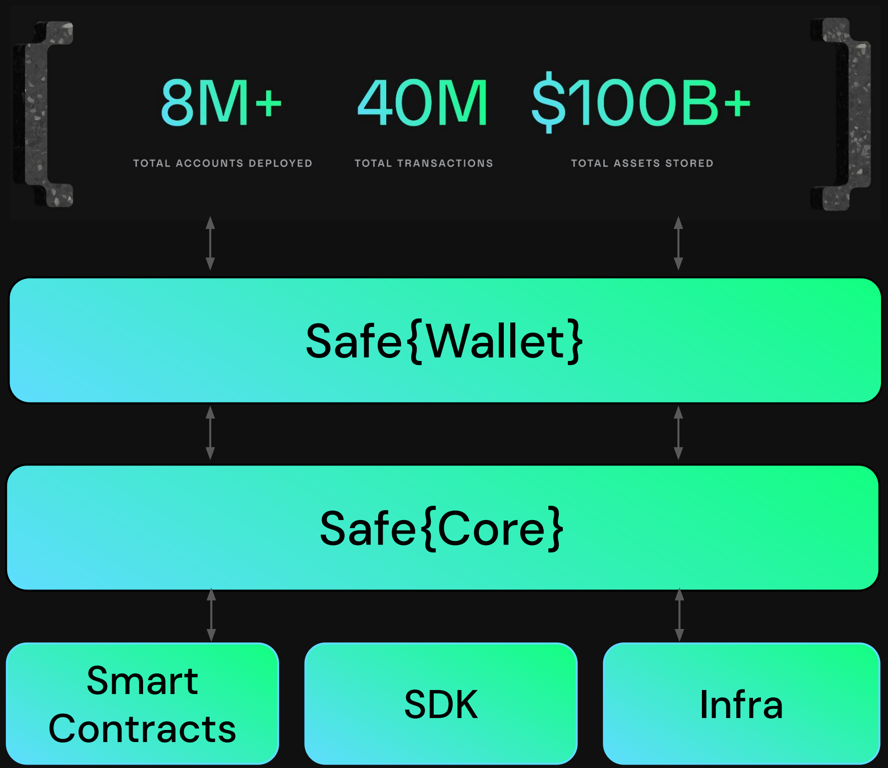
Safe{Core}

Crafting a simple UX with advanced DeFI capabilities

What is Safe?

