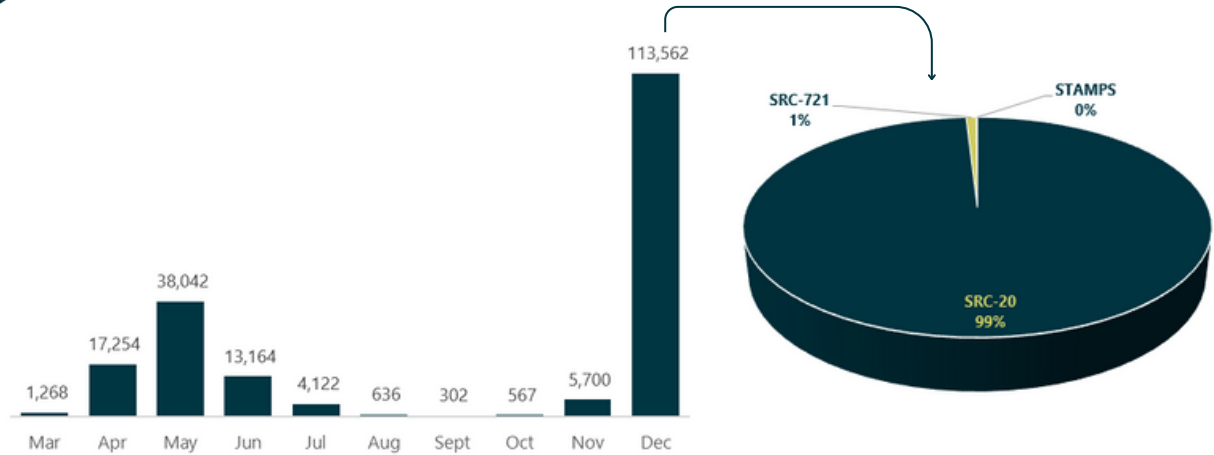
Source: SQRR Research. Data: stampchain.io.
Data as of 31 December 2023.

It is observed from the data analysis that **the cost to mint a Classic Stamp was approximately $170 (including the dust), with a median cost of $71.** Alongside the higher costs, the growing interest in SRC-20 fungible assets on various blockchains is believed to have contributed to the shift away from Classic Stamps.- Additionally, there may have

