grape

The only
web3 ecosystem
for virtual worlds

Section 1 - Market overview

There is no layer 1 ecosystem on the market that can support all its needs

Despite this, the web3 industry shows sharp growth, mainly from GameFi & Metaverse projects.

GameFi users generate ~500 million transactions monthly.

Most ecosystems launch investment funds - Tron Foundation launched $300 Million GameFi Fund.

AAA game developers work on web3-based games - Ubisoft plans to bring NFTs to games.

Bottlenecks of current layer 1s:

High transaction costs

Low transaction speed
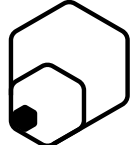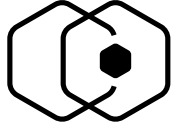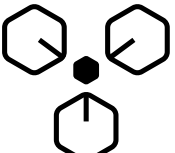
Insufficient infrastructure

Limited token interoperability
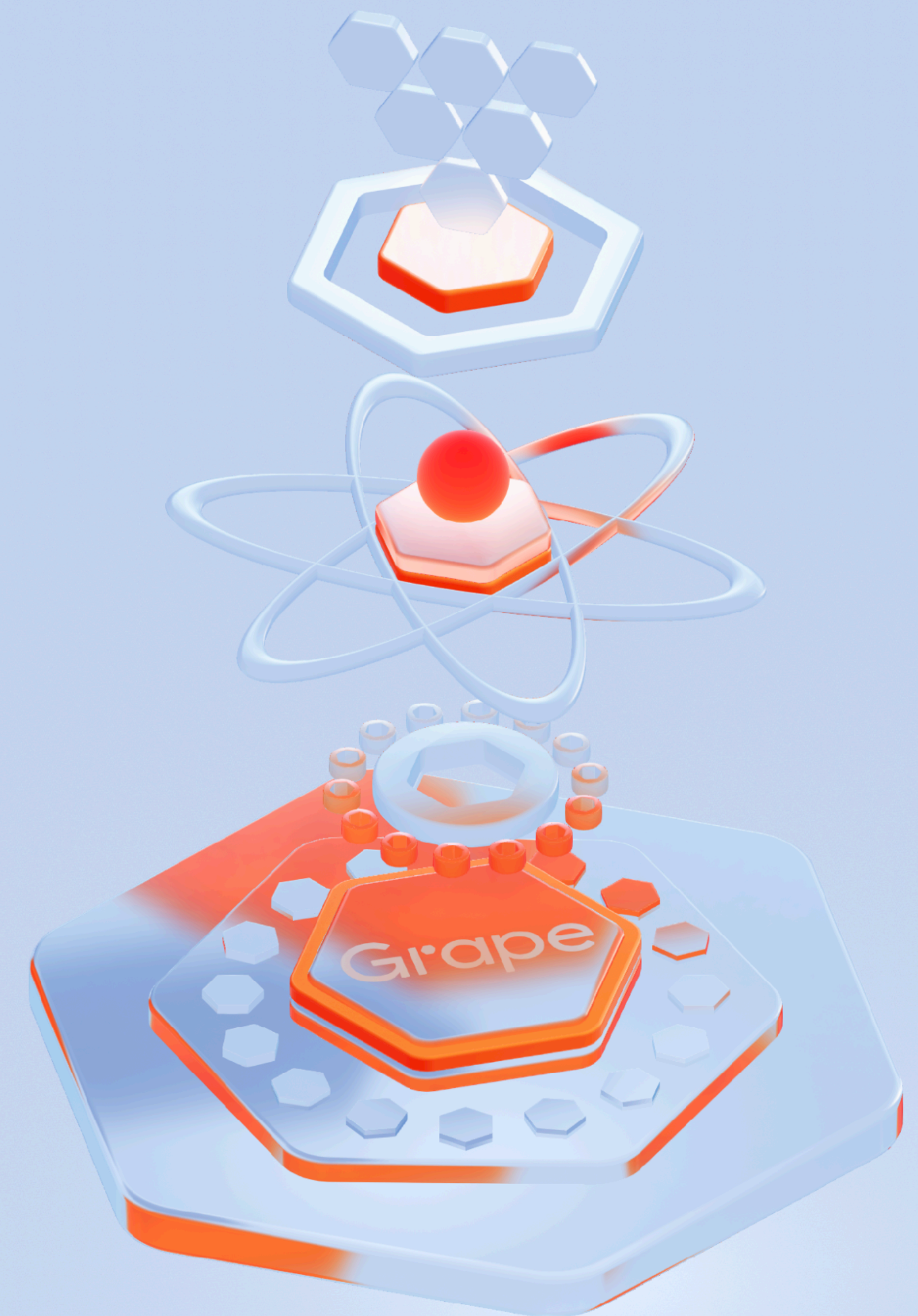
Limited security features

Usage of centralized storages

Web3 and virtual world requirements for the decentralized infrastructure

High performance network

Easy-to-use tools to launch dApps and web3 projects

Military-grade security of funds and infrastructure

Decentralized data & digital asset storage

Interoperable NFT standard

Grape is targeting the most fast-growing industries

⚠️ An estimated 2.9 billion people — more than 1/3 of the world population, played a video game in 2021*.

Virtual world market to surpass
CAGR 43.7%

$1,525.7 billion by 2030

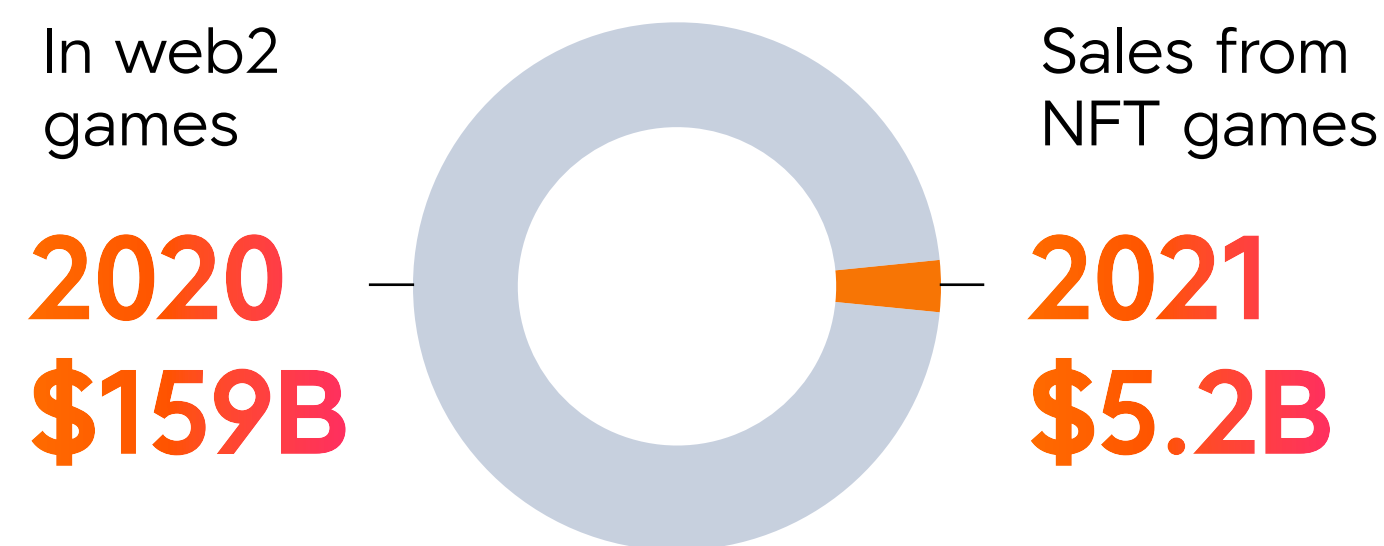The **gaming** market to surpass
CAGR 10.2%

