XRP LEDGER

EVM and the XRP Ledger

Introduction

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XRP Ledger (XRPL) launched in 2012 to address limitations of crypto and fiat currencies for financial use cases, specifically payments

Over a decade, XRPL has matured into one of the most robust layer-1 blockchains

100%

decentralized blockchain with 600+ nodes processing transactions and maintaining the ledger

1750+

unique apps and exchanges on mainnet built by a diverse set of global developers

4.5M+

active XRP wallet holders around the world

100+

Proof-of-Association validators operated by universities, exchanges, businesses, & individuals

2.6B+

transactions processed representing over $1T in value moved between counterparties

$35B+

market capitalization of XRP, making it the ~5th largest cryptocurrency

Source: CoinMarketCap, July 2023, https://livenet.xrpl.org/

Intentionally designed to enable
scalable blockchain development

Proven

Supports large scale use cases and long term projects with **2.6B+ successful transactions, more than Ethereum,** without failure or security breach since 2012

Ready to Go

Access complete blockchain functionality, from tokenizing assets to advanced payments, **without needing to learn, build, and maintain** complex smart contracts

Fast, Cheap, Green

Carbon neutral blockchain settling transactions every **3-5 seconds** at fractions of a cent per transaction for mass market adoption

Source: https://blockchair.com/ethereum/charts/total-transaction-count

Powerful protocol features provide the building blocks to innovate

Native DEX

First on-chain DEX in the world, trading and moving tokens anywhere in seconds with competitive liquidity

Issued Assets

Ability to represent digital currencies, legal obligations, fungible tokens, and other asset classes on the ledger

Non-Fungible Tokens

Non-fungible tokens with built-in royalties and all trades are handled by the DEX

Token Asset Controls

Controls for token issuers and holders to enhance security and regulatory compliance

Advanced Payments

Use advanced payment capabilities like “Escrow” and “Checks” to build smart applications without smart contracts

Sample of available protocol features, learn more at XRPL.org

EVM Sidechain

Join the XRPL EVM Discord!

Why EVM Sidechain?

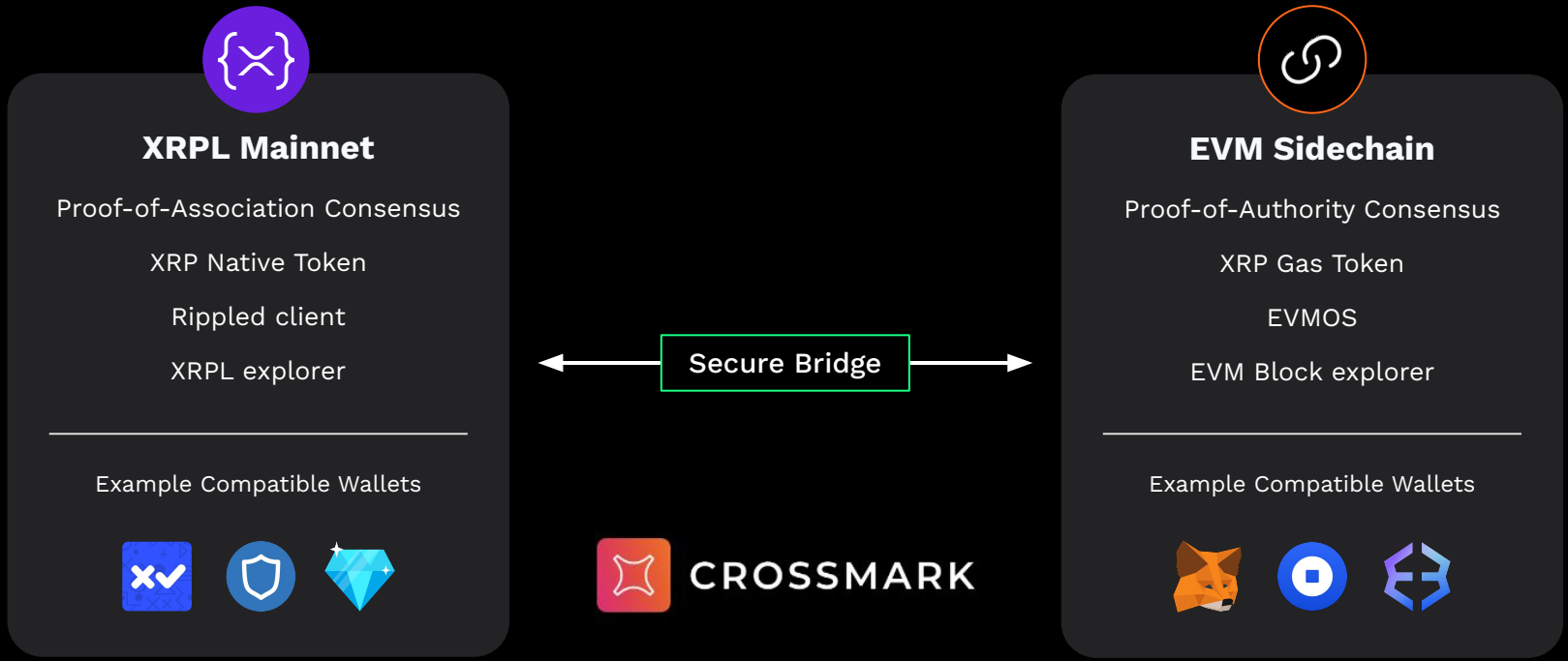
- Lack of general purpose smart contract support
- Target a larger number of EVM ecosystem developers
- Demand from institutions and central banks for evm focused applications