Bitcoin Stamps by Type
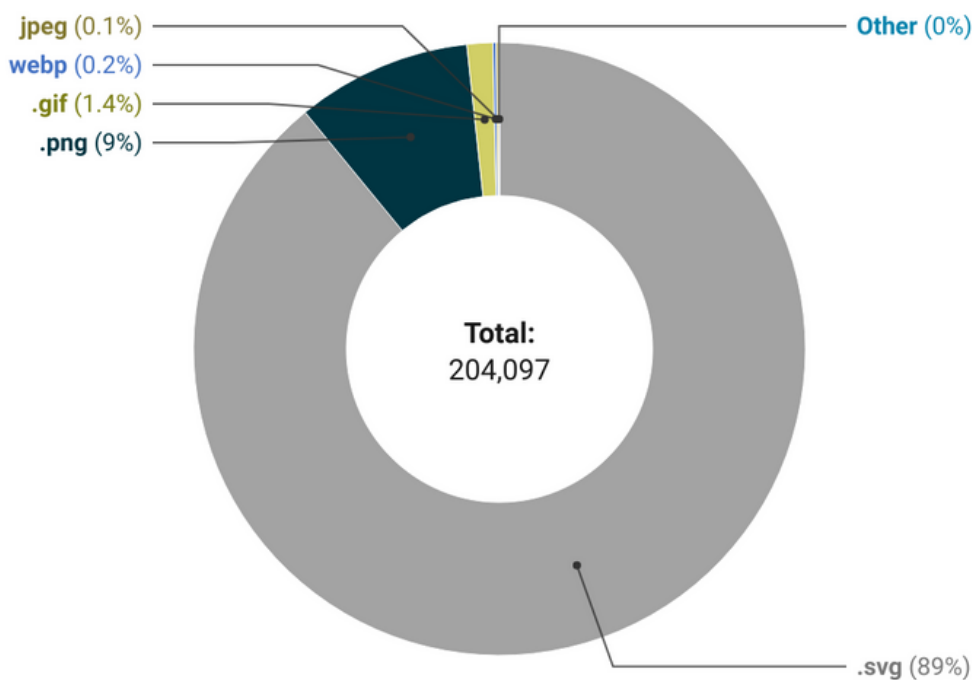
Source: SQRR Research. Data: stampchain.io. Created with: Datawrapper.
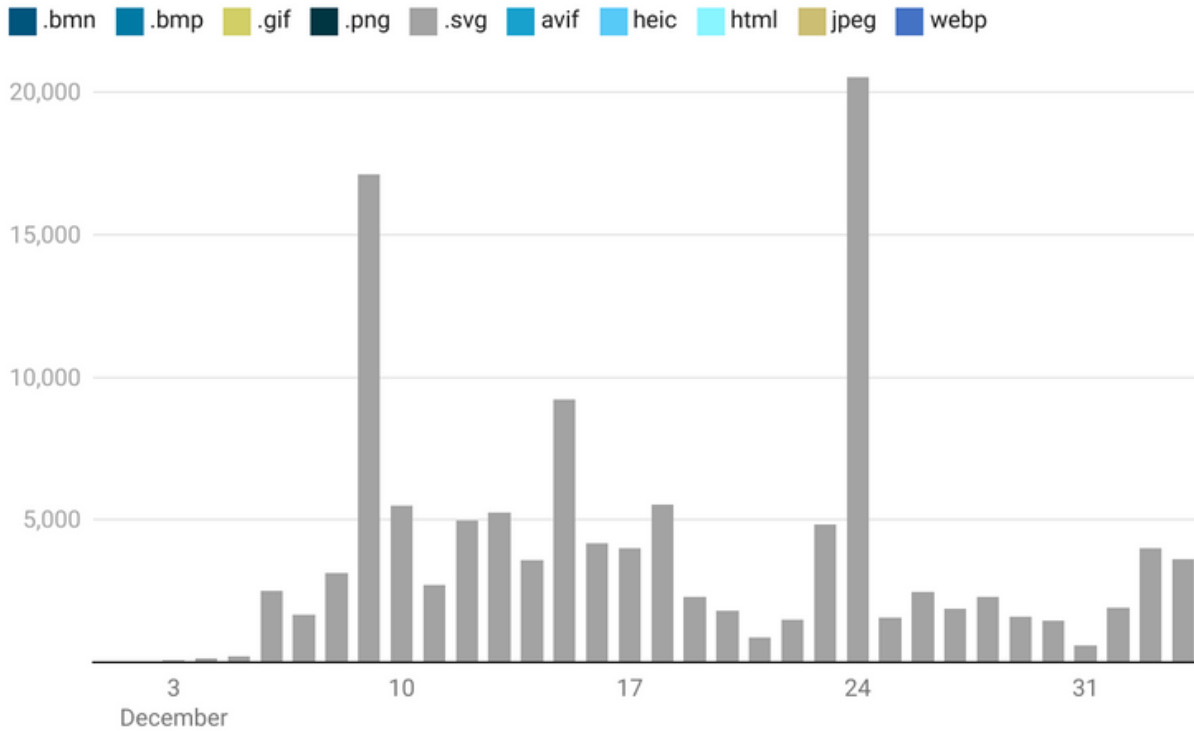*Data as of 03 January 2024.*

been technical reasons for the challenges in minting Classics, i.e., the Sigops limit. Unlike previous months, Classics had to compete with SRC-20s and other Bitcoin blockspace users to be included in a block. The December data shows that having more than 1 Classic Stamp in a block was challenging, except for a few exceptions.

Most mints were of the SVG type, in line with the dominance of SRC-20 assets.