$470 billion by 2030

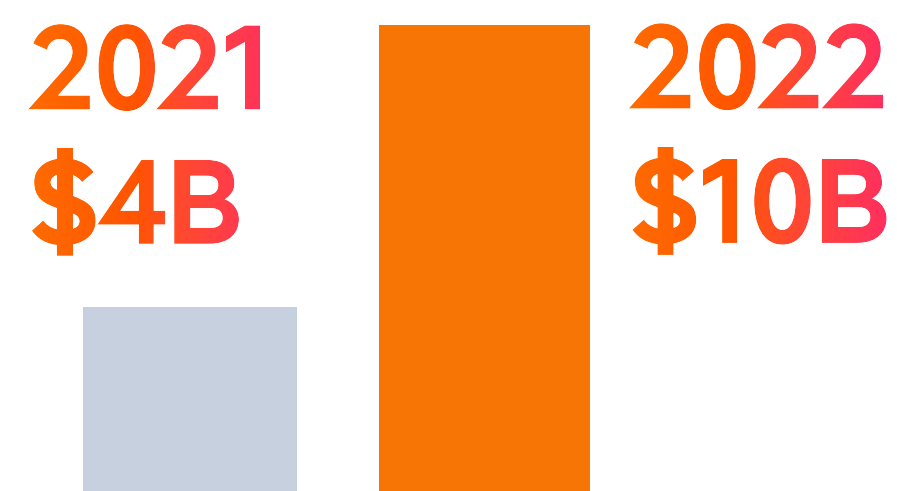**GameFi** market to surpass
CAGR 23.7%

$74.2 billion by 2031

*EY report

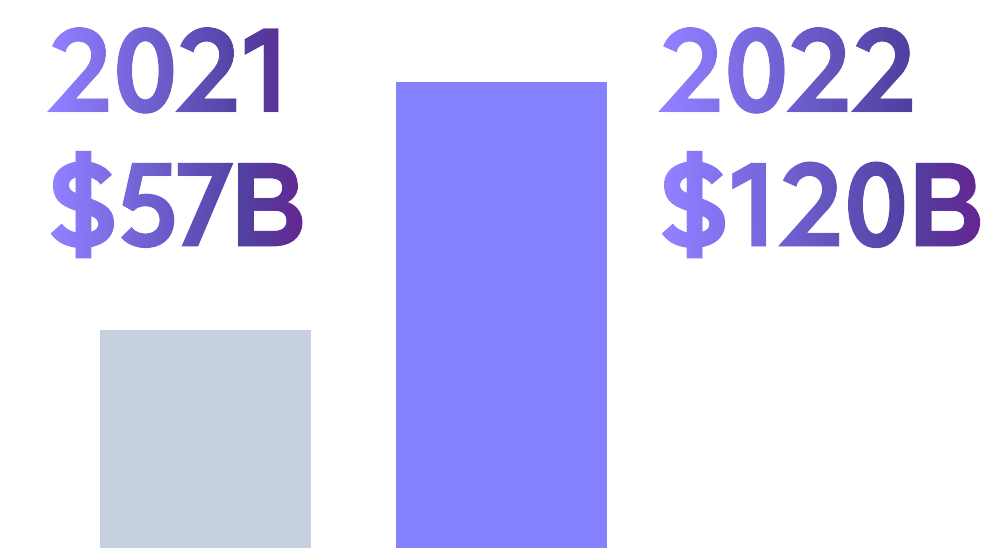# Despite the market drop, virtual worlds continue to attract billions of dollars

In-game purchases

In web2 games
2020
$159B

Sales from NFT games
2021
$5.2B

Investment in GameFi

2021
$4B

2022
$10B
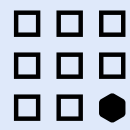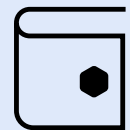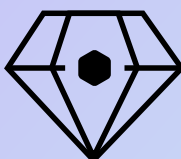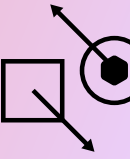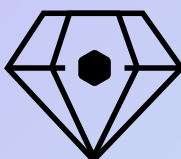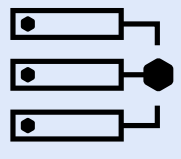
Investment in metaverse

2021
$57B

2022
$120B

Microsoft's **$70B** acquisition of Activision will allow the company to develop Microsoft-backed games and software within the metaverse in the coming years.

Axie Infinity, the most popular NFT game in the world, has announced three eSports tournaments with a total prize pool worth **$1M**.
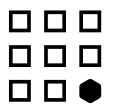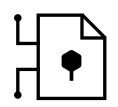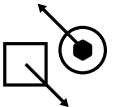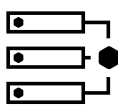
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Section 2 - Meet Grape. The only Web3 ecosystem for games and virtual worlds

Quantum resistant

Multiplatform non-custodial wallet

Web3 as a service to launch new projects fast

Carbon neutral with the aim to become carbon positive by 2025

Biometrics support for authentication, including ECG

Direct Acyclic Graph for unparalleled scalability

UP TO 700.000 TPS

Launchpad for fundraising

NFT marketplace

Native DEX for token trading

Low barrier to network validation

Easy-to-use Web UI to launch dApps

Native fiat onramp

Interoperable virtual assets as an NFT standard

Hardware monetization through lending storage to DCS

Decentralized storage for personal data and digital assets

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7

Grape infrastructure allows launching any web3 dApps

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Grape

Functionality

Polygon

Avalanche

Near protocol

Cosmos

Solana

BSC

Algorand

Ethereum

Flow

Cardano

TRON

Transactions per second
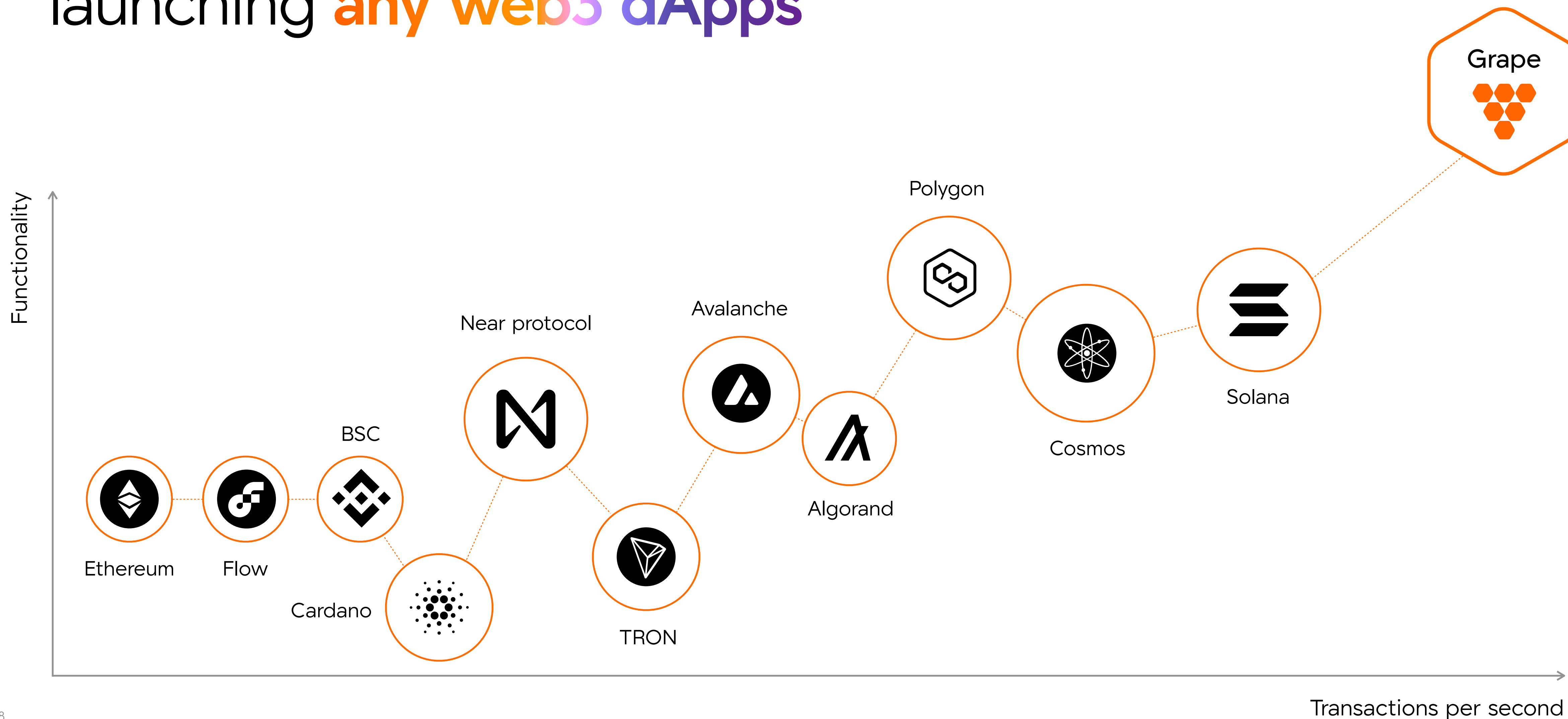
Grape created **VINE** - **a proprietary DAG basis** with multi-layer functionality

