Keynote I

조준호 / Ground X

Klaytn World : From Inception to Completion

K(C)lay + Stone ⇒ Klaytone

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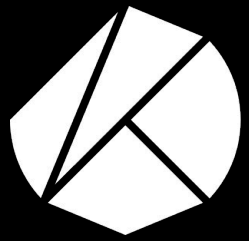

Klaytn World

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Klaytn World Layer	Klaytn Technology
Sustained Growth	Scalability / Interoperability / Management / Data Insight
Economy	BApp / Token / Reward
Tools	DX Tools
Society	Account / Consensus / Governance
Infrastructure	Network / Computing / Storage

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Infra Age

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Is there blockchain platform suitable for enterprise service?

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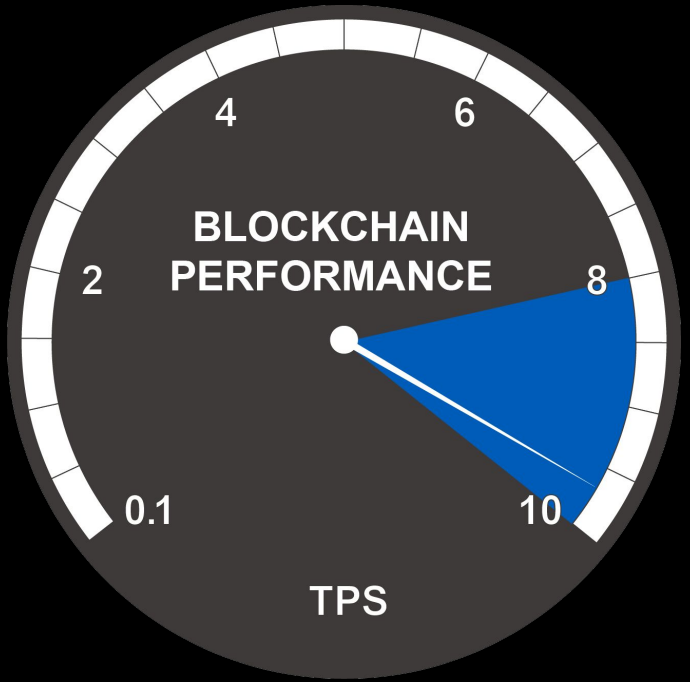

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Throughput and Finality as Major Pain Points

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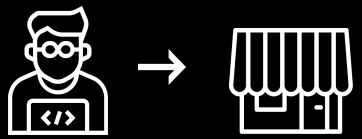
Limited Throughput

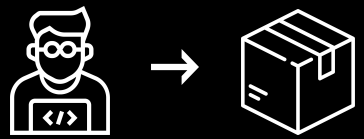
Waiting to be mined



User TX sent and waiting to be mined

15 seconds - 5 minutes on standard gas price

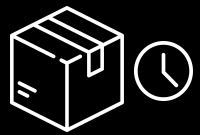
Purchased



User TX included in a block

Missing Finality

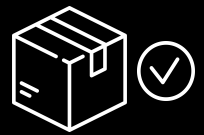
Pending



Wait for some number of blocks

More than 2 minutes (appx. 7 blocks)

Confirmed



User finally owns item

* Block finality - Ethereum: 2 or more minutes / TRON: 3 seconds / **Klaytn: 1 second**

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Klaytn Consensus (PBFT)

Finality

- **Strong consistency guarantee** → **1 second Finality**

Scalability

- O(n^2) communication complexity → **Committee election**
- O(n) verification complexity → **Committee election**

Sybil attack

- create multiple pseudonymous identities to subvert the 3f + 1 of PBFT
  → **Permissioned Council**

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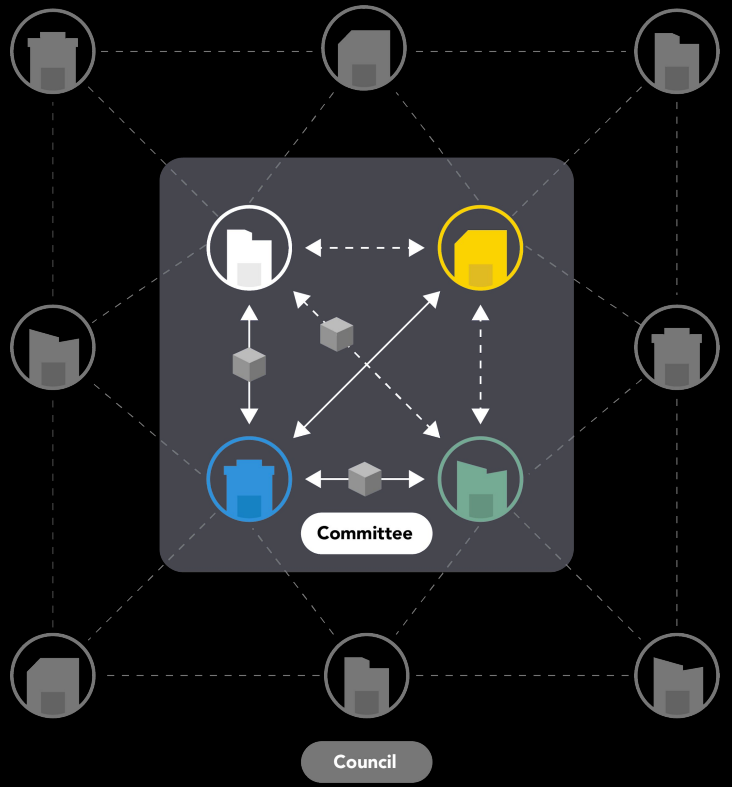
Klaytn Consensus