Open Source

Secure



8M+
TOTAL ACCOUNTS DEPLOYED

40M
TOTAL TRANSACTIONS

$100B+
TOTAL ASSETS STORED

Safe{Wallet}

Safe{Core}

Smart Contracts

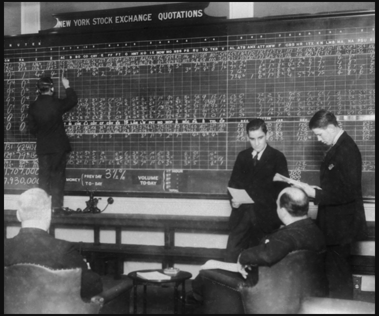
SDK

Infra

Neutral

Interoperable

Helping build the next generation of DeFi



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DeFi Protocols

Web3-native only onboarding
Complex user interfaces
Limited account functions

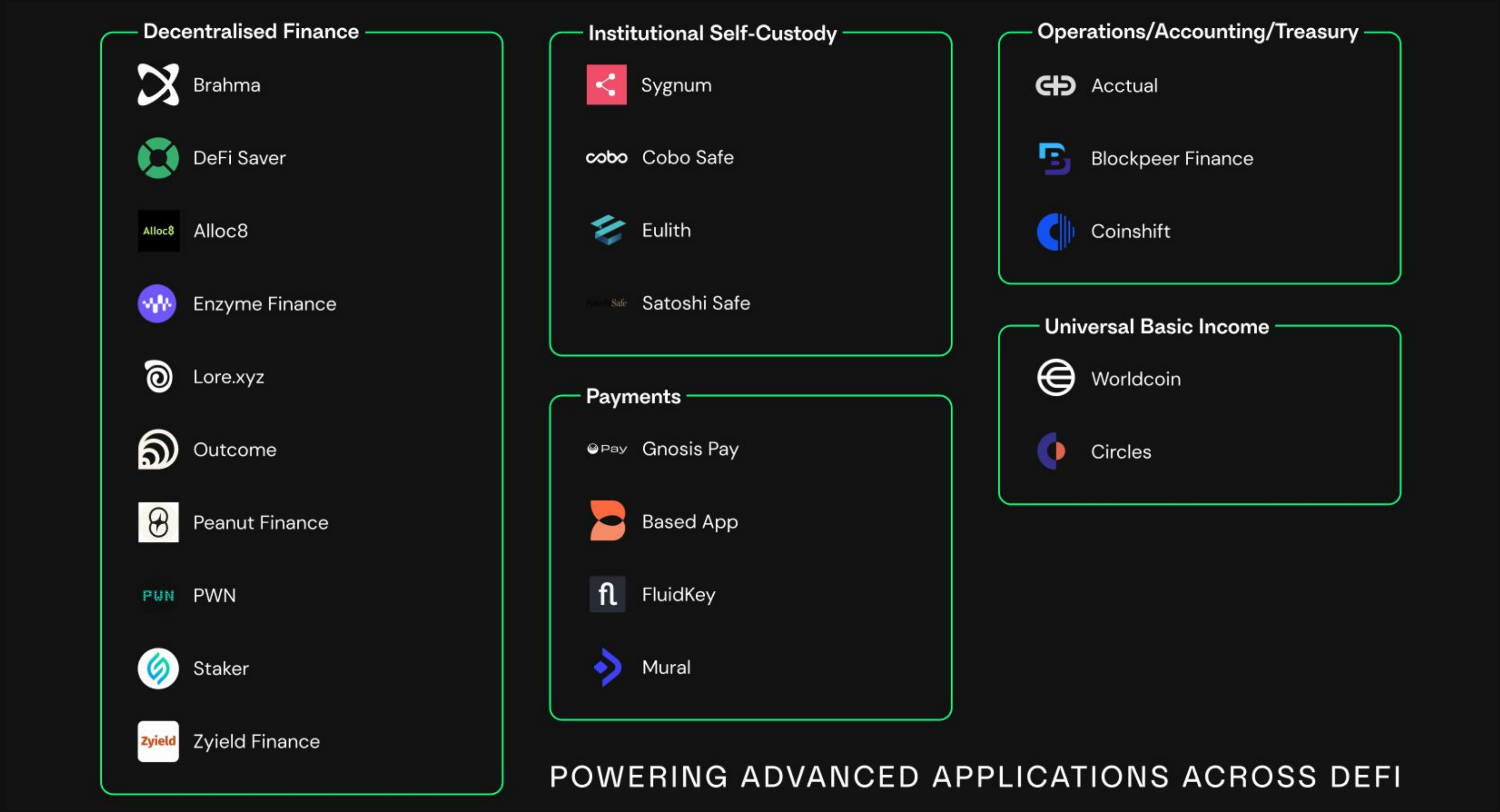
Smart Accounts

Controlled by </code>
Fully flexible/customizable
Optimized for UX & security

Huge Potential

Suitable for non-crypto
Infinitely complex in

DeFi Ecosystem Highlights



Decentralised Finance

- Brahma
- DeFi Saver
- Alloc8
- Enzyme Finance
- Lore.xyz
- Outcome
- Peanut Finance
- PWN
- Staker
- Zyield Finance

Institutional Self-Custody

- Sygnum
- Cobo Safe
- Eulith
- Satoshi Safe

Payments

- Gnosis Pay
- Based App
- FluidKey
- Mural

Operations/Accounting/Treasury

- Acctual
- Blockpeer Finance
- Coinshift

Universal Basic Income

- Worldcoin
- Circles

POWERING ADVANCED APPLICATIONS ACROSS DEFI

Safe{Core} Features and capabilities

- Sponsored Transactions
- Easy Sign-In
- Session Keys
- Guards
- Multisig
- Batching
- Whitelisting
- Recovery
- Roles
- Sub Accounts
- Time-locked Transactions
- Spending Limits

Focus on Sub-Accounts

Overview
Sub accounts are parent/child setups where the parent Safe fully owns and controls one or more child Safes.

Benefits

- Portfolio Segmentation
- Operational Efficiency
- Role-Based Management
- Customizable Allowances

How does the feature work:

Subaccounts within a Safe framework allow for the creation of child accounts that are fully controlled by a parent account.