Launchpad	Smart contracts	Biometric user access
DEX	Cross-platform wallet	Marketplace
Quantum-resistant encryption	Decentralized cloud storage	Interoperable NFTs standard transfer
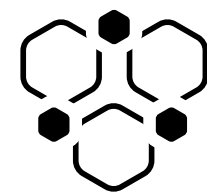
Main net ···· **VINE** ···· Branch-chain
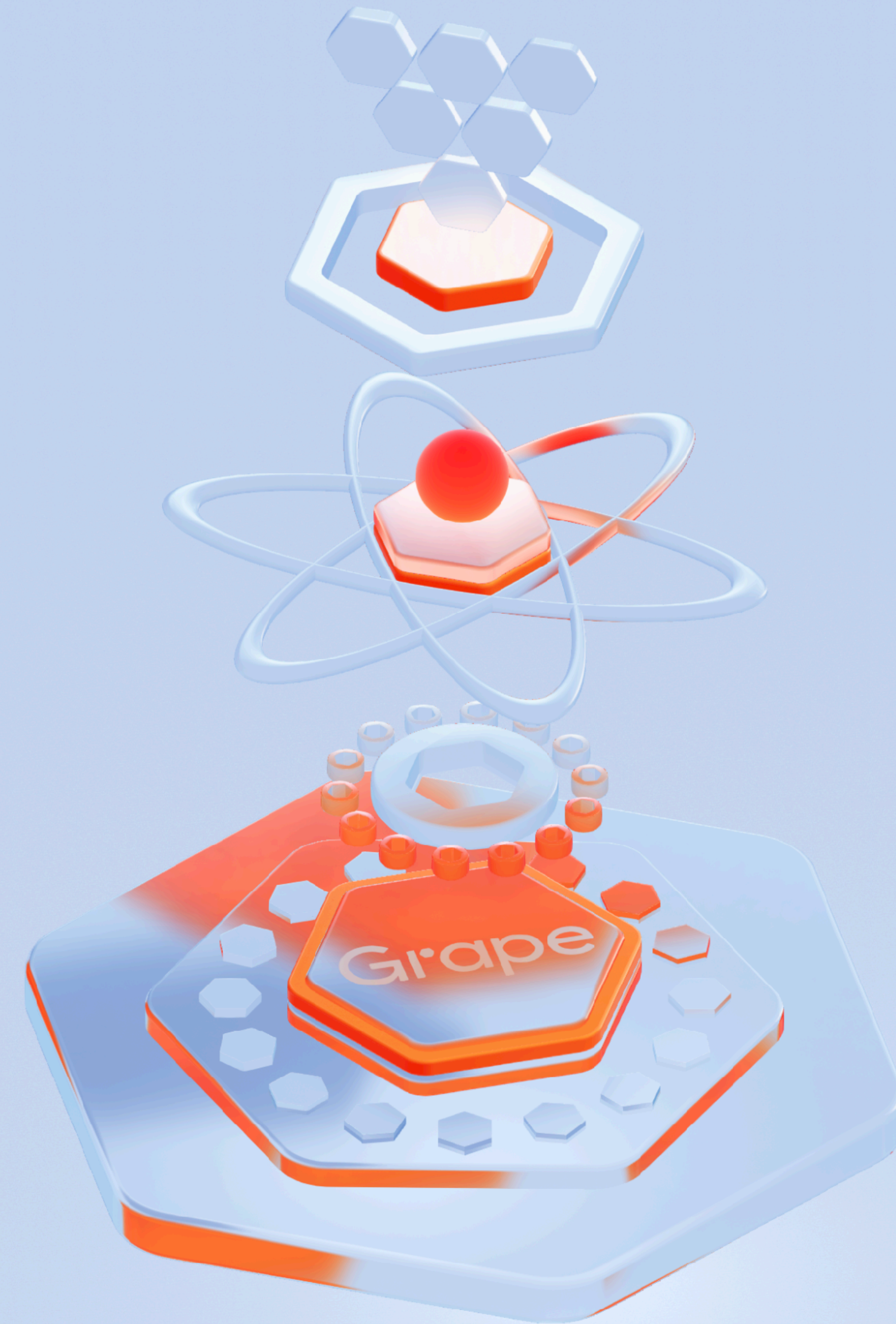
Each action in a virtual world is based on a data transfer, which is a foundation for transactions

Grape's main pillars to ensure ecosystem operation:
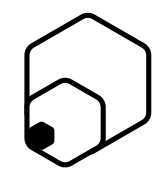
VINE - scalable DAG technology for fast and cheap transactions
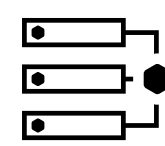
Decentralized cloud storage for securely storing NFTs and other game data
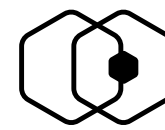
Templates and standards for **interoperable NFTs**

Example of a project's **data flow** within Grape ecosystem

Game project #1

Player 1

Getting an item in a game → Transaction → NFT asset 1 → Asset level up → Transaction

Obtaining resources → Transaction → Crafting/Purchasing/Minting an asset → Transaction → NFT asset 2

NFT asset 3

Asset in-game exchange

Sell via a marketplace

Player 2

Player 3

Obtaining reward for using in-game asset

Transfer of an asset as NFT to another game

Game project #2

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Grape is a robust web3 infrastructure with unparalleled scalability that can withhold extreme loads of games and virtual worlds

VINE allows formulating the transaction tree asynchronously without hitting the bottleneck of linear limitations.
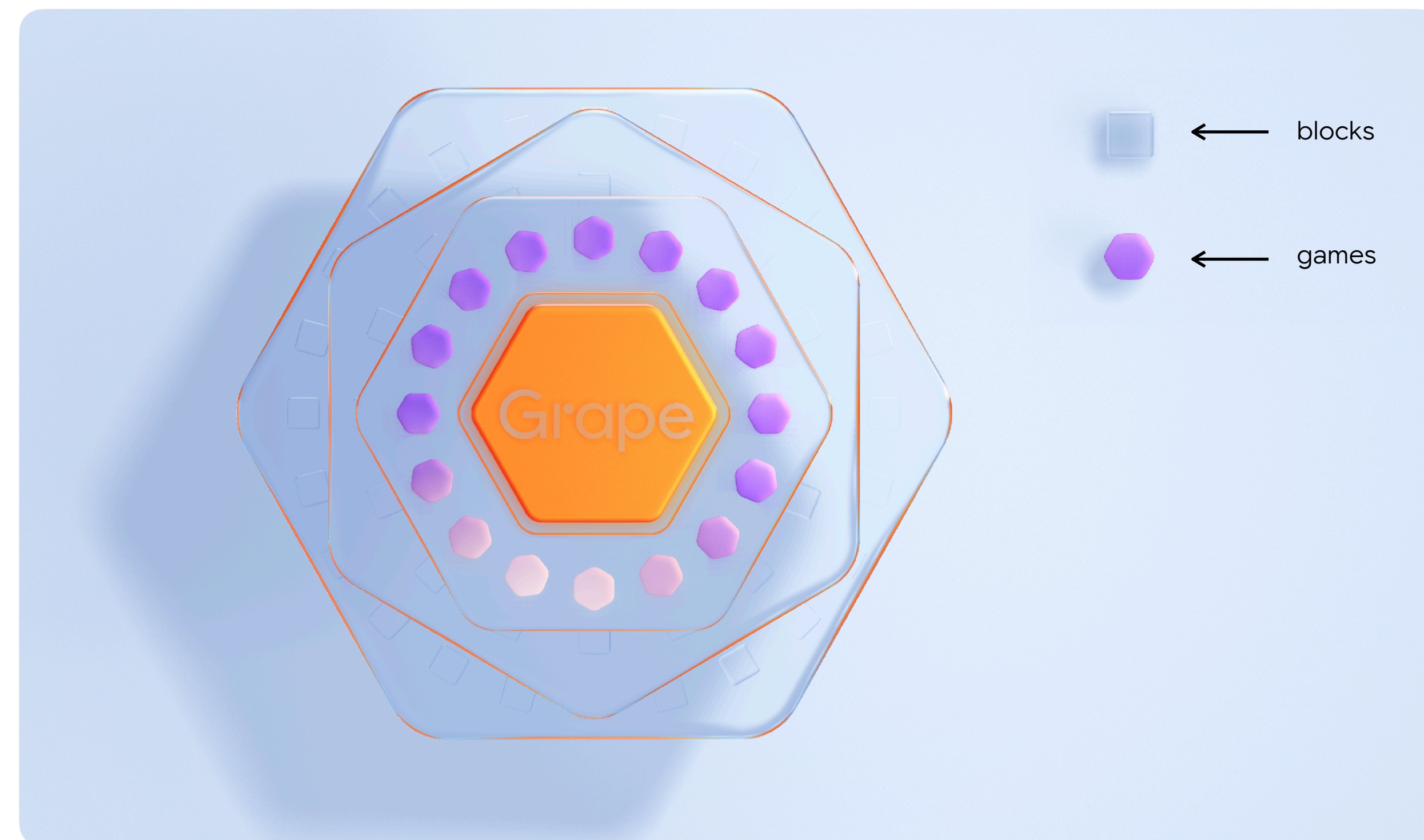
⚠ **One of the most technologically advanced blockchains, Solana, had an 18-hour downtime due to transaction overload.**

blocks ←

games ←

The primary goal of Grape is to create a fully decentralized infrastructure

Due to unique design, Grape network performance will grow with each new advanced node connected to it.

