Proposal Motivation

We Michigan Blockchain are submitting this proposal to facilitate the integration of Uniswap V3 on Rootstock (RSK), the first Bitcoin sidechain. Rootstock combines the security of Bitcoin and the functionality of Ethereum. This amalgam is enabled by RSK's implementation of a merged mining architecture and an EVM-compatible execution environment. Unlike most deployments during the bear market, RSK has doubled-down on this initiative, allocating a total of $3 million for bootstrapping liquidity across various pools.

What's more is that the IOV Labs team (the research and development group behind RSK) has been closely collaborating with both GFX Labs and Wormhole to ensure that this deployment is completed seamlessly. They have taken all of the necessary technical steps to be eligible for finalizing this deployment. The relevant v3 contracts are now deployed on RSK (see "Deployment Details"), along with pools for trading RBTC (1:1 with $BTC), RIF, wETH, and USDRIF (stablecoin), all accessible using the Oku Trade front-end. This deployment has already aggregated over$500k of TVL and is seeing upwards of $100k in daily volume over the past two weeks. Plus, the Wormhole integration is in place to facilitate any cross-chain governance messaging. The final hurdle is to officiate this proposal through the Uniswap governance process, and recognize this as the canonical v3 deployment on RSK.

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Source: Uni v3 on Rootstock via Oku Trade

Introducing Uniswap to the Bitcoin Space

We've been in contact with the IOV Labs for the past couple of months regarding this deployment. Our teams have had back and forth conversations regarding the merits and drawbacks of bringing Uniswap to a Bitcoin sidechain, which, admittedly, has limited mindshare among DeFi users across other EVM chains. Currently, there are two divergent user profiles when it comes to Bitcoin. The first is the staunch Bitcoin Maxi. This person views $BTC as the one and true cryptocurrency, with a notable preference for highly secure and isolated systems. Conversely, we have the DeFi users. Most of their activity takes place on the EVM, and their objective is financial gain using various onchain instruments–staking, liquidity provision, borrowing/lending, yield farming, perpetuals, etc. Security is important to everyone, at least idealistically speaking, but users' actions often indicate a preference for profiteering in the face of taking a degree of risk.

However, we think that there may be a market in between these two that Uniswap–and DeFi protocols in general–could help service. It could very well be the case that users who want to conduct DeFi transactions using $BTC will do so through dapps launched on RSK. The security guarantees using the merged-mining setup make interacting with $BTC on RSK ($RBTC) more secure than using $BTC on alternative smart contract platforms. Although it may be a reaching assumption that users will have the motivation to prioritize security to such an extent, easy access to RSK via wallets like Metamask make it frictionless for users to jump between ETH and RSK. The potential concern here, however, is liquidity fragmentation. That is, unless, a certain market of users exclusively uses RSK for all things BTC.

Proposal Stakeholders

The following list of stakeholders is present to transparently communicate which entities and individuals are involved in proposal creation and implementation. It is important to note that the temperature check following this RFC will be used to measure the Uniswap DAO's interest in recognizing this deployment as the official v3 fork on RSK.

The stakeholder list is NOT to be considered during the temperature check–stakeholder concerns will be relegated to the RFC. After receiving feedback, the final stakeholder list will be published with the onchain vote.

Proposer: Michigan Blockchain

This entity is responsible for authoring the proposal & managing the governance process

Deployer: IOV Labs + GFX Labs

This entity is responsible for the technical deployment of the contracts on the target chain

- The IOV Labs team is responsible for the innovation behind Rootstock
- GFX Labs helped deploy the v3 contracts on RSK and has a track record of safely deploying Uniswap v3 on various EVM-compatible chains

Frontend: Oku Trade

The initial frontend where users can interact with the new Uniswap v3 deployment

- Oku is built and managed by GFX Labs
- Oku was seeded by a Uniswap Foundation grant in 2022
- Oku supports eight chains and continues to aid Uniswap's expansion to new protocols

Note: Oku Trade has become the DAO's go-to third party front-end for Uniswap deployments since the canonical front-end is owned and operated by Uniswap Labs

Bridge Provider: Wormhole

This is the cross-chain messaging solution selected for this deployment

- Wormhole serves as the governance messaging provider to four Uniswap deployments: BNB, Celo, Gnosis, and Moonbeam. This would be their fifth integration

Wormhole's summary from the Uni Bridge Assessment Report: "The analysis of Wormhole concluded it satisfies the requirements of the Uniswap DAO's cross-chain governance use case…the set of validators includes many reputable entities, and both the number of validators and security thresholds are set at satisfactory levels. Moreover, the implementation of the protocol and operational security practices are well considered."