The **staking based Proposer election**

The **randomness of Committee election**



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Klaytn Network

Communication

Public or Private or Consortium → **Block Generator (Consortium)**
Block Propagation (Public)
Tx Propagation (Public)
Block / Tx Validation (Consortium / Public)

Single Channel Communication → **Block Propagation Channel**
Transaction Propagation Channel

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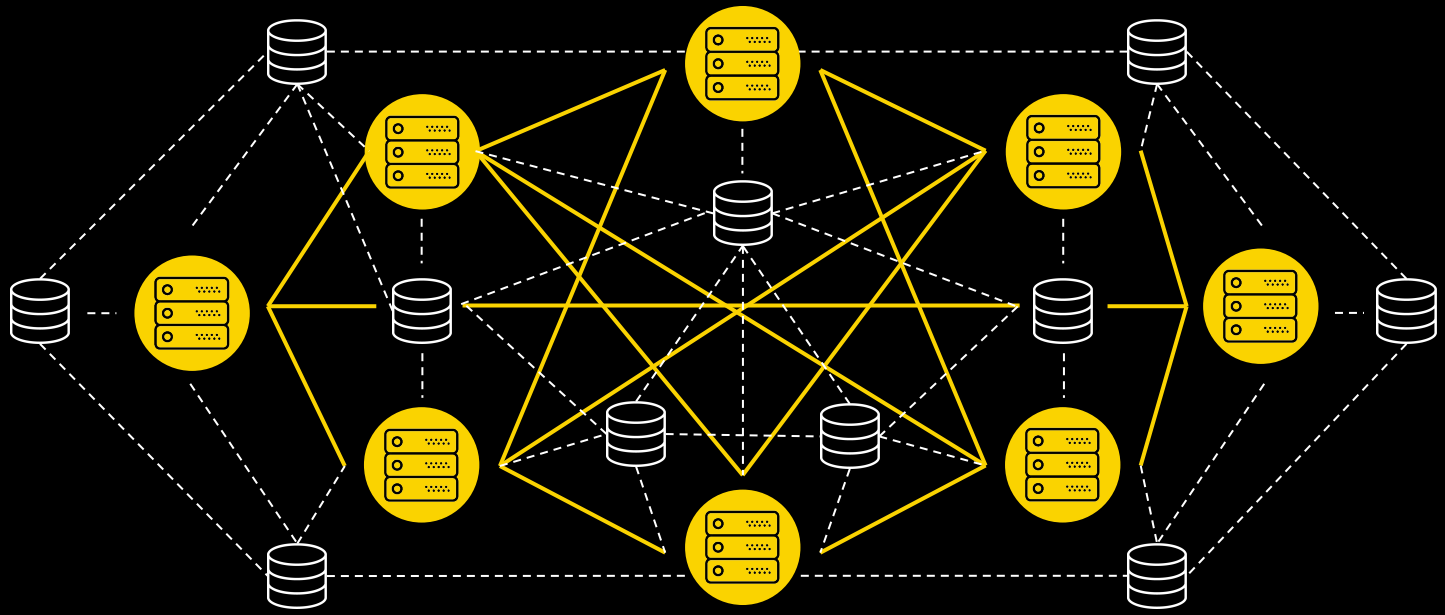
Klaytn Network Topology



CC Block Generator (Consortium)

EN Tx/Block Propagation (Public)

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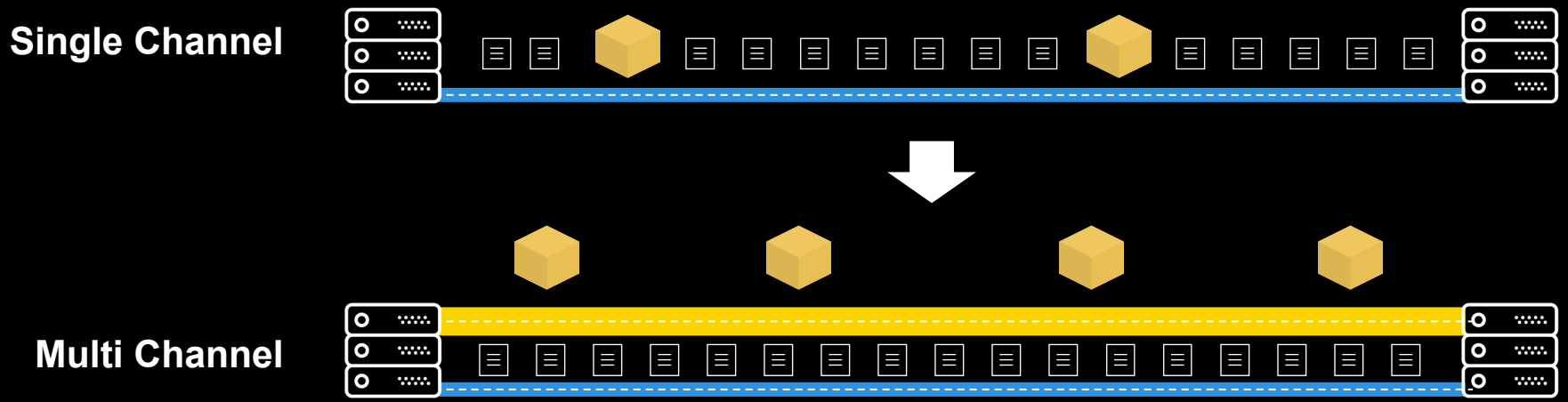
Klaytn Communication