EVM Compatibility on different blockchains

Blockchain Ecosystem	EVM Compatibility Solution/Project
Ethereum	Native
Solana	Neon
Polkadot	Moonbeam
Cosmos	Evmos
Polygon	zkEVM
BNB Chain	BNB Smart chain
Avalanche	Avalanche C-chain
XRPL	**EVM Sidechain**

What is it?

The EVM Sidechain enables the ability to interact or deploy smart contracts written in Solidity with a secure bridge to XRPL Mainnet



Why is that interesting?

EVM apps can now access and benefit from the XRPL ecosystem

01

Bridge to the XRPL ecosystem

Any Solidity app written for Ethereum / EVM can access liquidity and user base of XRPL Mainnet

02

Optimized for DeFi

Secure bridges, enhanced scalability and fast transaction finality makes the EVM optimized for financial use cases, like DeFi and payments

03

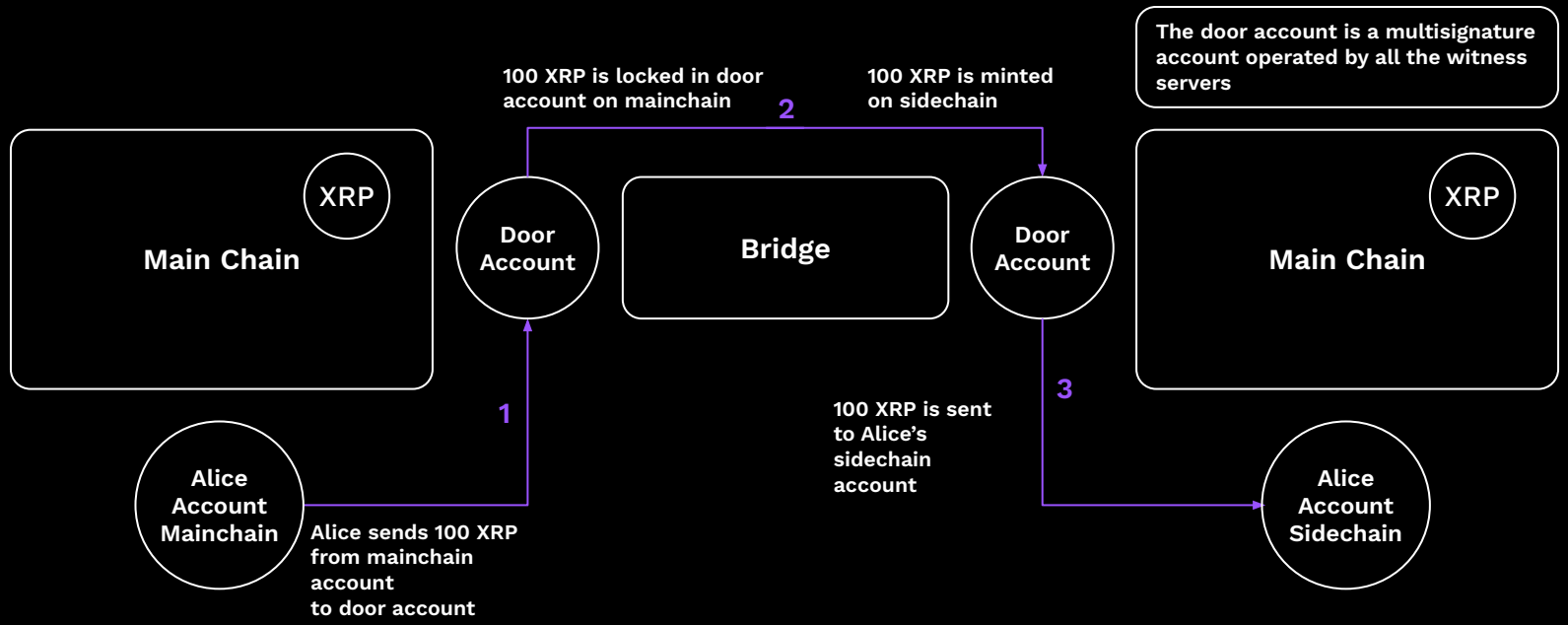
Easy to Build

Build using familiar Ethereum-based tools, wallets, explorers, and apps like MetaMask, Foundry, and Truffle