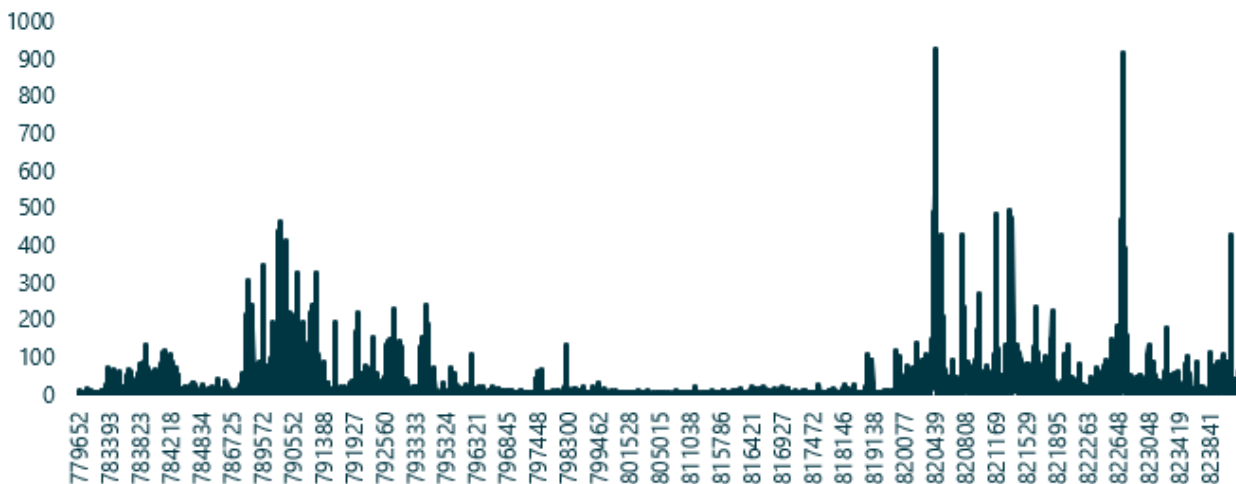### Bitcoin Stamps by Type (overtime)

Source: SQRR Research. Data: stampchain.io. Created with: Datawrapper.
Data as of 03 January 2024.

As of December 03, 2024, there were 13,549 blocks that contained Stamps related data.

Number of Stamps by Block

Source: SQRR Research. Data: stampchain.io.
Data as of 03 January 2024.

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In December, Stamps were included in 4,116 Bitcoin blocks, accounting for 93% of the total blocks produced by the network. This month, the previous record for the highest number of Stamps in a block was surpassed with block number 820461, containing a total of 926 stamps.

Interestingly, the block with **the highest payout in December paid miners a total of $35,807,** while 31 blocks paid over $10,000 for the minting of Stamps. **The highest number of Multi-sig outputs in a single block was 984.**

Number of Blocks with Stamps (in Slabs)
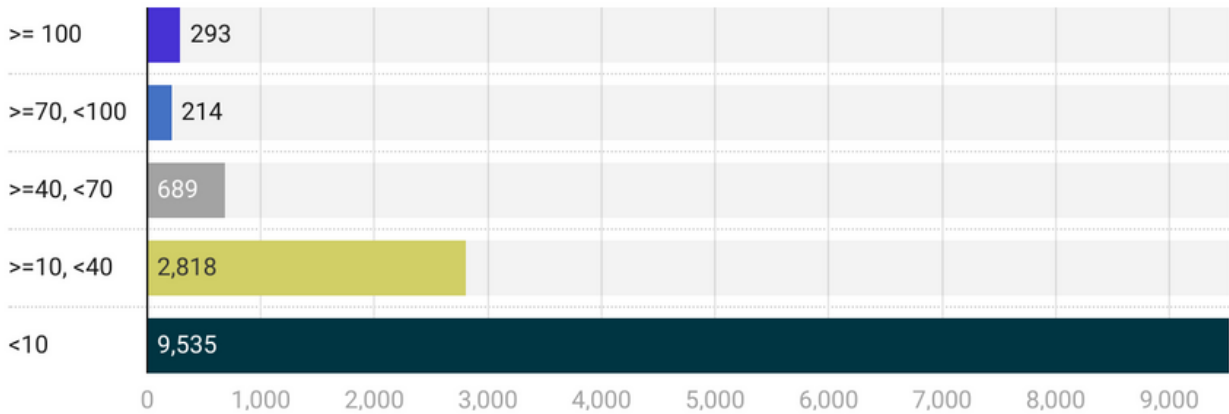
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Only 1 Stamp had dust assigned to spendable outputs in December, while all other stamps sent the multi-sig dust to the burn address. **The total dust sent to the burn address during the month was BTC 1.371,** equivalent to approximately $58,790.