To **ensure on-time latency** even though transaction congestions,
Klaytn network provides a **separate channel** for block dissemination



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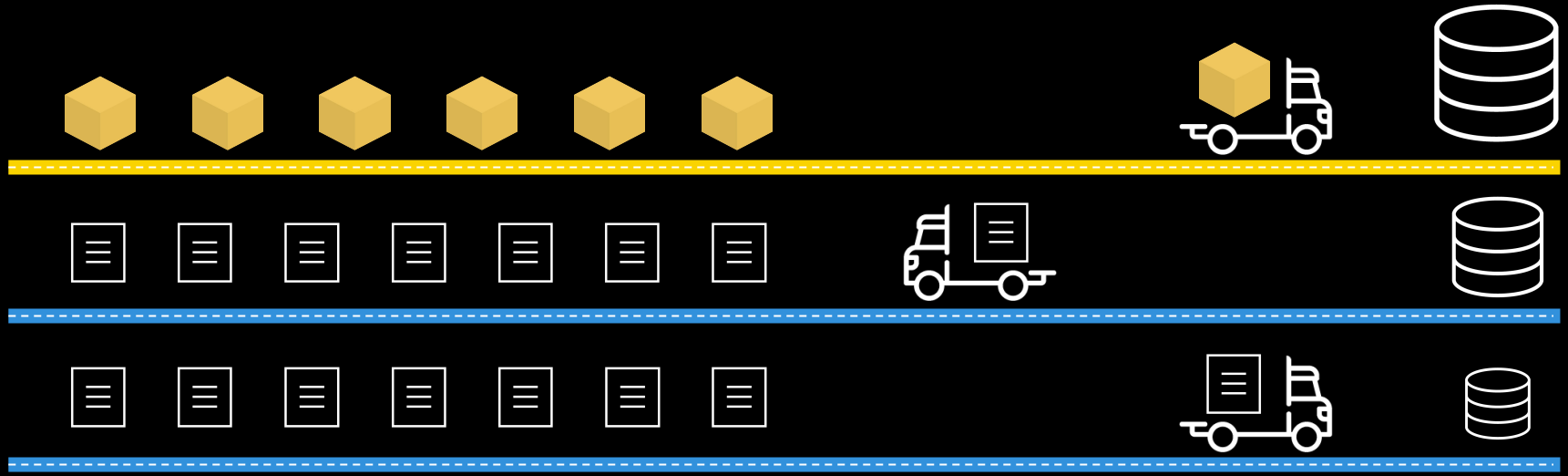
Storage

No Partition → DB Partition (Block/Receipt/State)
Only State Trie Cache → State Trie Node Cache



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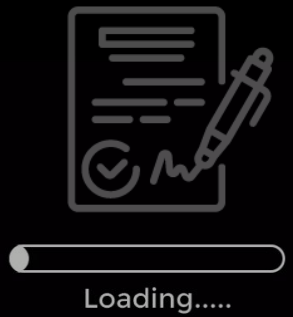
Signature

Sequential Signature



Parallel Signature

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Klaytn is a High-Performance Blockchain

Low Latency : 1 second
High Throughput : 4,000 TPS

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Klaytn Provides a Unique Account & Transaction Model for Improved Security and Usability

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Klaytn Account Model for Better User Experience

Klaytn **satisfies user's real-life digital ID needs**,
natively supporting multiple keys and flexible key management

Private Key → **Public Key** → **Address**

Bank Account = **Address**

Password = **Private Key**

0xA29a0AEBb4cC53794569
9A4Ef712b83981141a79

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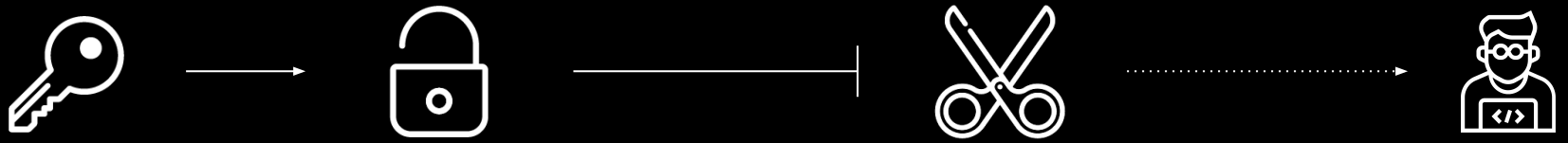
Klaytn Account Model for Better User Experience