The parent account has the authority to set rules, enable modules, and overwrite fallback handlers on the subaccounts, providing a high level of customization and control over how each subaccount operates.

To create a subaccount, you don’t need to add any new modules to your existing Safe account. Simply create a new Safe account (the child) and designate the parent Safe account as the owner of the new child account.

Focus on Session Keys

Overview

Easy sign-up allows users to create a wallet without having to deal with a private key or seed phrase.

Benefits

Uninterrupted User Experience

Recurring Transactions

How does the feature work:

By leveraging ERC-4337 and a session manager module, a Dapp can request a single signature from the user to perform transactions on their behalf for the duration of a valid session.

The Dapp first requests permission from the user to execute transactions within a defined and limited scope. Once the user grants this permission, a session key is generated and stored within the session manager module.

The session key is issued with a limited lifespan and can only perform a specific set of actions, ensuring security and control during the session.

Focus on Guards

Overview
Guards are security mechanisms within an account that enforce specific rules or conditions before a transaction can be executed.

Benefits

Compliance

Enhanced Security

Conditional executions

How does the feature work:

Guards in a Safe account provide an additional layer of security by enforcing restrictions beyond the standard n-out-of-m signature scheme. These Guards can perform checks both before and after a Safe transaction to ensure that all actions comply with predefined rules.

Before a transaction is executed, the Guard can programmatically verify all parameters of the transaction, ensuring they meet the required criteria.

After the transaction, the Guard conducts a final check to validate the end state of the Safe, confirming that the transaction was executed correctly and in accordance with the set rules.

Safe for DeFi Applications

Automations

- Rebalancing
- Refinancing
- Margin Management
- Profit Taking

Interoperability

- Cross-Chain
- Cross-Protocol

Execution

- Push/Pull Payments
- Programmable Orders
- Conditional Routing
- Transaction Simulations
- Flash Loans
- Private Transactions

Artificial Intelligence

- AI Agents

Automations in DeFi: Rebalancing

Automated Rebalancing

Overview

Automated rebalancing in a Safe allows you to set predefined rules that automatically adjust the balances between different Safe accounts and their sub-accounts.

This functionality is essential for maintaining optimal liquidity and ensuring that specific accounts always have the necessary funds.

Use Cases

1. **Rebalance a Spending Account from a Savings Account**
   Ensure that your users spending account always has a minimum balance of $500.
2. **Rebalance Liquidity Across Chains:**
   Ensure that sufficient funds are available across various Safe accounts on different blockchains.
3. **User-Account Sweeping:**
   Manage incoming user funds efficiently when using assigned deposit addresses for users.

Automations in DeFi: Refinancing

Automated Refinancing

Overview

Automated Refinancing within a Safe allows you to set up rules that automatically refinance loans or debts under favorable conditions.

This feature is essential for optimizing borrowing costs, managing debt efficiently, and ensuring that your positions remain sustainable without requiring continuous manual intervention.

Use Cases

1. **Maximizing Capital Efficiency**
   Refinance your users outstanding loans or debts to a lower interest rate or higher yield to maximize capital efficiency.

2. **Debt Consolidation:**
   Manage and consolidate multiple loans or debt positions across various platforms or pools

Automations in DeFi: Margin Management

Automated Margin Management

Overview

Automated Margin Management in a Safe allows you to define rules that automatically manage and adjust the margin levels for trading or lending accounts.

This feature is crucial for maintaining optimal margin levels, preventing liquidation, and ensuring that accounts remain healthy without requiring constant manual oversight.

Use Cases

1. **Maintaining Minimum Margin Levels:**
   Automatically top up margin levels to prevent liquidation for user accounts that require a minimum margin level
2. **Collateral Rebalancing:**
   Ensure that collateral is distributed efficiently across multiple accounts or assets to meet overall margin requirements.
3. **Dynamic Margin Adjustments:**
   Quickly adjust margin levels in response to volatile markets to avoid liquidation or margin calls.

Automations in DeFi: Profit Taking

Automated Profit Taking

Overview

Automated Profit Taking within a Safe allows you to set predefined rules that automatically lock in profits when specific conditions are met.

This feature is crucial for ensuring that gains are realised and protected, minimising the risk of losing profits due to market fluctuations or human error.