1. Advanced validators will need to store the database to ensure effective network scalability.

2. Basic validators will be able to verify transactions with any device without the need to store the database.
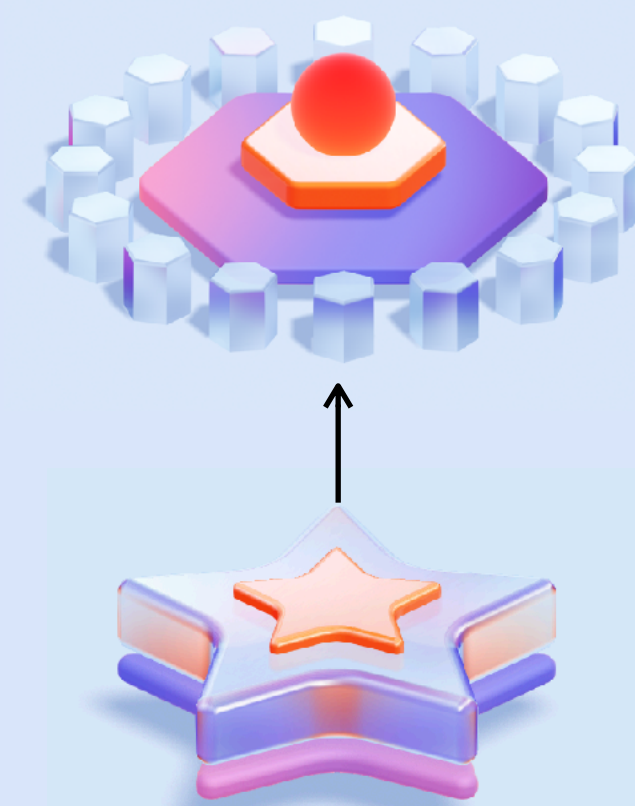
Advanced node

Basic node

Validation

Extra rewards
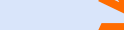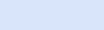
Rewards
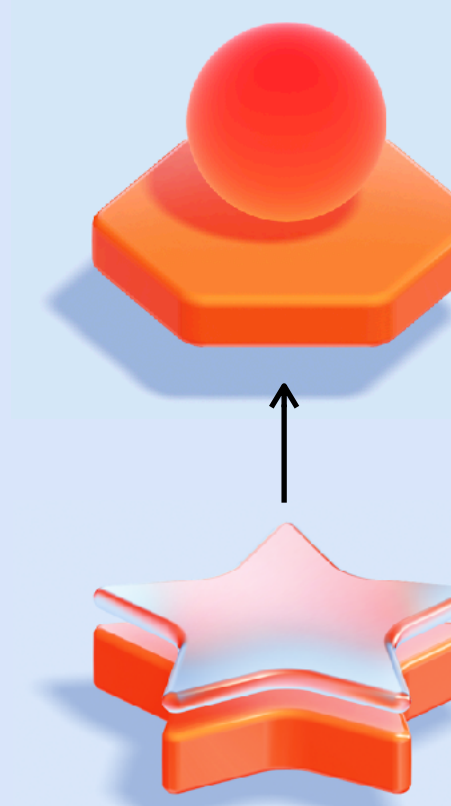
To make advanced nodes even more accessible and achieve higher performance for Grape, we'll launch sharding to split the database
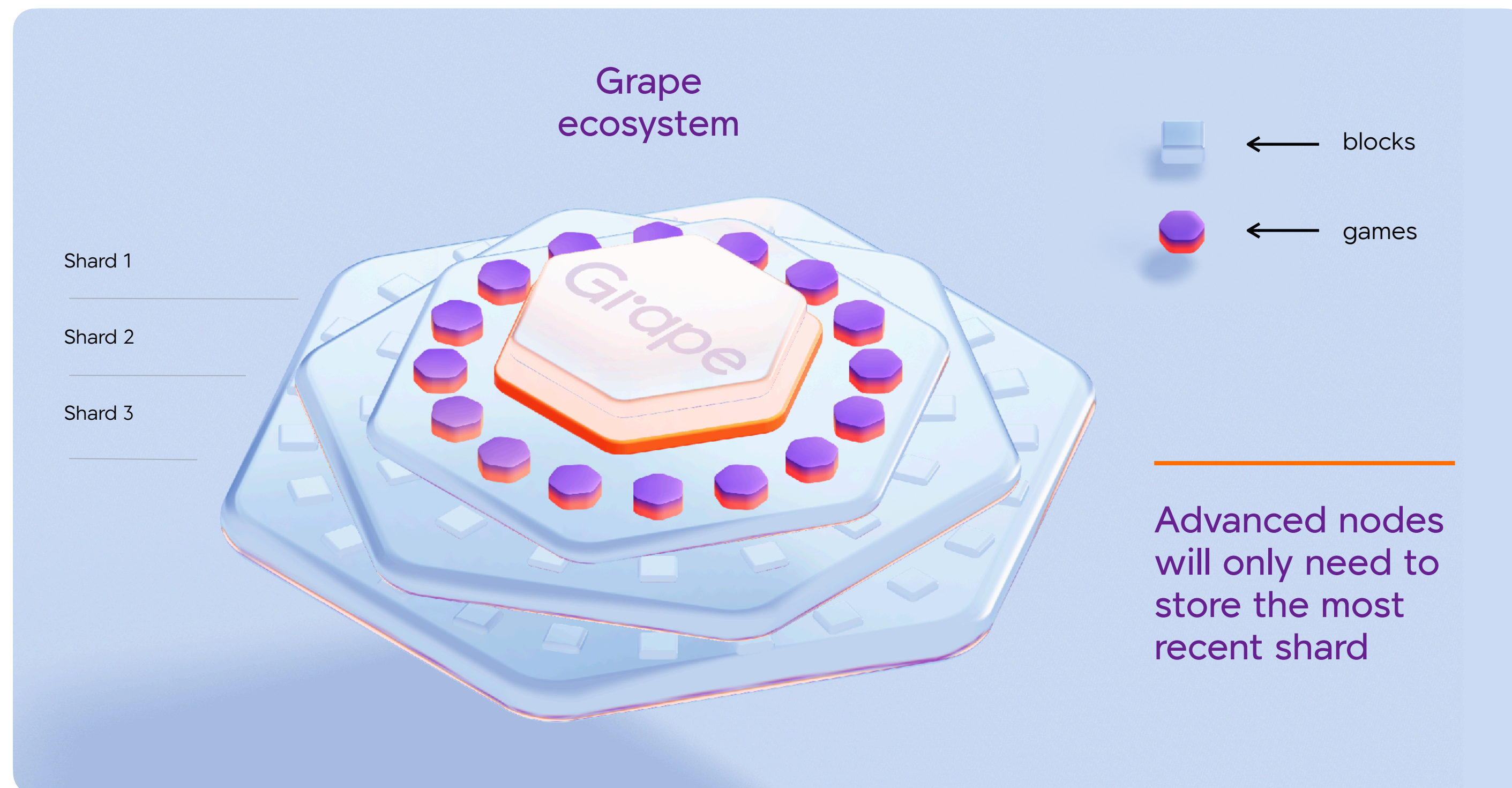
In comparison, to participate in block validation in Ethereum, a user needs to stake at least 32 ETH and have more than 900 terabytes of free space to download the full Ethereum blockchain.

