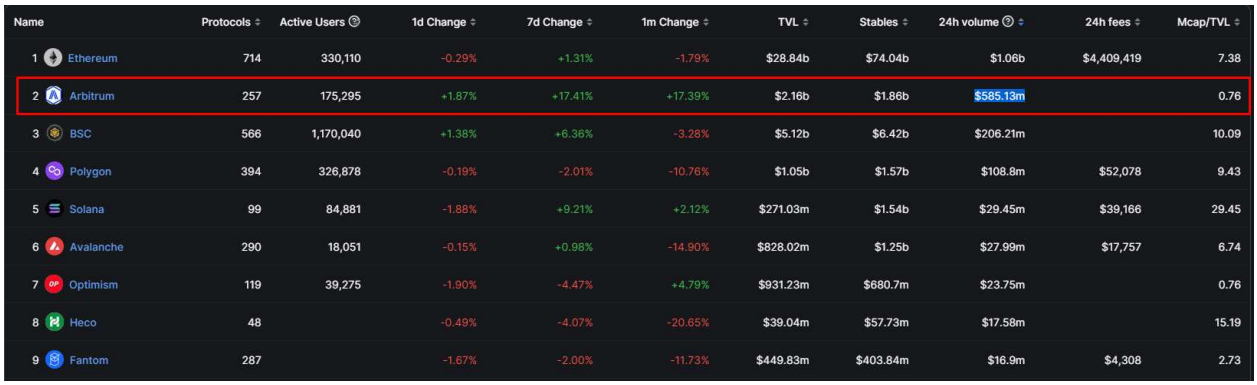
Chain Research From Dmitry

I think our ideal chain is probably Arbitrum.
https://arbiscan.io/
From the facts below, we can see that the Arbitrum network has become very popular recently.
1. Launched Arbitrum Layer 2
2. Arbitrum Layer 2 made it easy for Ethereum network users to switch to Arbitrum Network.
3. Total value locked (TVL): $2.16Billions (Rank: 4)
4. 24h Trading Volume: 585.13 Millions (Rank: 2)



Name	Protocols	Active Users	1d Change	7d Change	1m Change	TVL	Stables	24h volume	24h fees	Mcap/TVL
1 Ethereum	714	330,110	-0.29%	+1.31%	-1.79%	$28.84b	$74.04b	$1.06b	$4,409,419	7.38
2 Arbitrum	257	175,295	+1.87%	+17.41%	+17.39%	$2.16b	$1.86b	$585.13m		0.76
3 BSC	566	1,170,040	+1.38%	+6.36%	-3.28%	$5.12b	$6.42b	$206.21m		10.09
4 Polygon	394	326,878	-0.19%	-2.01%	-10.76%	$1.05b	$1.57b	$108.8m	$52,078	9.43
5 Solana	99	84,881	-1.88%	+9.21%	+2.12%	$271.03m	$1.54b	$29.45m	$39,166	29.45
6 Avalanche	290	18,051	-0.15%	+0.98%	-14.90%	$828.02m	$1.25b	$27.99m	$17,757	6.74
7 Optimism	119	39,275	-1.90%	-4.47%	+4.79%	$931.23m	$680.7m	$23.75m		0.76
8 Heco	48		-0.49%	-4.07%	-20.65%	$39.04m	$57.73m	$17.58m		15.19
9 Fantom	287		-1.67%	-2.00%	-11.73%	$449.83m	$403.84m	$16.9m	$4,308	2.73

In more detail:

Scalability and efficiency are attractive attributes for a blockchain to have, particularly for dApps in the DeFi insurance sector that are looking to scale and provide efficient and fast transactions in a secure environment. In this email we look at the Arbitrum layer 2 scaling solution for Ethereum.

Blockchain technologies offer a decentralized and secure way to manage digital assets, but there are some challenges to running public blockchains. Namely, because they're decentralized and require multiple actors to verify the information on them to maintain the chain's security, they can be slow and scale poorly. This is what Layer 2 solutions such as Arbitrum aim to offer — but what are layers, and why do they matter?

Layer 1 refers to the main blockchain, such as Ethereum or BNB Chain. This layer keeps a record of each transaction and has independent actors who run nodes verifying each block. In contrast, Layer 2 solutions run on top of Layer 1, benefiting from the security and decentralized nature of Layer 1, but adding extra features to improve performance.