Key Burn vs Spendable Outputs
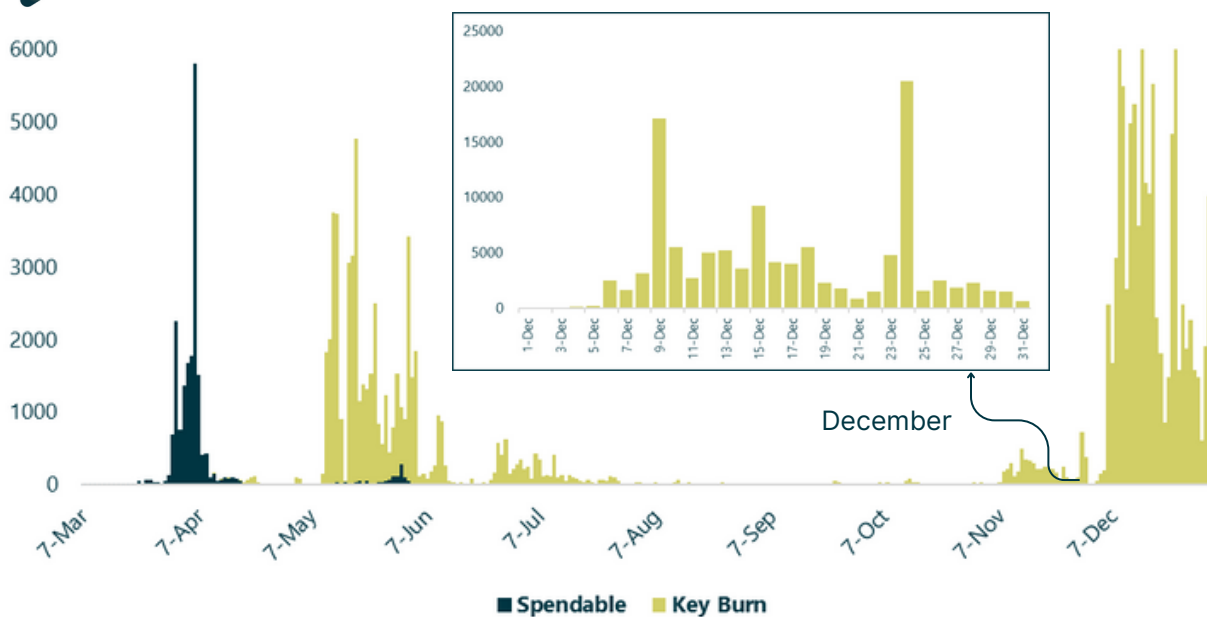
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Layer-1 Usage

Stamps contributed **44.61 MB of data to the Bitcoin blockchain in December**, compared to 2.78 MB in November. The total network data increased to 7.78 GB, resulting in a full network size of 538.09 GB. Therefore, Stamps accounted for approximately 0.57% of the total data contribution to the network for the month. **Since launching the Stamps protocol, it has added approximately 102.0237 MB of data, representing a 0.02% contribution to the overall network size.**