Grape
ecosystem

blocks

games

Shard 1

Shard 2

Shard 3

Advanced nodes will only need to store the most recent shard

VINE is an evolutionary mechanism for scalability

700K+ TPS Grape

10x faster than Solana

150x faster than Avalanche

350x faster than Tron

2Kx faster than Cardano

5Kx faster than Polygon

7Kx faster than BSC

17Kx faster than ETH

84Kx faster than BTC

Year

2023

2020

2017

2015

2009

| 5 | 25 | 60 | 100 | 250 | 2000 | 4500 | 70 000 | 700 000 + | TPS |
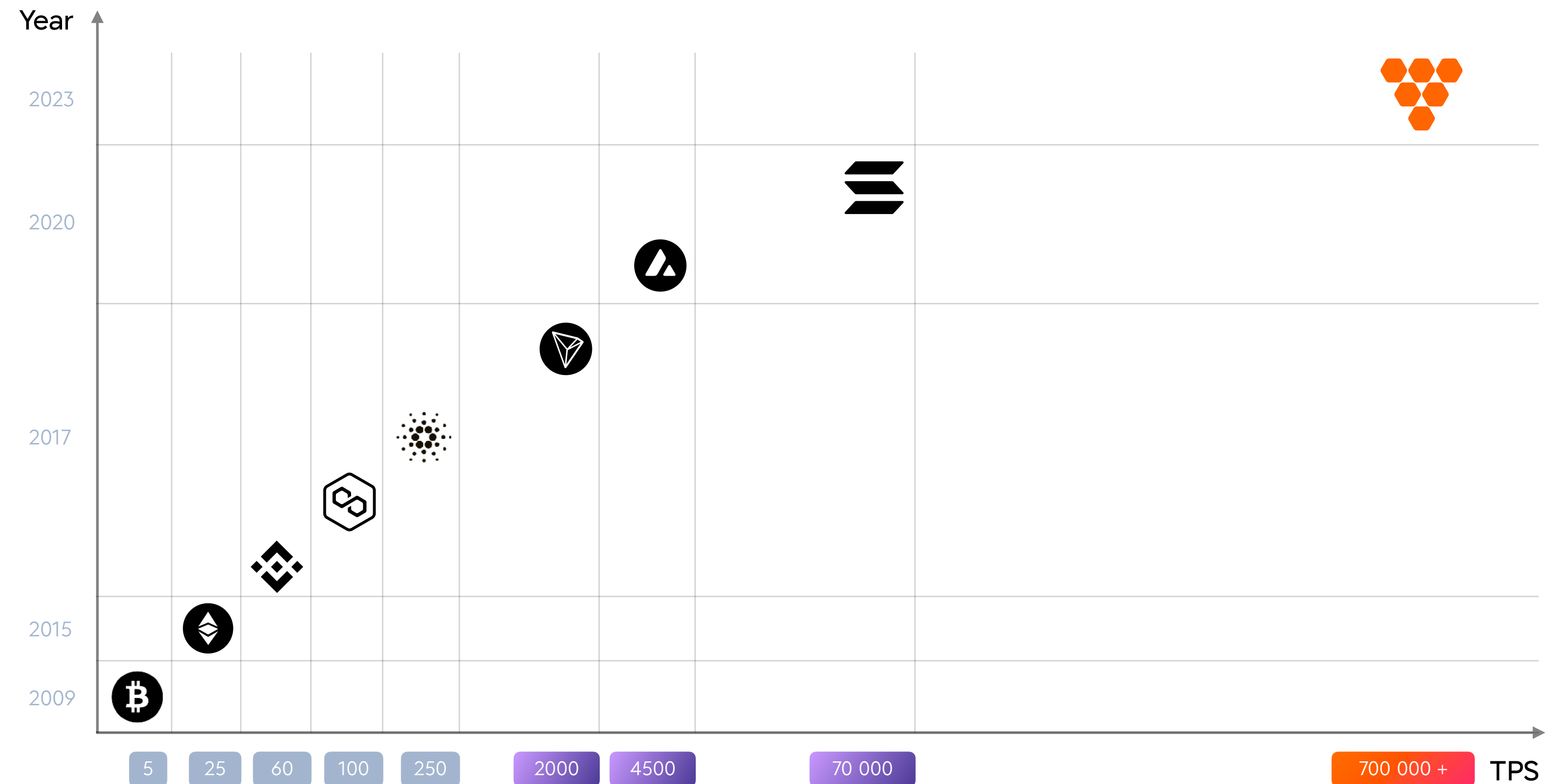
Grape will allow multiple biometric options for authentication and verification options including ECG

Maintaining web3 approaches to privacy, users will be able to access wallets using unique biometric identifiers including Electrocardiogram.

Security levels will be fully customizable through the application to simplify operations with assets and ensure the highest security level.

Cryptocurrency theft increased 516% from 2020, to $3.2 billion worth of cryptocurrency.

Creating reference data for future verification based on the selected biometric data

Authentication to Grape services

User's device

Grape wallet launcher with Biometric module

Usage of any Grape Services – transactions, storing on DCS, deploying smart contracts, etc.
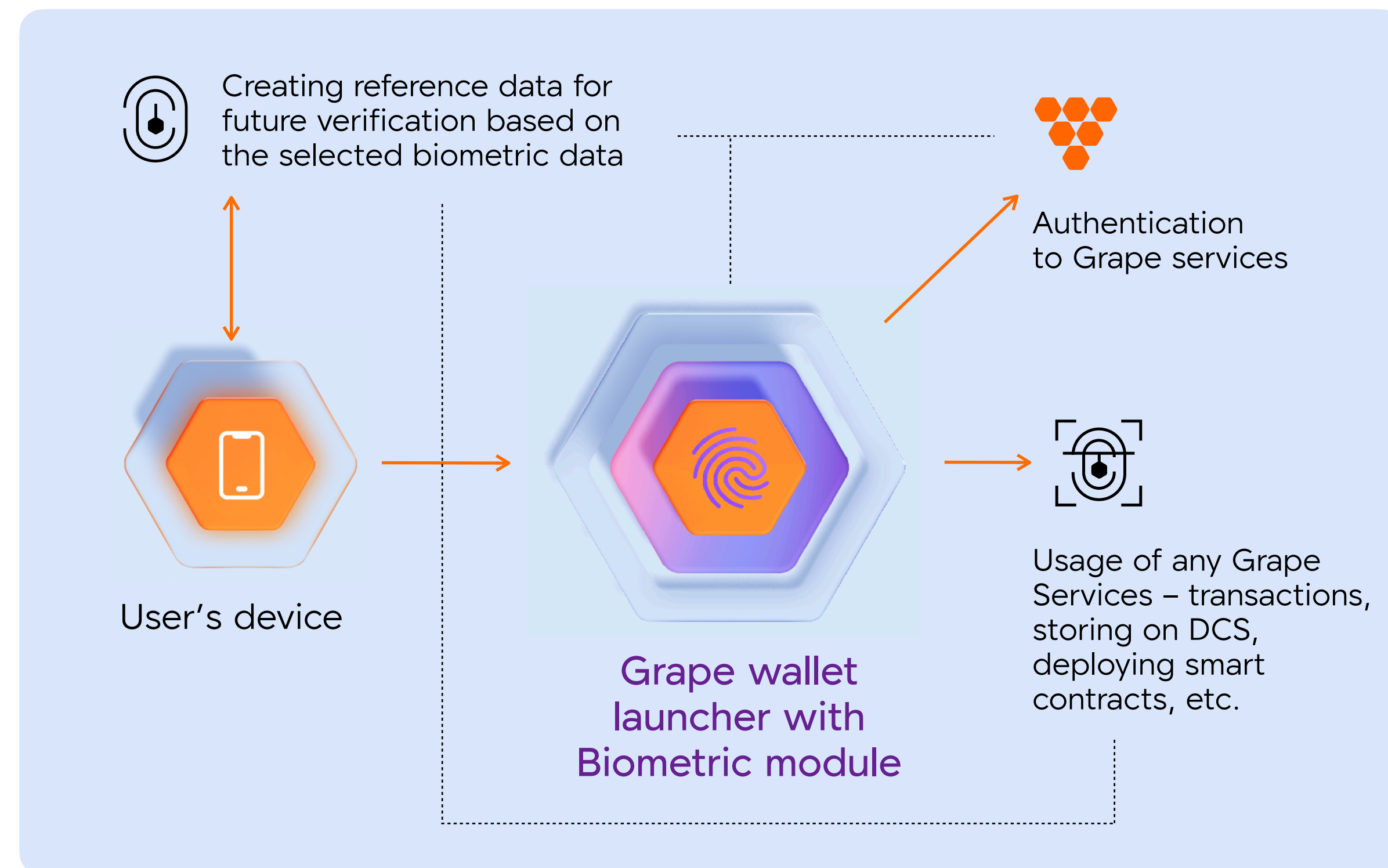
Grape quantum resistance - a fundamental requirement in the post-quantum world

A proprietary module, DART, is based on the quantum-resistant encryption algorithm, which allows Grape to ensure comprehensive security.