Klaytn **satisfies user's real-life digital ID needs**,
natively supporting multiple keys and flexible key management

Private Key **Public Key** **Address**



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Klaytn Account Model for Better Security

Klaytn **satisfies user's real-life digital ID needs**,
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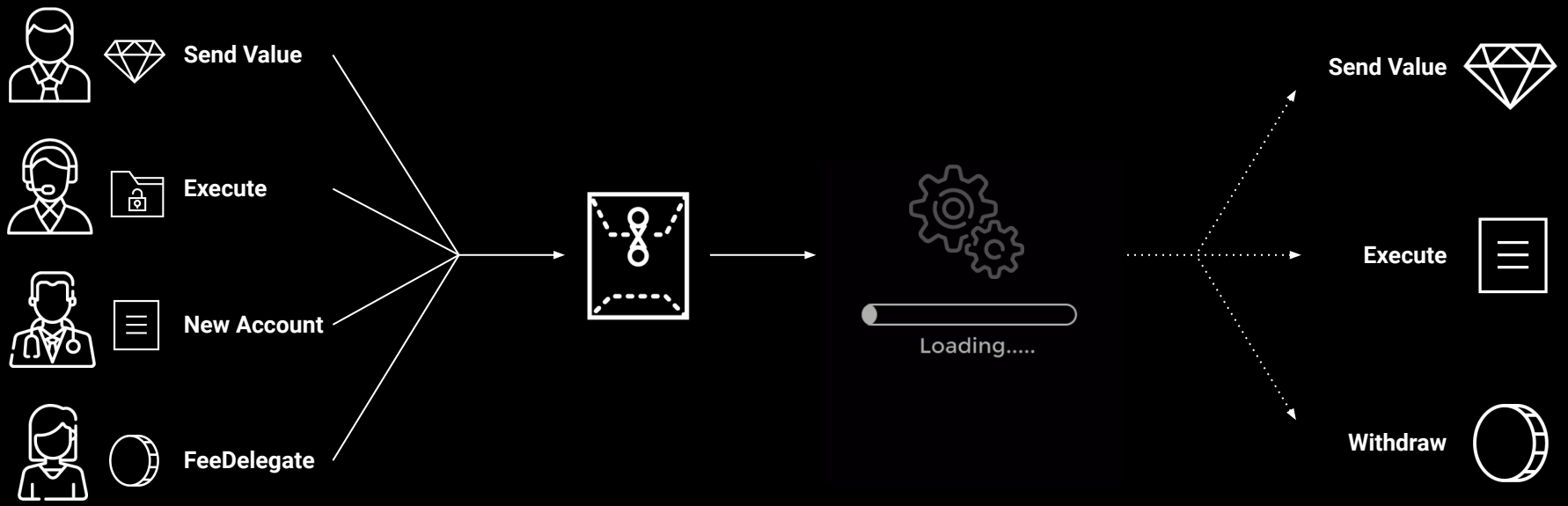
Traditional Transaction

When handling traditional transactions,
one size does NOT fit all - uniform handling leads to big waste of time



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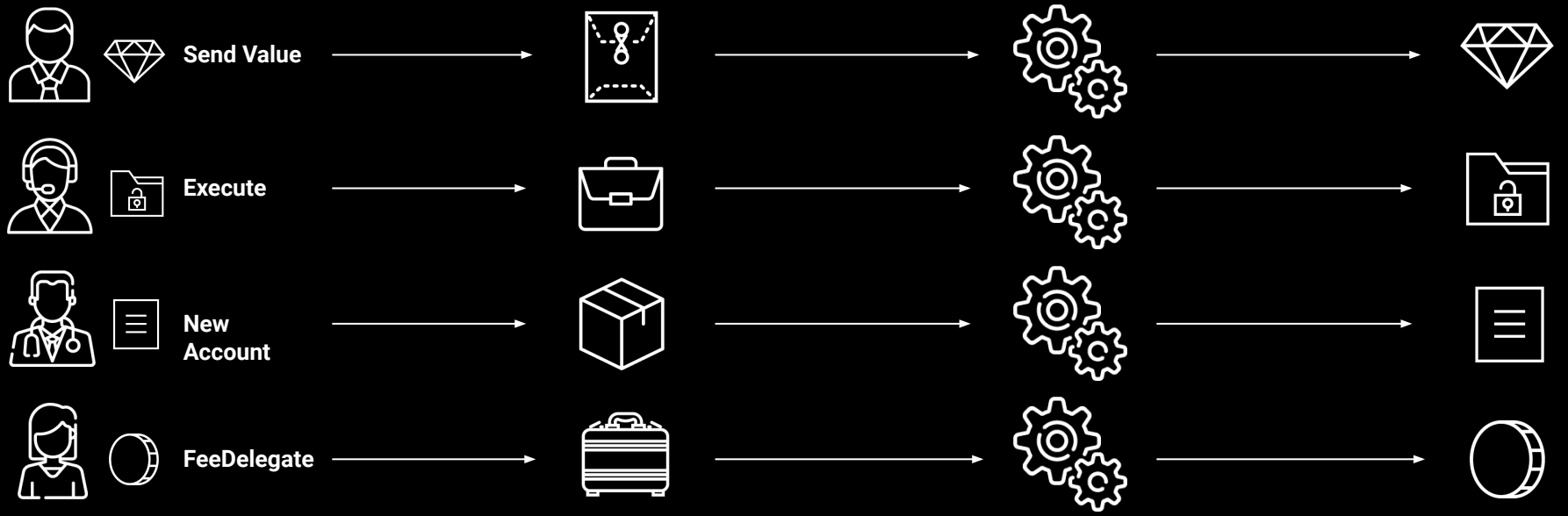
Klaytn Transaction