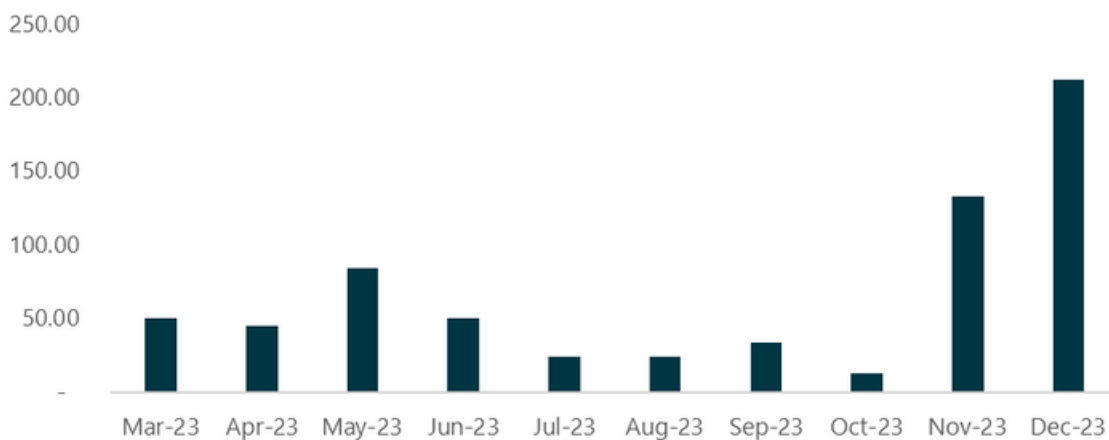## Addition to the Blockchain Size (in Megabytes)
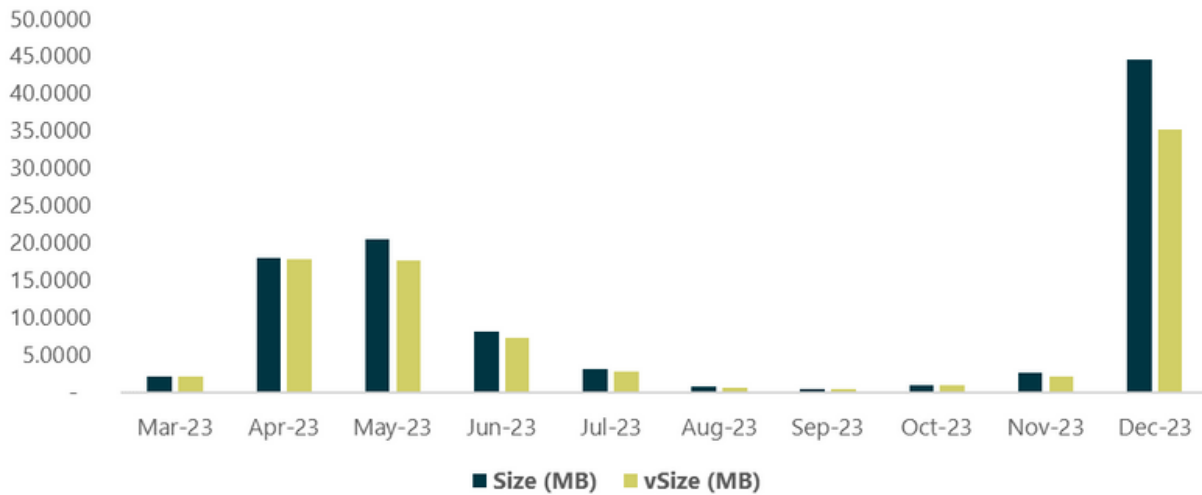
Source: SQRR Research. Data: stampchain.io, Flipsidecrypto.
Data as of 31 December 2023.

In December, the average **Sats per Byte paid by Stampers increased by 59%** compared to the previous month, reaching **211.83 Sats per Byte**.

Fee (Sats) per Byte

Source: SQRR Research. Data: stampchain.io, Flipsidecrypto.
Data as of 31 December 2023.

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Reflecting the rising fees on-chain, the average cost of minting a Stamp in December increased to $37.28, compared to $25 in the previous month. The median cost of minting a Stamp also rose 26% to $24.38. Meanwhile, the average cost per Stamp for multi-sig transactions continued to decrease, reaching $0.52 from $0.61. The median value for this metric also dropped to $0.36 from $0.59. The decrease in multi-sig cost is attributed to the growing popularity of SRC-20 assets, which generally require fewer multi-sig outputs than other types of Stamps.

The Stamp with ID 191693, which has a supply of 500, stood out in December as well as in the history of the Stamps protocol. This Stamp used the highest number of multi-sig outputs, consumed the most bytes to mint, and had the highest payout. It is also noteworthy that it is the highest-paying Stamp in the entire protocol history.

Interesting Stamps (all time)

Item	Size (Bytes)	Fees (BTC)	Fees ($)	Multi-sig Outputs	Dust (BTC)	Dust ($)	Stamp ID
Largest Size	23,799	0.0060	155.81	58	0.0006	15.09	74421
Most Expensive	19,603	0.0549	2,336.08	170	0.0014	57.54	191693
Most Multi-sig outputs	22,978	0.0063	179.30	196	0.0153	435.57	18490

Source: SQRR Research. Data: stampchain.io, Flipsidecrypto, Bitcoinvisuals.
Data as of 03 January 2024.

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In the month, minting Stamps resulted in a total of **99.08 BTC (~$4.23 million) in miner fees**. This brings the overall fees paid to miners by minters to 136.46 BTC (~$5.3 million).