Target Chain: Rootstock (Bitcoin Sidechain)

This is the chain that v3 contracts are deployed on

Proposal Sponsor: Michigan Blockchain

This entity has >2.5M UNI and is therefore eligible for administering the onchain vote

A Primer on Rootstock

Bringing the EVM to Bitcoin

Launched in 2018, RSK is the first Bitcoin sidechain. Generally speaking, a sidechain is an independent blockchain that's fettered to a parent blockchain. In this case, Bitcoin is the parent chain, while RSK is the sidechain. The sidechain extension typically features aspects that the primary chain cannot support–Ethereum folk are very familiar with functionality separation nowadays due to the multichain and modular nature of EVM-based systems. Bitcoin is naturally more isolated, with a particular focus on sustaining the so-to-speak sanctity of its chain. However, the bare bones nature of Bitcoin means that it cannot support complex applications due to limitations around programmability. So how can this system be improved? Well, Bitcoin itself ideally stays untouched. Its usage as a ledger for an incorruptible store of value is therefore preserved, but it can be complemented with a sidechain like RSK.

RSK is an EVM-compatible Bitcoin sidechain

, meaning that it is Turing complete and enables developers to construct a robust ecosystem with close proximity to the Bitcoin blockchain. Specifically, the chain uses the RSK Virtual Machine (RVM), which is compatible with the EVM at the op-code level. This is precisely why Uniswap, and alike Ethereum dapps, have the ability to seamlessly deploy on RSK without significant smart contract modifications. Core Ethereum infrastructure, wallets, and tooling (Hardhat, Truffle, Ether.js, Web3.js, etc) also support RSK–so devs can easily migrate to and build on RSK while a user can simply add RSK to their already running list of chains on Metamask. But a shared execution environment is not enough of a value add. That's where we must consider RSK's true value proposition: shared security with Bitcoin.

Security Before All Else–Merged Mining

Unlike most other blockchains, RSK employs a consensus mechanism known as merged mining, allowing miners to simultaneously secure both Bitcoin and RSK at no extra cost. This results in RSK benefiting from the formidable security and stability touted by Bitcoin. Approximately 50% of the current Bitcoin hashrate is involved in securing RSK. In other words, many of the same miners that provide security to Bitcoin are also securing RSK using the same hardware and energy inputs. Some of the largest Bitcoin mining pools like Antpool, Luxor, Braiins, F2Pool, and Binance Pool, have all opted into the merged mining setup.

What about previous failures surrounding merged mining like CoiledCoin?

- Rootstock doesn't implement the traditional merge-mining mechanism used by CoiledCoin–but a more modern protocol with additional security guarantees. This is explained by RSK's Chief Scientist here. An in-depth analysis can be found in the Consensus section here. The infamous CoiledCoin attack was performed by a single individual (LukeJr)

> who could control more than 51% of the blockchain hashrate, which is impossible on Rootstock, and was ideologically motivated because CoiledCoin competed with Bitcoin, something Rootstock does not do. On the contrary, Rootstock provides additional value to Bitcoin. Rootstock talks have been given at Bitcon conferences without opposition of any kind. The same individual that attacked CoiledCoin has a positive opinion regarding Rootstock and a neutral opinion on the sidechain's hashrate escrows.

Two-way Proof of Work Peg (PoWPeg)

Rootstock does not have its own token nor inflation-based incentives. The way Bitcoin and RSK are connected is via a two-way peg using $BTC. A user deposits their $BTC in the RSK bridge, which, in turn, mints the rBTC on the RSK network. Both assets will always have a 1:1 ratio, and the max amount of mintable rBTC is the same as the max BTC supply of 21M. Hence, the main asset that the entire RSK ecosystem relies on is, at the end of the day, $BTC. RSK mining rewards are paid out to miners solely through transaction fees in the form of $rBTC.

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Source: RSK Explorer

Typically, if a PoW chain relies solely on rewarding its miners with txn fees, and if that chain has low volume, it would be subject to a 51% attack. This issue, however, is subverted under a shared security system like merged mining. No matter how low the volume falls, the network will remain steady because the reliance is entirely on the security of Bitcoin. Sure, one could argue Bitcoin itself could face fragility if txn fees and incentives simultaneously become too low–however, it is an unlikely case since the adoption of $BTC is so pervasive that many large parties are incentivized to secure the system even if it's at a capital loss. Plus, innovations like inscriptions continue to sustain momentum for Bitcoin's usage.

Bitcoin Ecosystem Catalysts

If we analyze the previous points about the robust security and EVM compatibility of RSK, it's clear how there may be an untapped market here for Uniswap to enter. Bitcoin, relative to the rest of the crypto market, is to a degree, isolated. The adoption of Bitcoin has been far more prominent around the world relative to other cryptocurrencies, even becoming legal tender in countries like El Salvador. The US regulatory environment, though constrictive to most cryptocurrencies,has been significantly more amenable to Bitcoin.