Understanding The Ethereum Scaling Challenge

One challenge faced by all blockchains, including Bitcoin and Ethereum, is the "Blockchain Trilemma." This term refers to the idea that a blockchain can't have all three of the following properties at once:

***Scalable**
***Secure**
***Decentralized**

Layer 1 blockchain developers are forced to sacrifice one of the above properties to maximize the other two. While some blockchains allow for centralization to make a scalable and secure blockchain, many of the most popular blockchains have chosen to strive for decentralization and security at the expense of scalability. Evidence of this can be seen in the frequent network congestion that plagues Bitcoin and Ethereum. For cryptocurrencies to enjoy mass adoption, developers will need to find a way to eliminate these scaling issues while still retaining the other more desirable properties offered by Layer 1 blockchains.

Layer 2 solutions aim to solve a blockchain's scaling issues by running a second layer for communication and transactions on top of the existing blockchain. One example is Bitcoin's Lightning network, which offers a much higher transaction rate and much lower fees than Bitcoin's base layer. Likewise, Arbitrum is a Layer 2 solution for the Ethereum blockchain that offers increased scalability not only in terms of traditional transactions but also for Web3 apps and smart contracts.

Fortunately, the blockchain trilemma doesn’t apply to dApps that run on Layer 2 blockchains such as Neptune Mutual’s cover marketplace:

scalable, secure and decentralized.

In order to scale adoption of DeFi Insurance we paid particular attention to four design factors when developing our application: security, risk, scalability and UX. ***Launching on Arbitrum will reinforce these design principles in the operation of our dApp with fast transaction speeds, low gas fees and the underlying security of Ethereum mainnet.***

The Benefits of Arbitrum

Arbitrum makes use of an innovative technology called Optimistic Rollups to improve the efficiency of Ethereum while maintaining the underlying network's security features. By using Arbitrum, developers and end users can benefit from the following:

- Faster transaction speeds
- Increased network capacity
- Reduced transaction fees
- The ability to run smart contracts on Layer 2

How Does Arbitrum Work?

Arbitrum works by taking some of the load off Ethereum. Instead of processing every single transaction within the chain, Ethereum "optimistically assumes" that the transactions being handled through Arbitrum are valid. Hence the name "optimistic rollups." ***This allows Arbitrum to handle more transactions per second than the Ethereum base layer can.***

Combined with Ethereum's long-term strategy to improve scalability through sharding (breaking the Ethereum network into smaller shards), this allows for a much faster and more efficient network. In addition, optimistic rollups of the kind used by Arbitrum remain compatible with the Ethereum Virtual Machine, so developers can still use them for smart contracts. They're also still verifiable on Layer 1, if required, so users and developers still benefit from the decentralization and security of the Ethereum network.

The security comes from the way Arbitrum Rollups can be verified. Ethereum assumes any transactions in an Arbitrum rollup are valid unless proven otherwise. If someone claims a transaction is fraudulent, this can be verified on Layer 1. If the fraudulent claim is correct, the transaction can be undone and the fraudulent party penalized. If the person claiming the transaction was fraudulent is lying, they will be penalized. The penalties prevent vexatious claims and help reduce the work that needs to be done on Layer 1.

Arbitrum's combination of low gas fees and rapid confirmations make it a popular tool for DeFi applications. For example, Uniswap now offers the option to operate on Arbitrum in addition to Layer 1. Currently, the Arbitrum version of Uniswap has a similar capacity to Layer 1. However, the low fees mean it's suitable for micro-transactions, allowing Uniswap to take a percentage of each user transaction to feed into their cover pool, and the near-instant transaction confirmations are a significant draw for the Layer 2 solution too.

Off-chain labs claim that in the runup to the launch of Abitrum One, they gave more than 400 projects access to their mainnet. These projects take advantage of the chain's speed, flexibility and low fees, making transactions faster and cheaper. Not only does this benefit users by reducing the friction they experience when attempting to buy, sell or stake on DeFi platforms, but it also helps developers manage liquidity for cover pools, facilitates bridging between networks, and generally improves the experience of working on the ERC-20 network.