Klaytn has efficiently yet securely **expanded** its **native transaction types**, providing better developer experience and business logic opportunities



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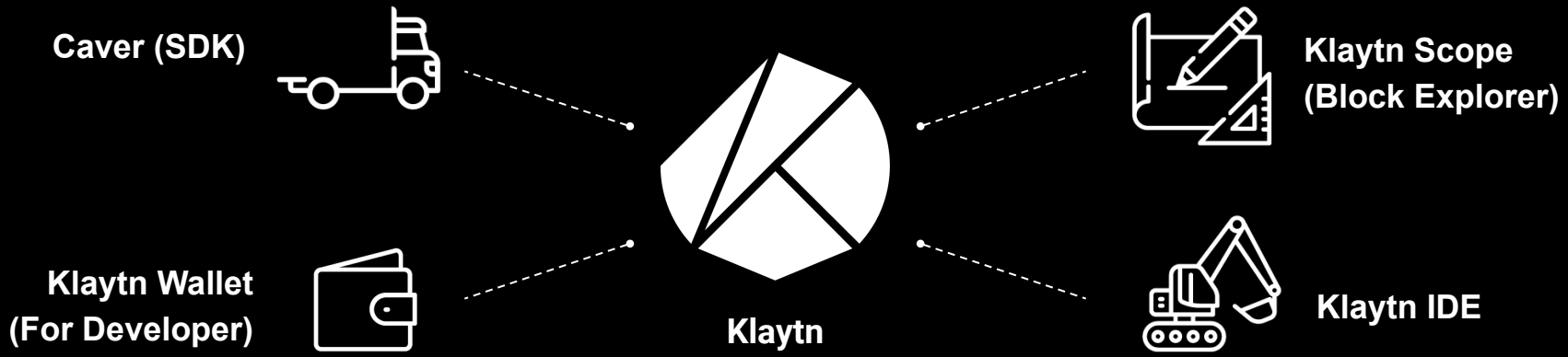
KlaytnDev EcoSystem