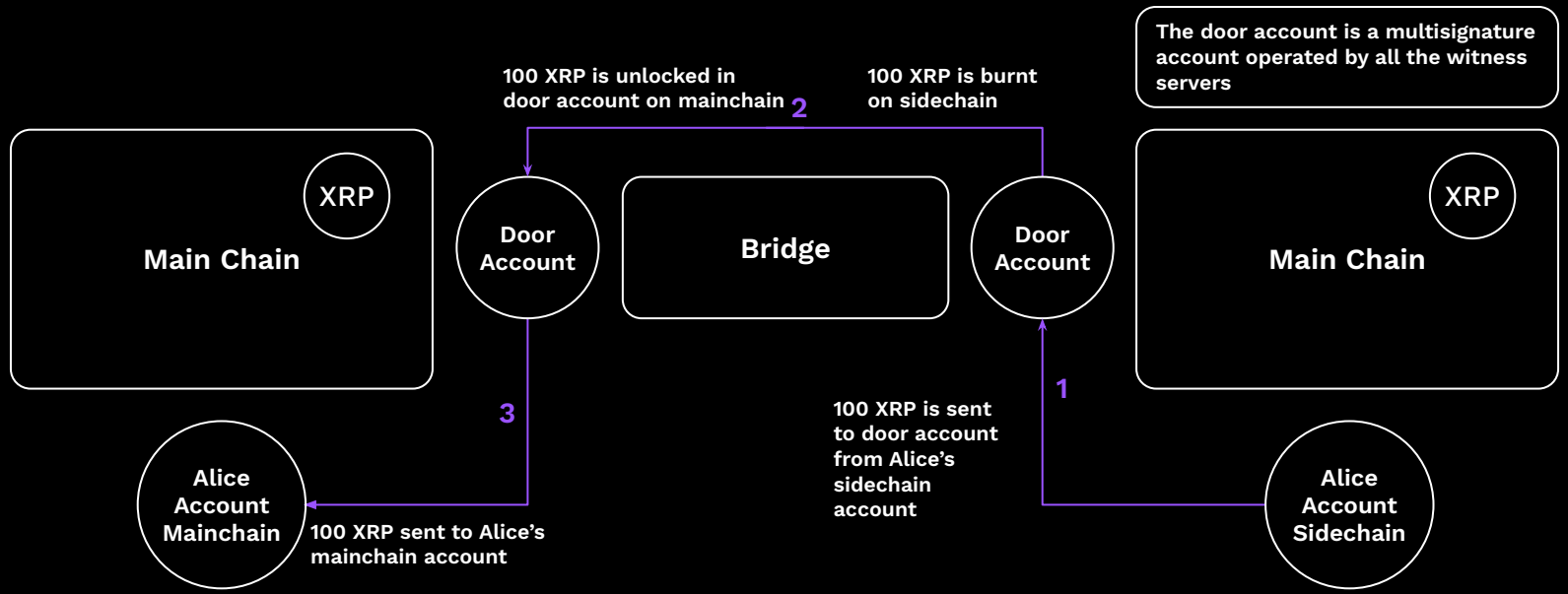
Network Details

- Consensus
  - Powered by CometBFT
  - Tendermint fork
  - Byzantine fault tolerance engine
  - 1 block finalization time
- Execution
  - Cosmos SDK
  - EVMOS
- Validators
  - POA Cosmos SDK

Sidechains - Flow of Funds Mainchain -> Sidechain



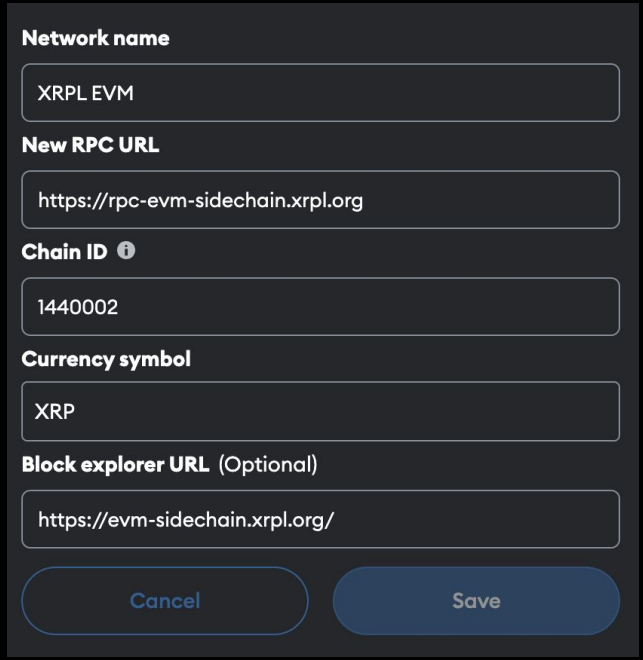
Sidechains - Flow of Funds Sidechain -> Mainchain