In the past year alone, Bitcoin has taken tremendous mindshare among both investors and users. A series of BTC Spot ETF filings were released in July as Blackrock led the pack. And August saw Grayscale secure a vital victory against the SEC, as the appeals court denied the SEC's attempt to deny GBTC's conversion to an ETF. On the user side, inscriptions dominated the Bitcoin landscape, bringing another creative use case to the seemingly latent chain. Although ordinal (non-fungible) & BRC-20 (fungible) inscription volume peaked earlier in the year, they have since sustained a large degree of their momentum, with average daily inscription mints increasing by 48.1% in Q3 The large Bitcoin fee uptrend can also be attributed the inscriptions rush.

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Source: Token Terminal

RSK is also taking advantage of these advancing narratives. Through RSKIP-387, Bitcoin ordinals and inscriptions are looking to become available on RSK using the Powpeg bridge. In terms of projects, IOV Labs is funding more than 5 ordinals-based projects that came out of the HackerEarth Ideathon + Hackathon.

Liquidity Bootstrapping

Rootstock will commit $3M Rootstock-based tokens in Uniswap-specific liquidity. The tokens will be deployed on Uniswap through the Rootstock integration with Oku, the funds will be provided by IOV Labs. They will work to deploy the funds as follows:

- 1st Phase - Deployment: up to $400k into four liquidity pools for the following:
- $100k in rUSDT/USDRIF
- $100k in RIF/rUSDT
- $100k in RBTC/rUSDT
- $100k in RBTC/wETH
- $100k in rUSDT/USDRIF
- $100k in RIF/rUSDT
- $100k in RBTC/rUSDT
- $100k in RBTC/wETH
- 2nd Phase - Growth: up to $1M to be distributed in the previous four liquidity pools created in the 1st Phase.
- The amount to be added into the liquidity pools will be decided according to the trading volume growth in a period of 3 months for each pool.
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- 3rd Phase - Expansion: up to $2M to be used in order to create new liquidity pools and token pairs.
- IOV labs will create new liquidity pools according to market demand. These new liquidity pools will be a minimum amount of $100k.
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The goal is to deploy the $3M within 12 months in several phases. While the proposed limit is $3M, IOV Labs may increase this amount based on the outcome and success of this initiative.

Track active pools, TVL, volume, and fee metrics via Oku's RSK analytics page.

Success Criteria

Overall, we propose the transparent measurement of this project's success through the following success criteria and long-term goals:

- At least a 30% increase in TVL across all initial pools during 2024, excluding the liquidity provided by IOV Labs
- At least a 100% increase in average RSK DEX trading volume across all initial pools in the first six months after the onchain proposal
- Successful adoption of Uniswap by the Rootstock community, aiming for a >20% increase in the number of active users by end of Q1 2024
- Continuous and sustainable maintenance of the Uniswap-RSK integration contract, ensuring optimal operation and long-term security

Deployment Details

The approval of this proposal by Uniswap governance will lead the below Uniswap v3 contracts to be deemed as the canonical deployment on RSK. As is the case with all canonical v3 deployments, this deployment will be subject to Ethereum Layer 1 Uniswap Protocol governance and control. The text record of the uniswap.eth ENS subdomain titled v3-deployments.uniswap.eth will be amended to include the reference to the stated v3 contracts on RSK.

Below are the deployed contracts:

Contract

Address

v3CoreFactory

0xaF37EC98A00FD63689CF3060BF3B6784E00caD82

nftDescriptor

0xA231609CF5ee20b3FF9bd8bBfD1928737E6e6264

nonfungibleTokenPositionDescriptor

0x1519ab9C0bF7C8f261aCa6c58d59A152C95B3Ebc

nonfungibleTokenPositionManager

0x9d9386c042F194B460Ec424a1e57ACDE25f5C4b1

v3Migrator

0x16678977CA4ec3DAD5efc7b15780295FE5f56162

Multicall2

0x996a9858cDfa45Ad68E47c9A30a7201E29c6a386

proxyAdmin

0xE6c623e32eD33f29b4D7C002C01DebDA629e4604

tickLens

0x55B9dF5bF68ADe972191a91980459f48ecA16afC

descriptorProxy

0x2AECbeE0dc58e3419A52EEaF6Ea16C498BAeE24F

v3Staker

0x96481062BfAA29AdaaeBfC5FA6F46d9556F0150c

quoterV2

0xb51727c996C68E60F598A923a5006853cd2fEB31

swapRouter02

0x0B14ff67f0014046b4b99057Aec4509640b3947A

Permit2

0xFcf5986450E4A014fFE7ad4Ae24921B589D039b5

Universal Router

0x244f68e77357f86a8522323eBF80b5FC2F814d3E

Message Sender

0xf5F4496219F31CDCBa6130B5402873624585615a

Message Receiver

0x38aE7De6f9c51e17f49cF5730DD5F2d29fa20758

Timeline

This proposal will be in the RFC phase for a minimum of 7 days. After receiving feedback, a temperature check will commence, assessing the DAO’s desire to recognize this deployment as the canonical v3 fork on RSK. We will be releasing the temp check in the second week of January 2024. After the community is content with the stakeholders and has shown a desire to recognize this deployment as official via the temp check, the onchain vote will commence.