Use Cases

1. **Setting Target Prices for Asset Sales:**
   Allow users to automatically execute asset sales when the target price is reached to secure profits.
2. **Stablecoin Conversion:**
   Protect user profits by automatically converting gains from volatile assets into stablecoins.
3. **Dynamic Margin Adjustments:**
   Allow for automated spread of realized profits across multiple assets to diversify your portfolio and reduce risk.

Automations in DeFi: AI Agents

Automated AI Agents

Overview

Automated AI Agents within a Safe ecosystem leverage artificial intelligence to perform complex tasks and make real-time decisions based on predefined objectives.

These agents can autonomously manage assets, execute transactions, and optimize strategies, enabling users to harness the power of AI for more efficient and intelligent decentralized finance management.

Use Cases

1. **Dynamic Investment Strategies:**
   Maximize returns in volatile markets by using AI agents to formulate strategies based on historical data and user input, eliminating the need for constant monitoring and manual intervention.

2. **Automated Arbitrage Seeking**
   Automate arbitrage behavior across pools and protocols with AI agents optimized for rapid execution to capture price discrepancies.

3. **Enhanced Risk Management:**
   Use AI agents to streamline risk management of diverse financial goals, by finding the optimal approach to simplify complexity and save time.

Safe{Core} Execution Frameworks for DeFi

Sections:

1. Push & Pull Payments
2. Programmable Orders
3. Conditional Routing
4. Transaction Simulations
5. Flash Loans
6. Private Transactions

Introduction:

Safe smart account execution frameworks in DeFi, offer significant benefits by enabling precise and efficient management of complex financial strategies.

These frameworks ensure that transactions are executed at optimal times and under the best conditions, enhancing the overall effectiveness of DeFi operations.

By allowing users to operate with greater accuracy and responsiveness, execution frameworks reduce the need for constant oversight, freeing up time and resources while minimizing the risk of errors.

Execution in DeFi: Push & Pull Payments

Push & Pull Payments

Overview

Push Payments within a Safe smart account framework allow users to initiate and send payments directly to recipients without needing the recipient to request or pull the funds.

This functionality is vital for creating seamless, automated payment processes in DeFi applications, enabling precise control over fund distribution, recurring payments, and instant transfers.

Use Cases

1. **Recurring Payments:**
   Automatically set up and process regular payments, such as subscriptions, salaries, or periodic remittances, without the need for manual approval each time.

2. **Native token distribution:**
   Allow for scheduled token distribution from a pool of assets across multiple end-users.

Execution in DeFi: Programmable Orders

Programmable Orders

Overview

Orders within a Safe allow users to set up customizable, rule-based transactions that execute automatically when specific conditions are met.

This feature is essential for automating complex trading strategies, managing assets efficiently, and ensuring that transactions are executed at optimal times without requiring constant manual intervention.

Use Cases

1. **Conditional Asset Trading:**
   Allow your users to automatically buy or sell assets only when specific market conditions, such as a price point or volume threshold, are met.

2. **Dollar Cost Averaging & TWAPs**
   Allow your users to regularly invest a fixed amount of money into an asset over time to reduce the impact of market volatility, regardless of its price.

3. **Multi-Step Process Management:**
   Automate a series of transactions that must occur in a specific order, executing each step only after certain conditions, like receiving a payment, have been met.

Execution in DeFi: Conditional Routing

Conditional Routing

Overview

Conditional Routing within a Safe allows users to set up rules that determine how transactions or funds are directed based on specific conditions.

This feature is essential for automating complex workflows, optimizing the flow of assets, and ensuring that transactions are routed to the appropriate destinations under the right circumstances.

Use Cases

1. **Optimizing Transaction Paths:**
   Automatically execute transactions through the most efficient path based on current network conditions and fees.
2. **Fund Distribution to Multiple Parties:**
   Automatically distribute funds to multiple recipients based on specific conditions, such as sending a larger share to a primary partner if certain performance metrics are met.
3. **Routing Based on External Data Feeds:**
   Automatically route transactions or funds based on real-time external data, such as oracles, market prices, or other relevant indicators.

Execution in DeFi: Transaction Simulations

Transaction Simulations

Overview

Simulations within a Safe allow users to model and test their transactions or investment strategies before executing them in the real world.