⚠️ **Opinion-based estimates of the cumulative probability of a digital quantum computer able to break RSA-2048 within 24 hours.**

Transaction Flow

Security layer DART

Generation of user's transaction quantum signature

User 1

User 2

Data storage flow

File encryption while initializing storage

DCS
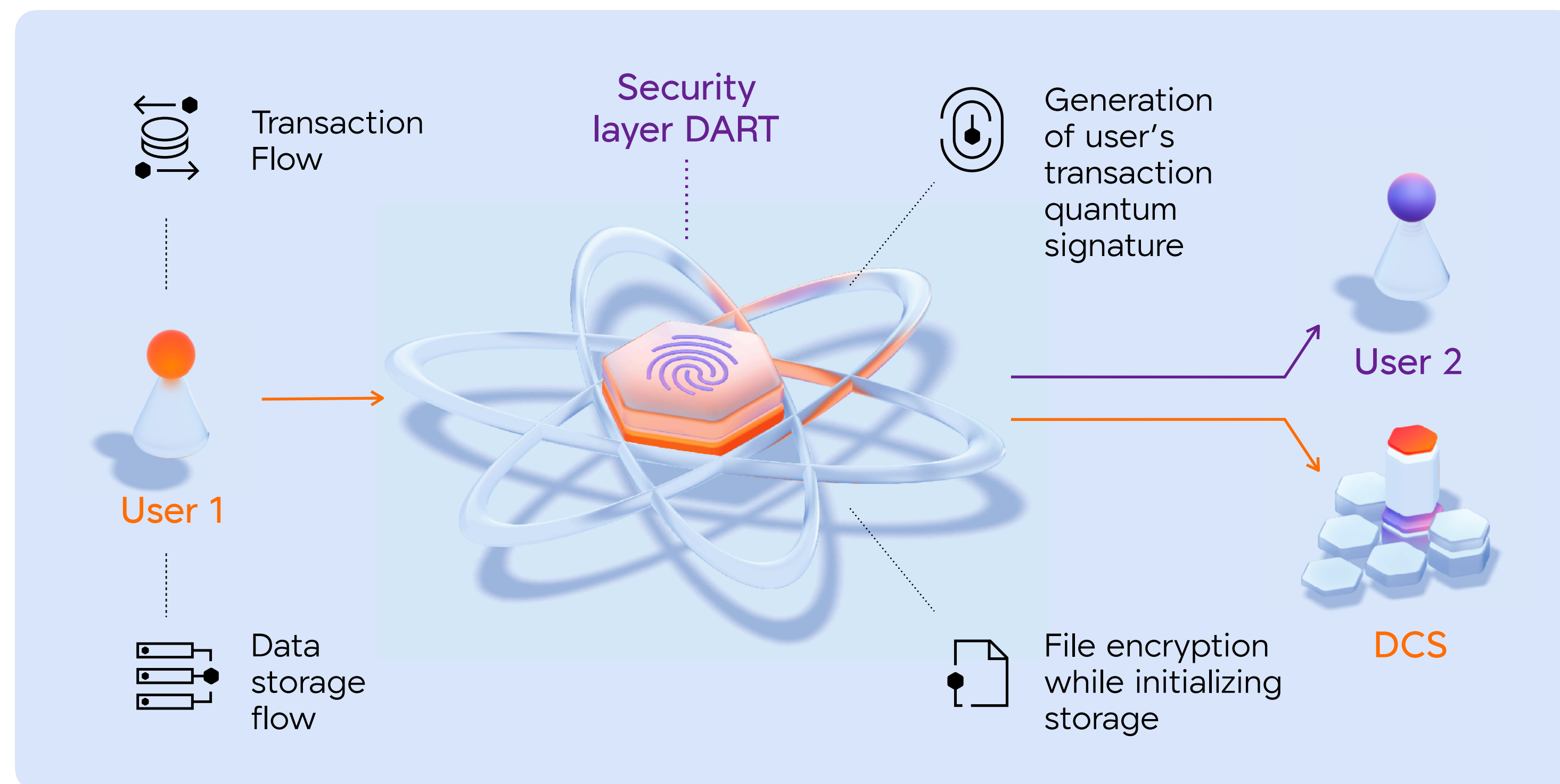
Grape's unique smart contract engine removes boundaries between virtual worlds by introducing interoperable NFTs

grape

Some platforms like Oculus perceive the development of an open NFT market on their platform as a competitive advantage.

Game asset creation

Publishing on marketplace

Usage of tokenized asset in an initial game in Grape Ecosystem

Game designer

Easy deployment of smart contract using Web UI

Tokenized asset

Adding to game

User

Usage of tokenized asset in any game in Grape ecosystem

ERC-20   ERC-721   ERC-1155   ERC-777   EVM comp
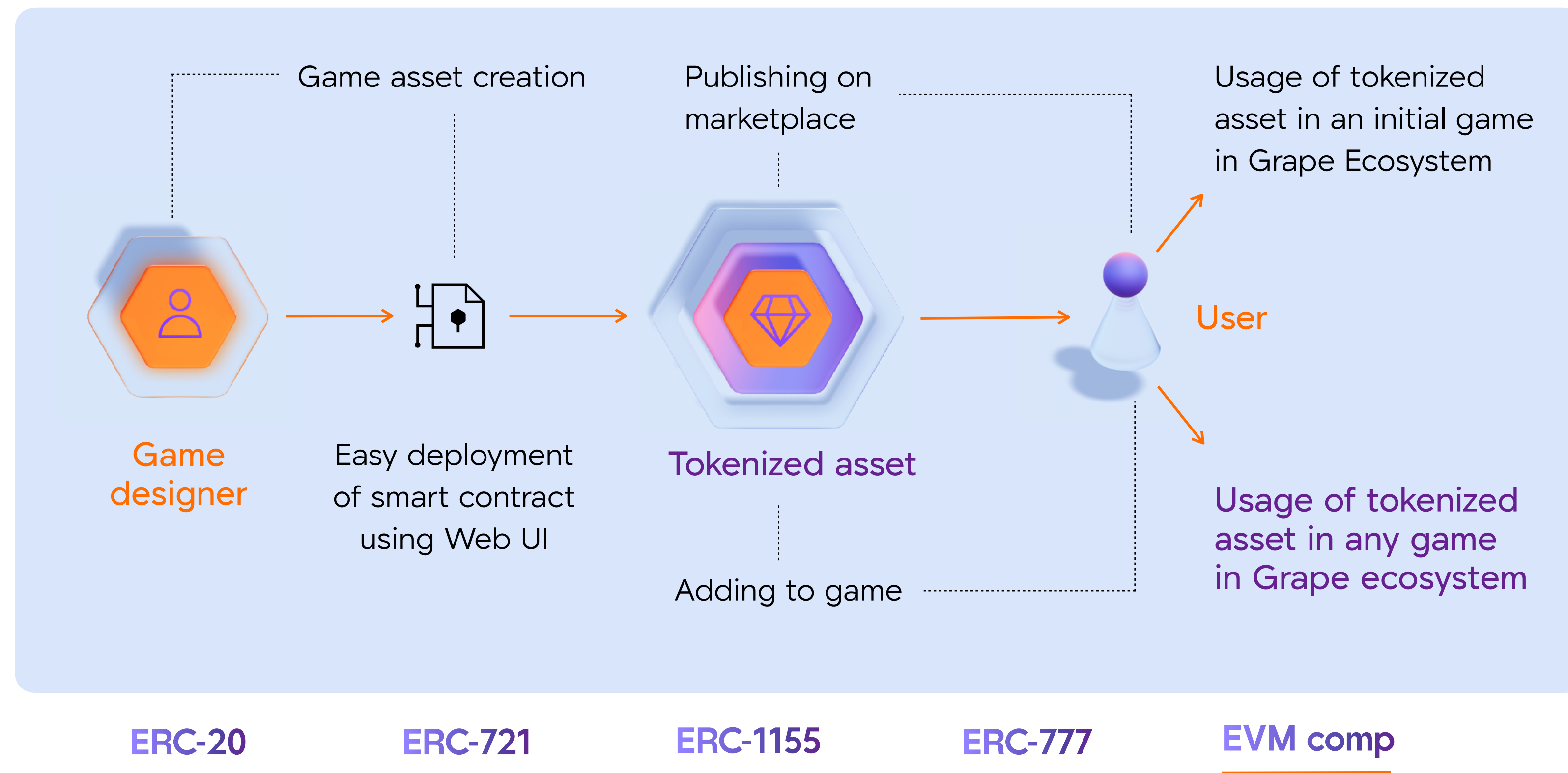
Grape will support both fiat and crypto in its multi-platform wallet

With the recent beta launch of a fiat-crypto onramp solution from Stripe, it becomes obvious that the market requires on-edge solutions to use blockchain with both fiat and crypto.