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Klaytn Governance Council

Secured by Enterprises for Enterprises

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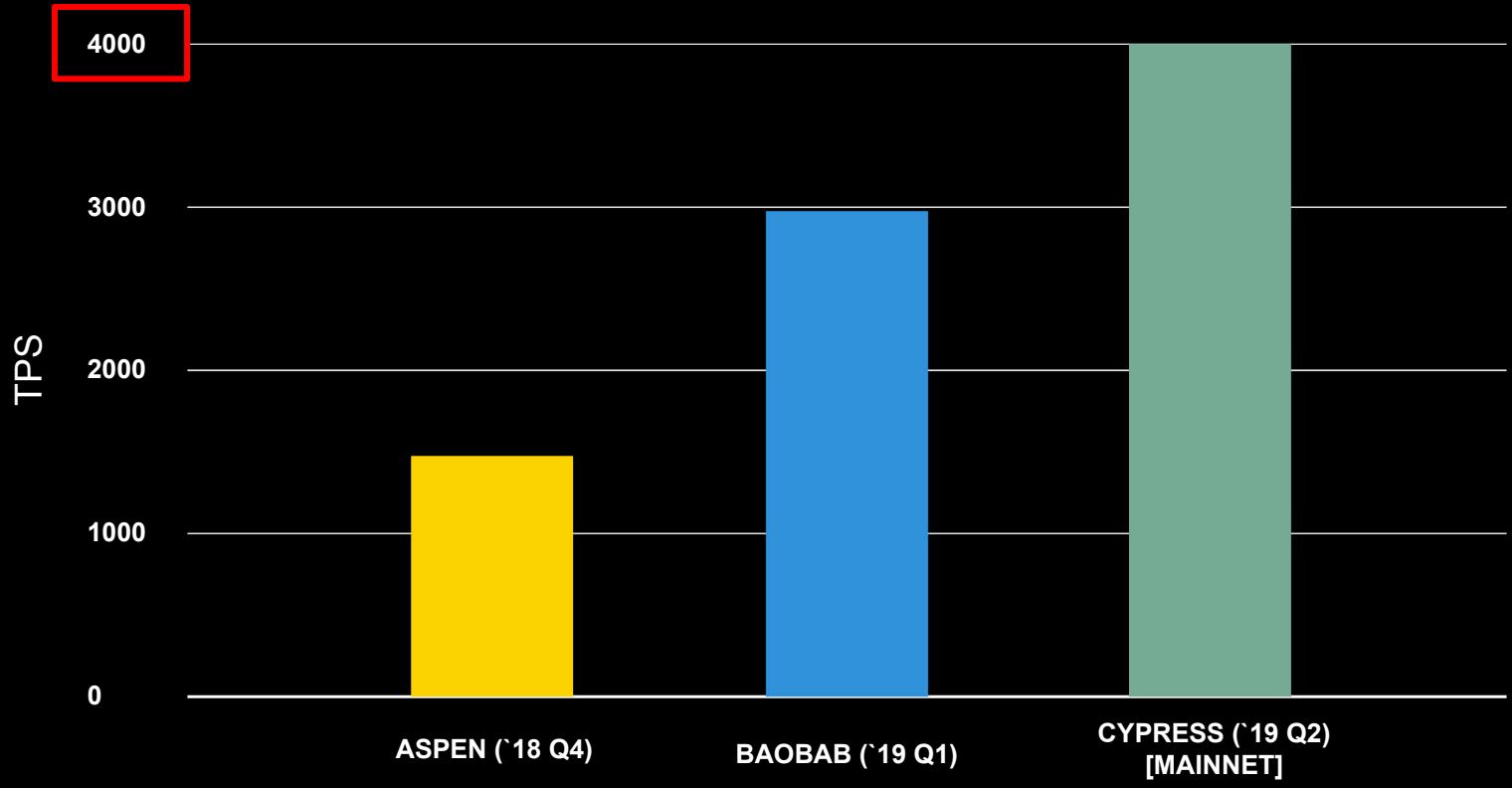

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Expansion Age

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L2 Scalability Solution for Klaytn

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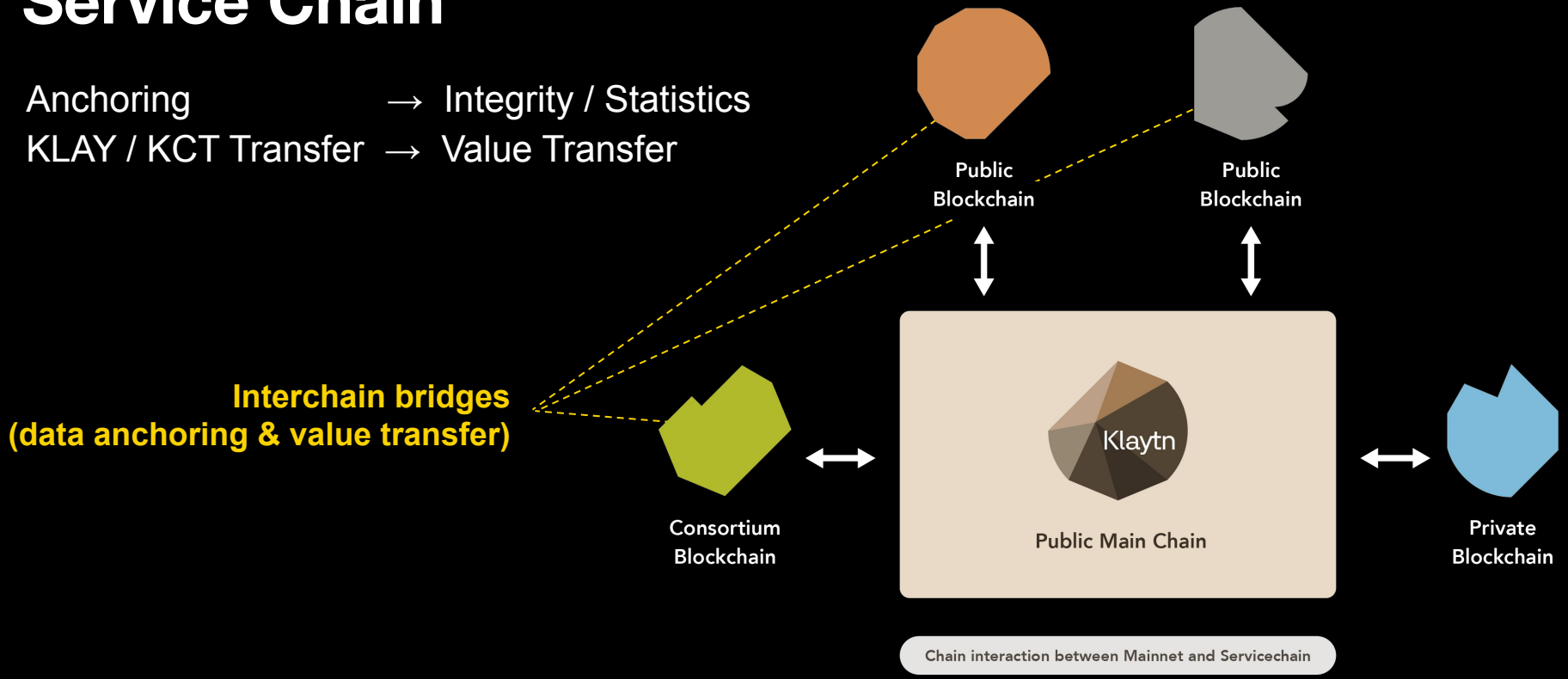
Service Chain