This feature is crucial for understanding potential outcomes, optimizing strategies, and mitigating risks by allowing users to explore different scenarios without committing actual funds.

Use Cases

1. **Testing Investment Strategies**
   Allow your users to simulate and test complex transactions in order to predict outcomes and account for factors like slippage, fees, or network conditions.

2. **Evaluating New DeFi Protocols:**
   Build easy tools that allow your users to assess how new DeFi protocols or features will interact with your existing assets and strategies before integrating them.

Execution in DeFi: Flash Loans

Flash Loans

Overview

Using Safe, you are able to build a seamless flash loan interface for users, enabling them to borrow large amounts of assets without requiring collateral, provided the loan is repaid within the same transaction block.

This functionality is critical for users looking to execute complex financial strategies, such as arbitrage, collateral swaps, or debt refinancing, directly through your platform.

Use Cases

1. **Simplified Access to Flash Loans:**
   Enable users to easily leverage flash loans for quick, profit-generating opportunities without navigating the complexities of the transaction.

2. **Flash-Loan Enabled Trading Strategies:**
   Empower users to leverage advanced trading strategies, such as leveraging, shorting, or conducting simultaneous trades across multiple platforms, by providing temporary liquidity through flash loans.

Execution in DeFi: Private Transactions

Private Transactions

Overview

Private Transactions within a Safe smart account enable users to conduct financial activities discreetly, ensuring that transaction details such as amounts, recipients, and asset types remain confidential.

This feature is crucial for users who prioritize privacy in their decentralized finance (DeFi) activities, whether for personal security, competitive strategy, or protecting sensitive financial information.

Use Cases

1. **MEV Protection:**
   Allow your users to execute complex DeFi strategies that span multiple blockchain networks, such as borrowing on one chain and staking on another.

2. **Anonymised Asset Transfers:**
   Enable users to transfer assets between accounts or to another user without linking the transaction to their identity or revealing the nature of the assets.

3. **Confidential Payment Channels:**
   Allow users to set up recurring or one-time payment arrangements with another party, keeping both the amounts and frequency confidential.

Safe{Core} for Interoperability in DeFi

Sections:

1. Cross-protocol interactions
2. Cross-chain interactions

Introduction:

Safe smart accounts enable seamless interoperability across DeFi, allowing users to manage and execute complex financial strategies across different protocols and blockchain networks from a single interface.

This simplifies asset management, enabling activities like lending, borrowing, and staking without the need to manually switch between platforms, resulting in a more streamlined and efficient user experience.

These smart accounts also facilitate sophisticated strategies such as cross-chain arbitrage and multi-protocol DeFi operations.

Interoperability in DeFi: Cross-Protocol Interactions

Cross-Protocol Interactions

Overview

Cross-Protocol Interactions enable users to seamlessly engage with multiple decentralized finance (DeFi) protocols from a single, unified interface.

This feature is essential for building complex financial strategies that involve various protocols, such as lending, borrowing, trading, and staking, without the need to manually navigate between different platforms.

Use Cases

1. **Unified Asset Management:**
   Allow users to manage assets across multiple DeFi protocols, such as depositing into a lending pool on one platform while staking tokens on another, all from a single interface.

2. **Cross-Protocol Execution:**
   Enable your users to create and execute complex financial strategies that require interaction with several protocols, such as borrowing from one platform to invest in another.

Interoperability in DeFi: Cross-Chain Interactions

Cross-Network Interactions

Overview

Cross-Chain Interactions within a Safe smart account allow users to seamlessly interact with and manage assets across multiple blockchain networks from a single, unified interface.

With the smart contracts being deployed on over 200 chains, you are able to leverage the full potential of DeFi across different ecosystems, enabling users to move assets, execute transactions across chains.

Use Cases

1. **Unified Cross-Chain DeFi Strategies:**
   Allow your users to execute complex DeFi strategies that span multiple blockchain networks, such as borrowing on one chain and staking on another.

2. **Multi-chain Gas Tank**
   Enable users to interact with multiple chains without the need to purchase native assets for each chain by topping up a single sources of funds

3. **Cross-Chain Arbitrage:**
   Automatically exploit price discrepancies of the same asset across multiple blockchain networks to generate profit, using subaccounts dedicated to different networks.