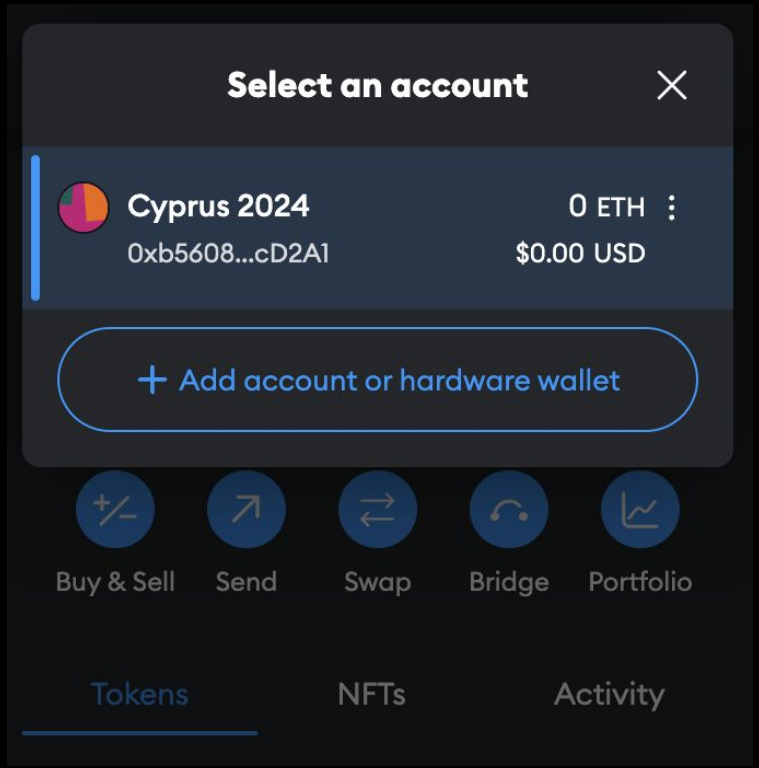
Setting up Metamask

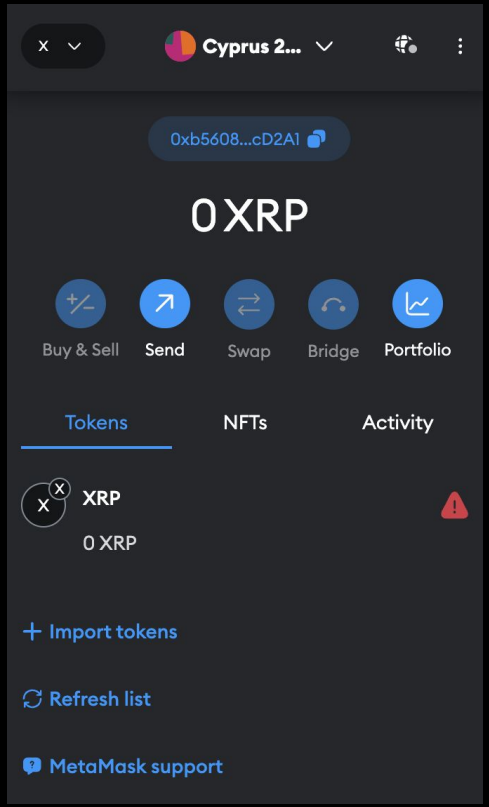
Add a custom network using the details below:

- **Network Name** : XRPL EVM Sidechain
- **New RPC URL** : https://rpc-evm-sidechain.xrpl.org
- **Chain ID** : 1440002
- **Currency Symbol** : XRP
- **Block Explorer** : https://evm-sidechain.xrpl.org