Anchoring → Integrity / Statistics
KLAY / KCT Transfer → Value Transfer



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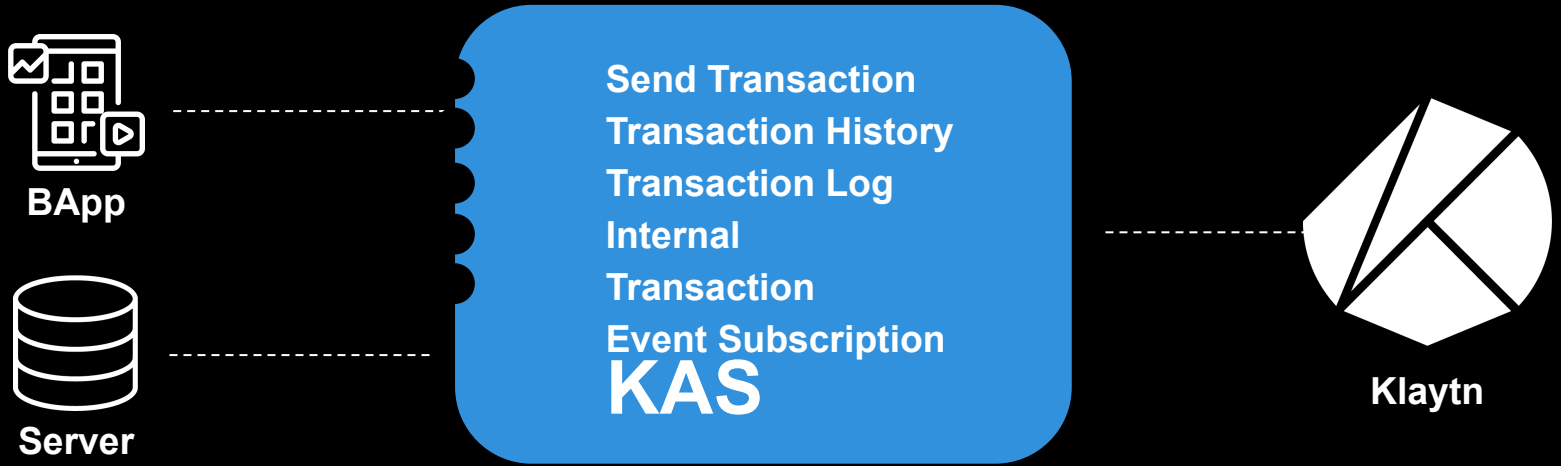
Klaytn API Service (KAS)

Scalable / Reliable / Consistent



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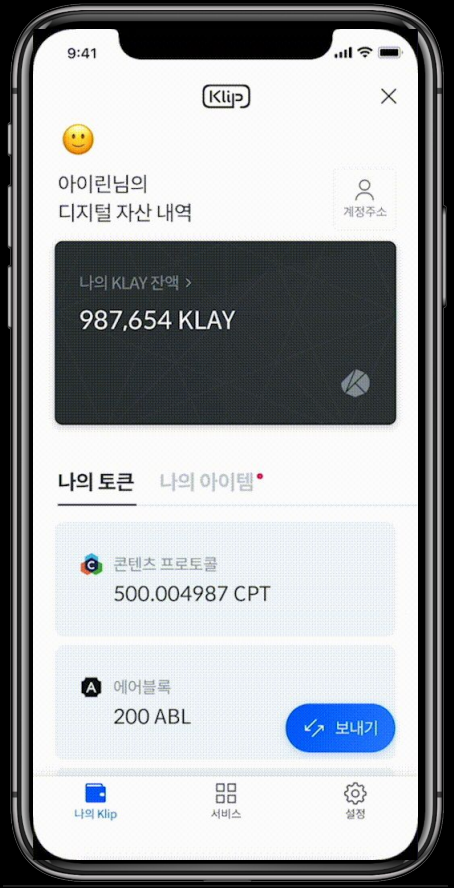

Klip

A Digital Asset Wallet
embedded in the KakaoTalk messenger
designed for the mainstream users