User

Wallet

Crypto

Fiat

Payment gateway

Mobile

Desktop

Browser extension

Marketplace   DCS   DEX   Launchpad
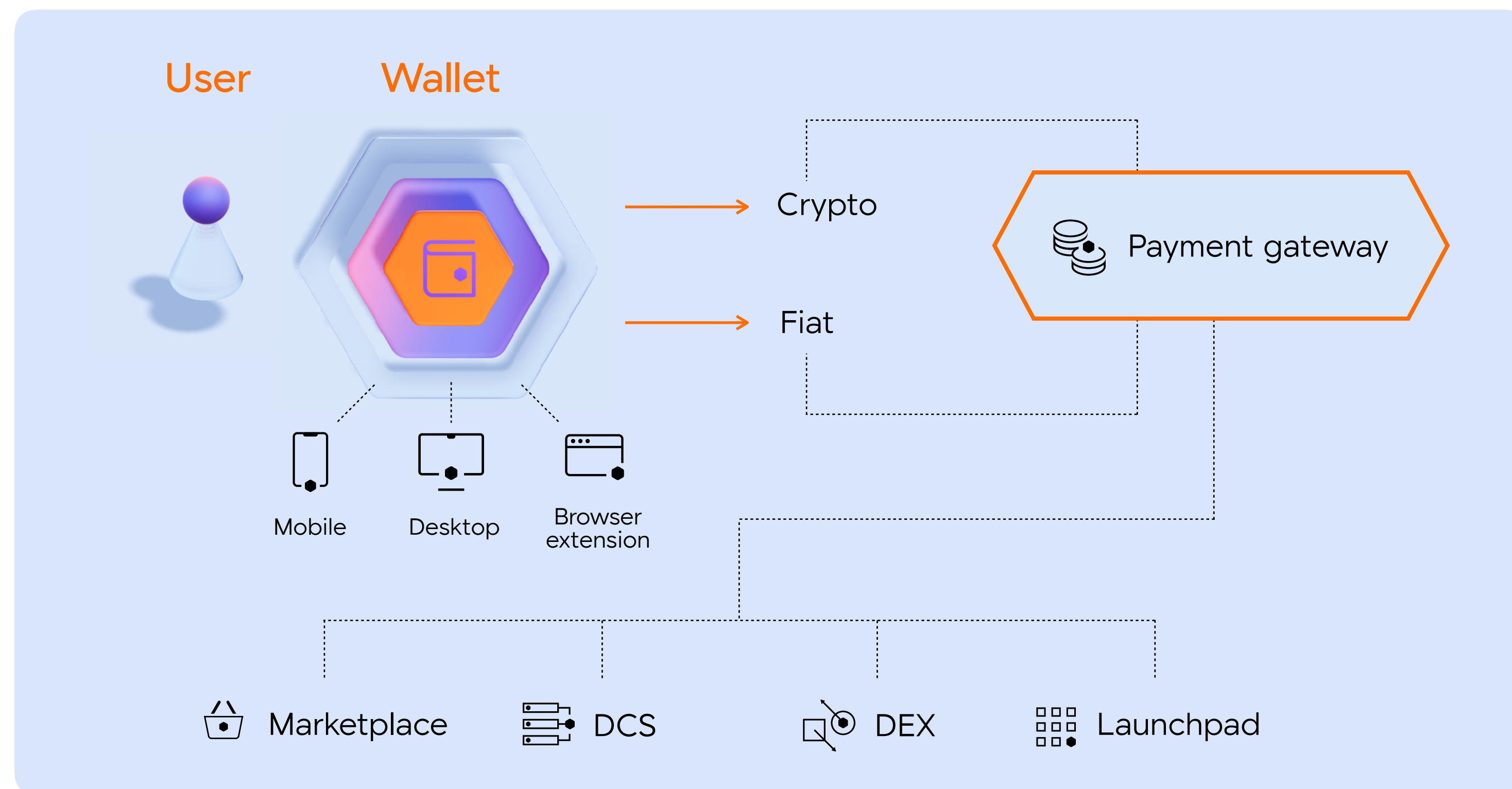
Grape will introduce Web3 as a Service – a tool to launch projects using ready-to-deploy infrastructure

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Grape will provide an autonomous infrastructure for projects requiring custom operations flow with most of the ecosystem's benefits.

Branch-chain

Own native coin

Custom transaction fee

Fees in native coin

Same functionality as in Grape mainnet

Fast launch of the infrastructure

Mainnet

Zero control over fees in the network

Support fees only in network's native coin

Limited to specific flow without the possibility of customization

Core issues for projects on other chains
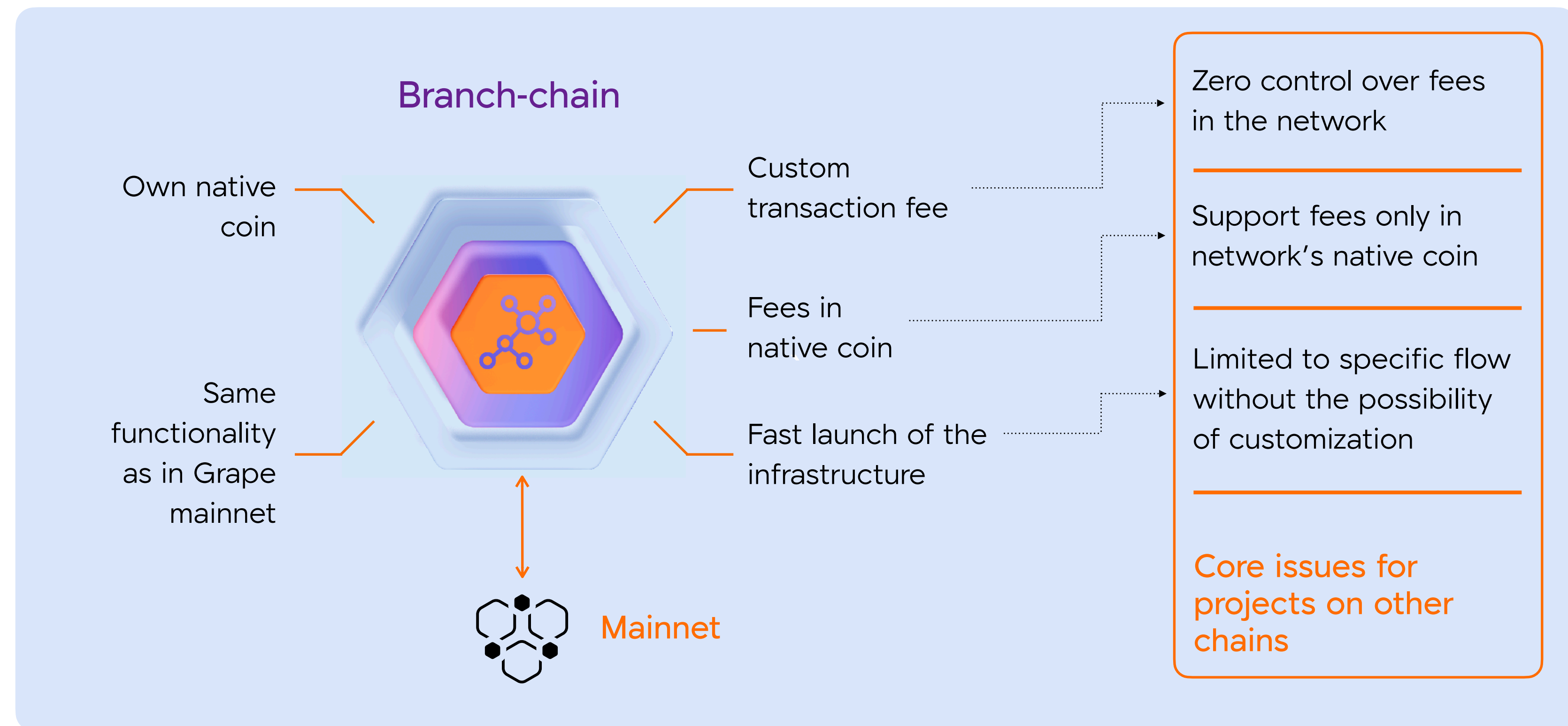
Decentralized data storage (DCS) is the crucial element of the decentralized ecosystem

Grape will allow anyone to become a node operator and provide disk space for distributed data storage in exchange for a reward.