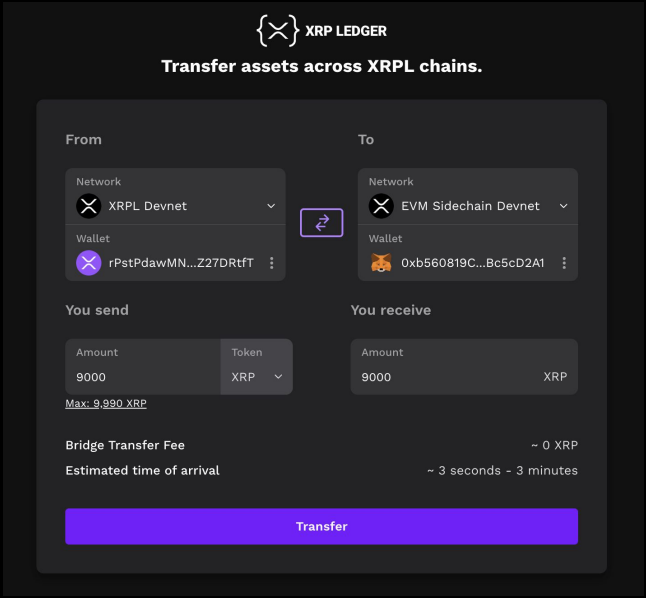
Add a new account

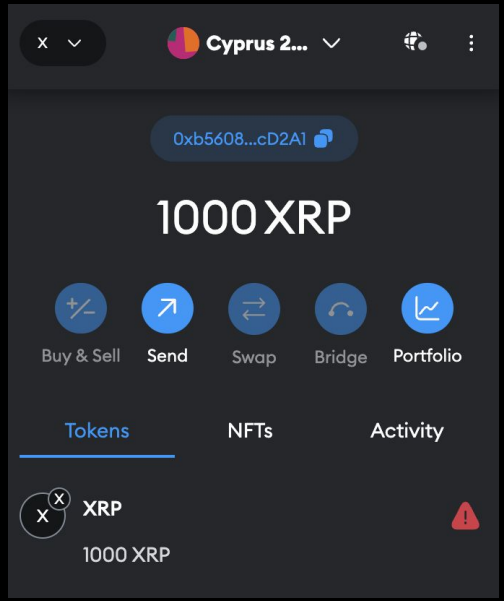




Bridge over some XRP

https://bridge.devnet.xrpl.org



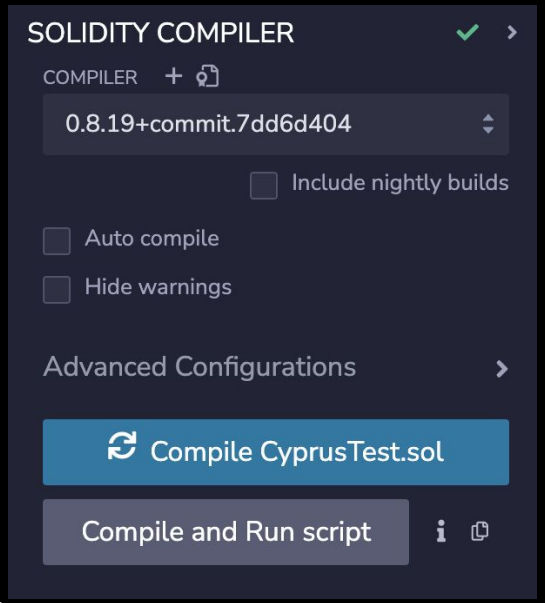


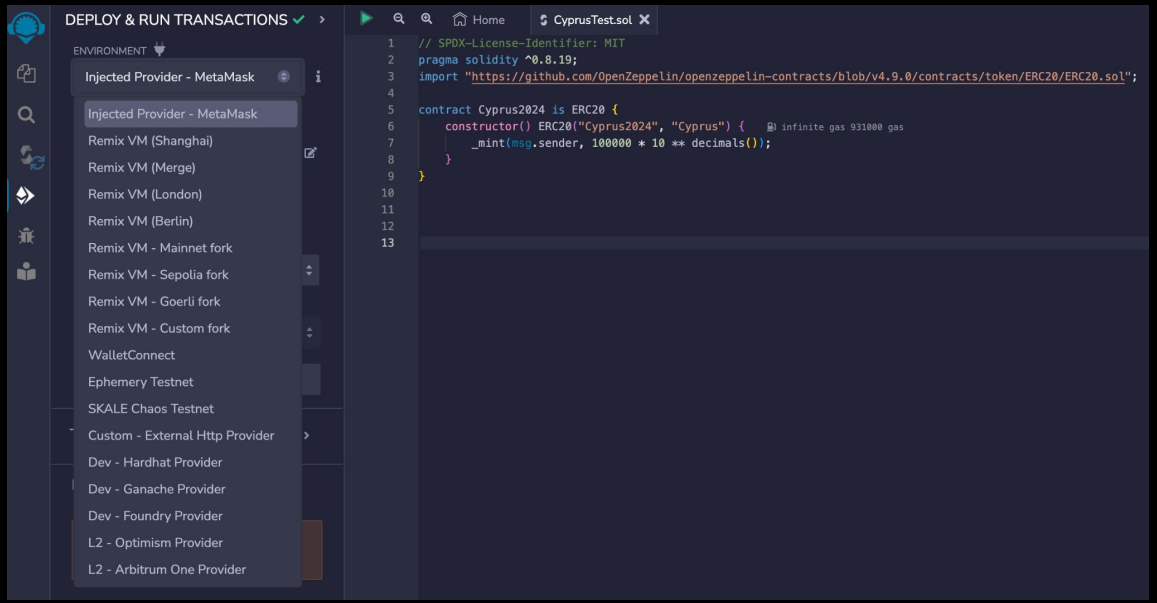
Create your own ERC20 token

```
1  // SPDX-License-Identifier: MIT
2  pragma solidity ^0.8.19;
3  import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/v4.9.0/contracts/token/ERC20/ERC20.sol";
4
5  contract Cyprus2024 is ERC20 {
6      constructor() ERC20("Cyprus2024", "Cyprus") {    infinite gas 931000 gas
7          _mint(msg.sender, 100000 * 10 ** decimals());
8      }
9  }
```

Compile and deploy in Remix

Use “Injected Provider” to compile and deploy





View your token on the EVM explorer

Oracle price feed demo

https://github.com/hazardcookie/cornell-evm