Monthly Total Fees (in BTC and USD)
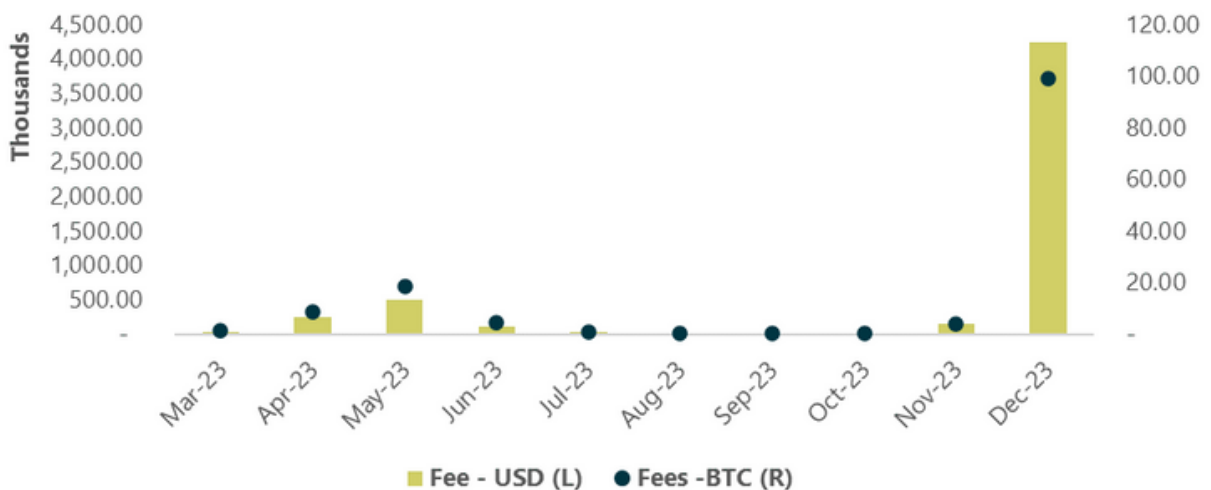
Source: SQRR Research. Data: stampchain.io, Flipsidecrypto, Bitcoinvisuals.
Data as of 31 December 2023.

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During the month, **Stamps minters added 171,310 multi-sig outputs**, a significant increase compared to the previous month's count of 11,848. Notably, 1.37 BTC was locked away in unspendable multi-sig outputs. As of the end of December, **the cumulative number of multi-sig outputs contributed by the protocol reached 535,651**. Additionally, since the protocol's inception, **the total amount of dust sent to multi-sigs now stands at 14.4425 BTC**, with 2.9032 BTC specifically sent to the burn address.

UTXO expansion and Dust Used in Multi-Sig Outputs
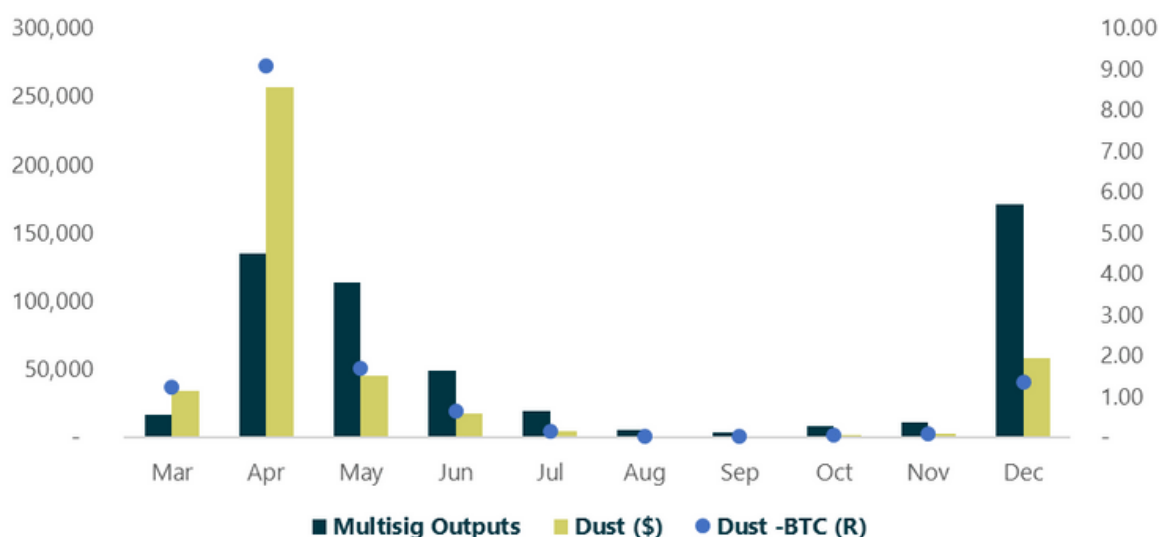
■ Multisig Outputs   ■ Dust ($)   ● Dust -BTC (R)

Source: SQRR Research. Data: stampchain.io, Flipside, Bitcoinvisuals.
Data as of 31 December 2023.