Secure data storage

Data segmentation and encryption using DART layer

User node 1

User node 2

User node 3

User node 4

User 1

DCS

User 1

Possibility to monetize free space

Data uploading

Data uploading
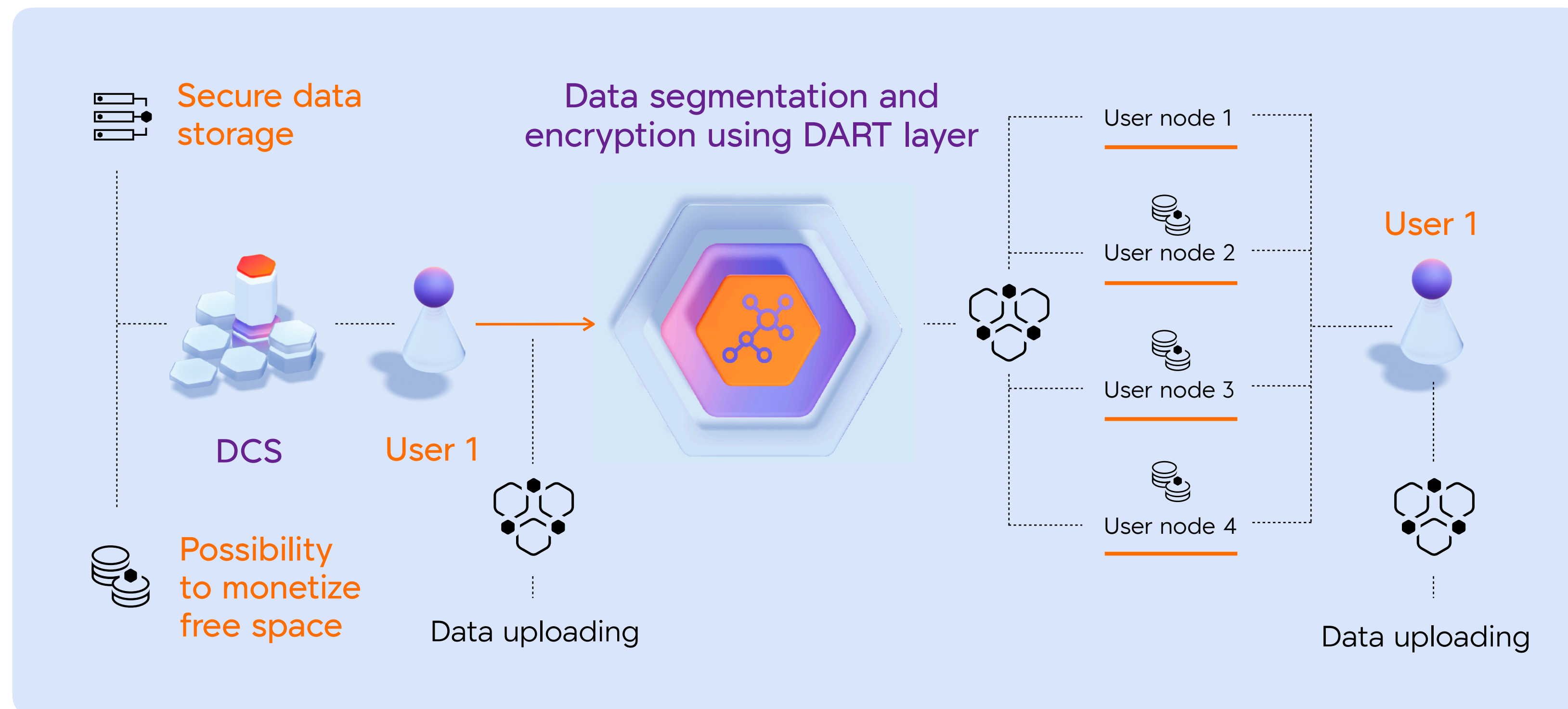
Through Grape, launch and maintain projects within a **single ecosystem**

Grape's economics infrastructure covers the full cycle of project needs from fundraising to initial token launch on the exchange or marketplace.

Token deployment and fundraising for the launch

Public trading launch

Trading of tokenized game assets to support game economy

Launchpad

DEX

Marketplace

Available for branch-chain projects with fees in native coin
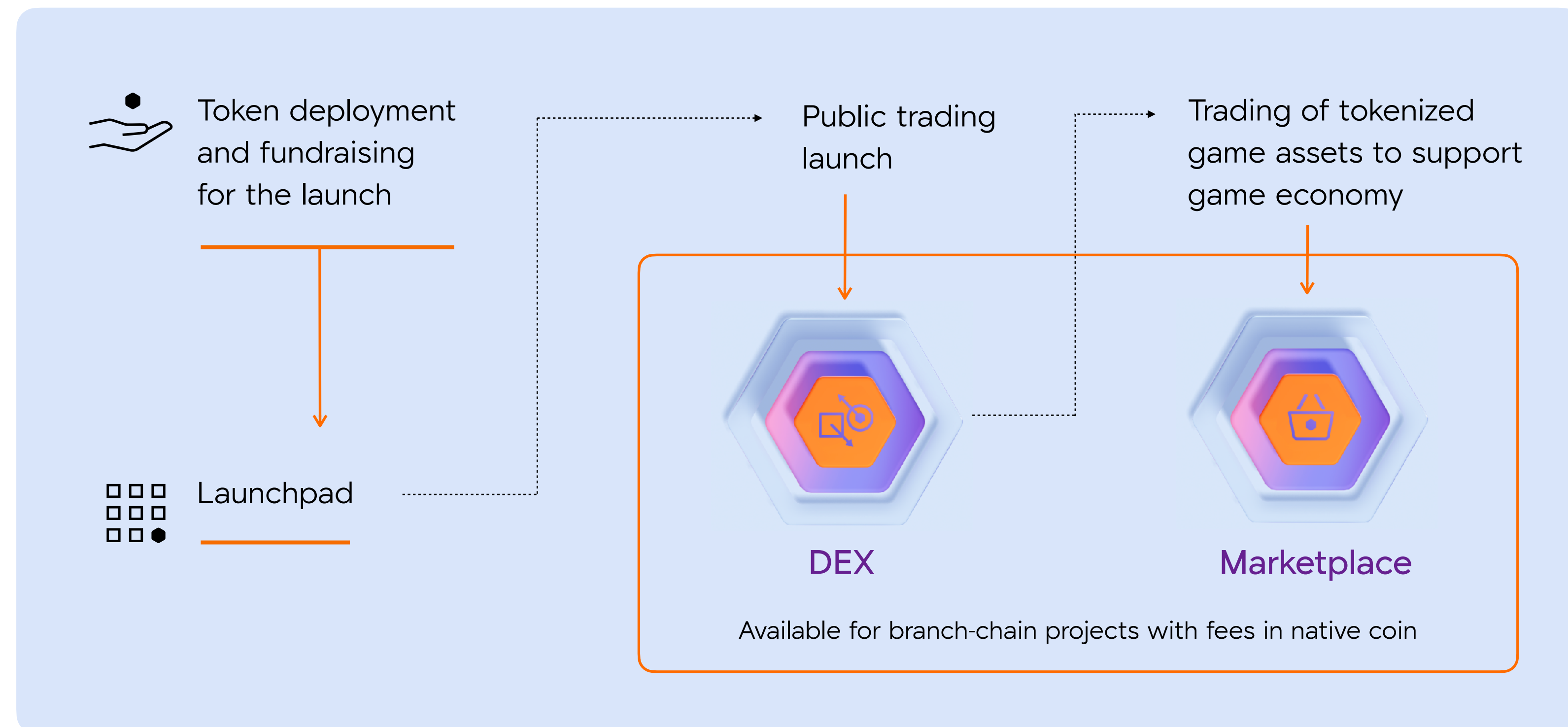
Section 3 - Tokenomics

Tokenomics

All tokens will be used for ecosystem-related actions, such as investments, marketing, rewards, and other community growth incentives.

	Total supply %	Total supply
Pre-Distribution	40.0%	4,000,000
Staking and Community rewards	10%	1,000,000
Grape DAO	10%	1,000,000
Grape Labs	40.0%	4,000,000
Total	**100%**	**10,000,000**

Distribution

- 120-day staking lock on [GRP] with 20% APY, starting on the day of token delivery into an ERC20 wallet

- 30% fee if Users sell [GRP] the month following the lock end

- 20% fee if sold the second month after the lock end

- 10% fee if sold the third month after the lock end

Grape economics and tx fee structure

Grape's goal is to ensure that ecosystem operators and the community earn sufficiently from commissions to maintain and grow the network.

Gas fees for operations and gwei structure will be introduced with public testnet launch

Basic tx fee distribution

Reciever	Share
Basic node	30%
Advanced node	60%
Grape DAO	5%
Grape Labs	5%
Total	100%

Launchpad commission to platform

2.5% in raised funds	**90% goes to Grape Labs**
2.5% in token	**10% goes to Grape DAO**

DCS cost structure

2.5$ for node operators per 1 TB of data

25$ for node operators for 1 TB of egress bandwidth

3.5$ for users per 1 TB of data

6.5$ for user per 1 TB bandwidth

Roadmap

2023

Q1 — PoC VINE testnet

Q2 — Public testnet launch

Q3 — Decentralized file storage launch

Q4 — Mainnet launch

- Fiat onramp
- Interoperable NFTs

2024

Q1 — Authentication to wallets using biometrics

- DEX, Launchpad, Marketplace
- Web3 as a Service Launch

Q2 — Mainnet sharding