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Most multi-sig outputs, accounting for 68% of the total, are directed to burn addresses. However, the majority of the BTC dust is found in spendable outputs. The combined dust value in both spendable and burn addresses amounts to $425,990.

UTXO expansion and Dust Used in Multi-Sig Outputs (Aggregate)

Item	Multi-sig Outputs	Dust (BTC)	Dust ($)
Spendable	173,720	11.5393	324,218.39
Burn	361,943	2.9032	101,771.50
Total	**535,663**	**14.4425**	**425,989.89**

Source: SQRR Research. Data: stampchain.io, Flipside, Bitcoinvisuals.
Data as of 31 December 2023.

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Recent Developments

The Stamps Development Fund
This month, the Stamps Development Fund received $7,440 in contributions. In the month, the Fund also distributed $1,000.

Just as the month ended and we stepped into the new year, OpenStamp made an announcement. They have decided to donate $10,000 to the Dev Fund. On January 4th, $15,806 worth of BTC was transferred to developer Kevin for his work on the Open Indexer Development. Kevin has been responsible for managing these funds, and any future donations related to the Open Indexer Development should be sent to his address.

The current balances of the Stamps Development Fund and the Open Indexer Development Fund (which is under the responsibility of Developer Kevin) are approximately BTC 0.18500443 ($8,172.57) and BTC 0.177788 ($7,853.81), respectively. *(It should be noted that prior to the transfer of the Stamps Development Fund's assets, Kevin's above-mentioned address held a balance of 0.09224925 BTC).*

Sigops Discussion
The significant increase in Stamps protocol activity has raised awareness of the maximum Sigops rule, a key technical concept related to the consensus rule for validating a Bitcoin block. Recently, this constraint has become apparent as some blocks containing multiple Stamps have nearly reached the limit of 80k Sigops allowed.
In our previous Stamps Protocol Report, we briefly discussed Sigops, which you can read about here.
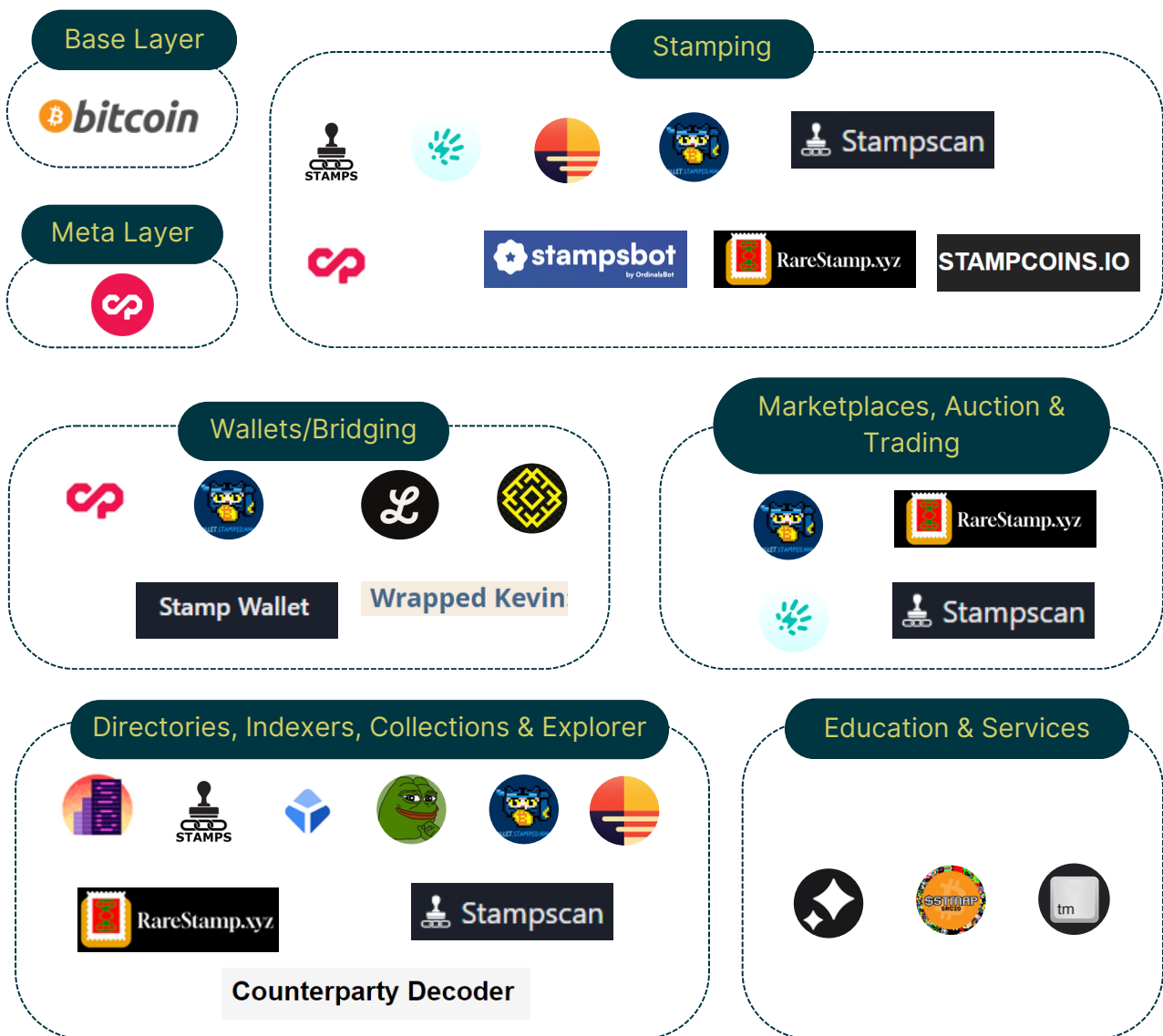
SRC-20 Use Cases?
Many are questioning the real-life use of the experimental specification SRC-20, which was initially heavily hyped. Interestingly, a new community project is underway to create a collaborative Pixel Art project backed by the SRC-20 specification. We are interested in seeing if the SRC-20 specification can become sustainable through community-driven use cases.

Please be advised that the information provided above should not be construed as an endorsement of the project mentioned. It is purely intended to present factual knowledge for the readers' information.

Ecosystem Update

As stated in our previous Monthly Update, we have attempted to update the Stamps Protocol Ecosystem this month. It is important to mention that numerous projects have participated in the Stamps Ecosystem, and many of them have enhanced their offerings over time. These improvements include new features, enhancements to user experience, and introducing innovative Stamp types, among others. We also anticipate several new ecosystem partners joining in the coming months. However, we have also observed that some projects have entirely or partially halted their operations. However, it is important to acknowledge that the ecosystem is still a work in progress, with much more to be accomplished continuously. As an evolving ecosystem, it is expected to undergo continuous development and improvement.

Stamps Ecosystem - December 2023 Update

Base Layer

bitcoin

Meta Layer

Stamping

STAMPS · Stampscan · stampsbot · RareStamp.xyz · STAMPCOINS.IO

Wallets/Bridging

Stamp Wallet · Wrapped Kevin

Marketplaces, Auction & Trading

RareStamp.xyz · Stampscan

Directories, Indexers, Collections & Explorer

STAMPS · RareStamp.xyz · Stampscan · **Counterparty Decoder**

Education & Services

Concluding Remarks

In December, the Stamps Protocol experienced significant growth and activity, which helped increase awareness about the protocol. As we move into January, the new year promises to be eventful, and we are curious to see how the protocol will navigate through it.

On another note, it is important to recognize that the Sigops constraint introduces an additional element to the value proposition of Stamps, extending beyond the Unprunability feature. While Unprunability is undoubtedly a significant selling point, the implicit impact of the Sigops limitation cannot be overlooked. By placing a cap on the number of Sigops allowed in a block, there is a clear upper limit on the quantity of Stamps that can be included within that block. This technical challenge in creating Stamps contributes to their potential rarity and exclusivity. In essence, the Sigops constraint prevents the unrestricted creation of Stamps according to personal preferences, establishing a controlled and measured approach. We invite you to consider the validity and significance of this point in shaping the Stamps ecosystem.

Finally, it is worth mentioning that there are ongoing developments on the Counterparty side, specifically related to its code. It is premature to offer detailed commentary at this time. We will monitor these developments and reserve any discussions on this topic for a future Update Report.

Provide Feedback

We value your feedback and strive to enhance our content and offerings based on your suggestions. Let us know what you enjoyed about this report and if there is anything we may have overlooked. We're eager to receive feedback and encourage you to share your thoughts with us at **research@sqrr.xyz**.

We want to thank MikeInSpace for his conversations that helped us with this report.

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