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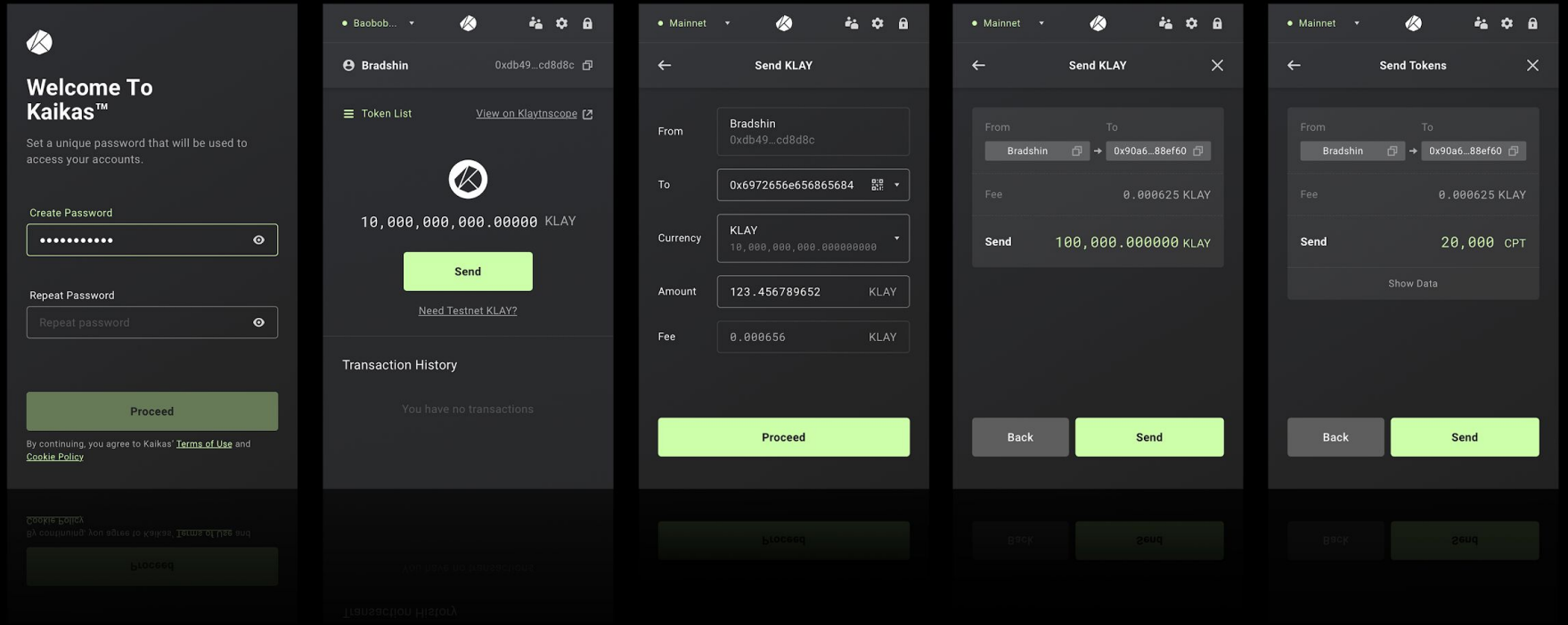
Kaikas, web browser extension wallet



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Digital Age

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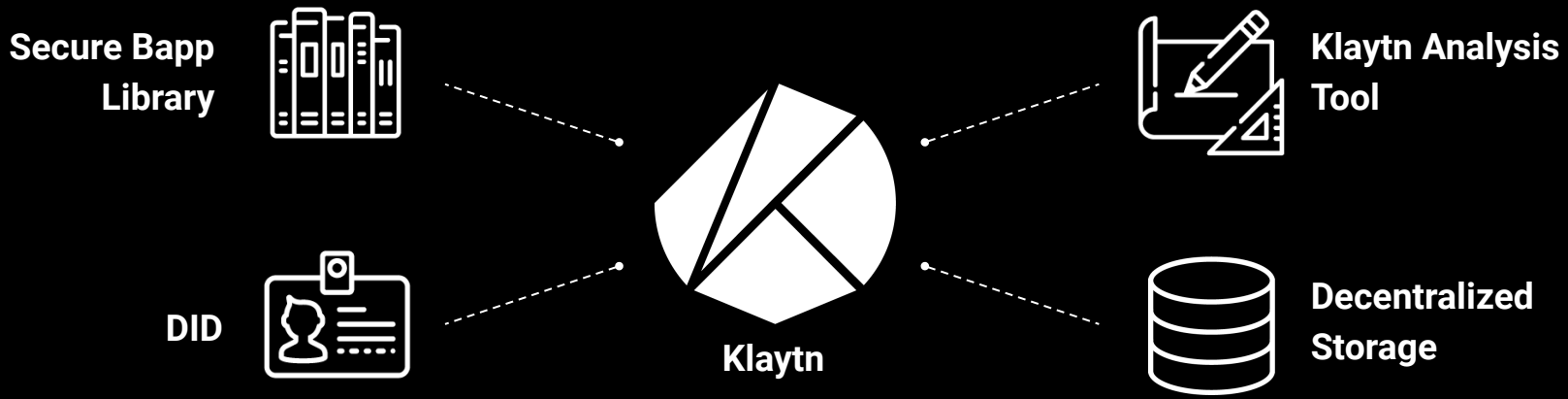
Klaytn Service EcoSystem



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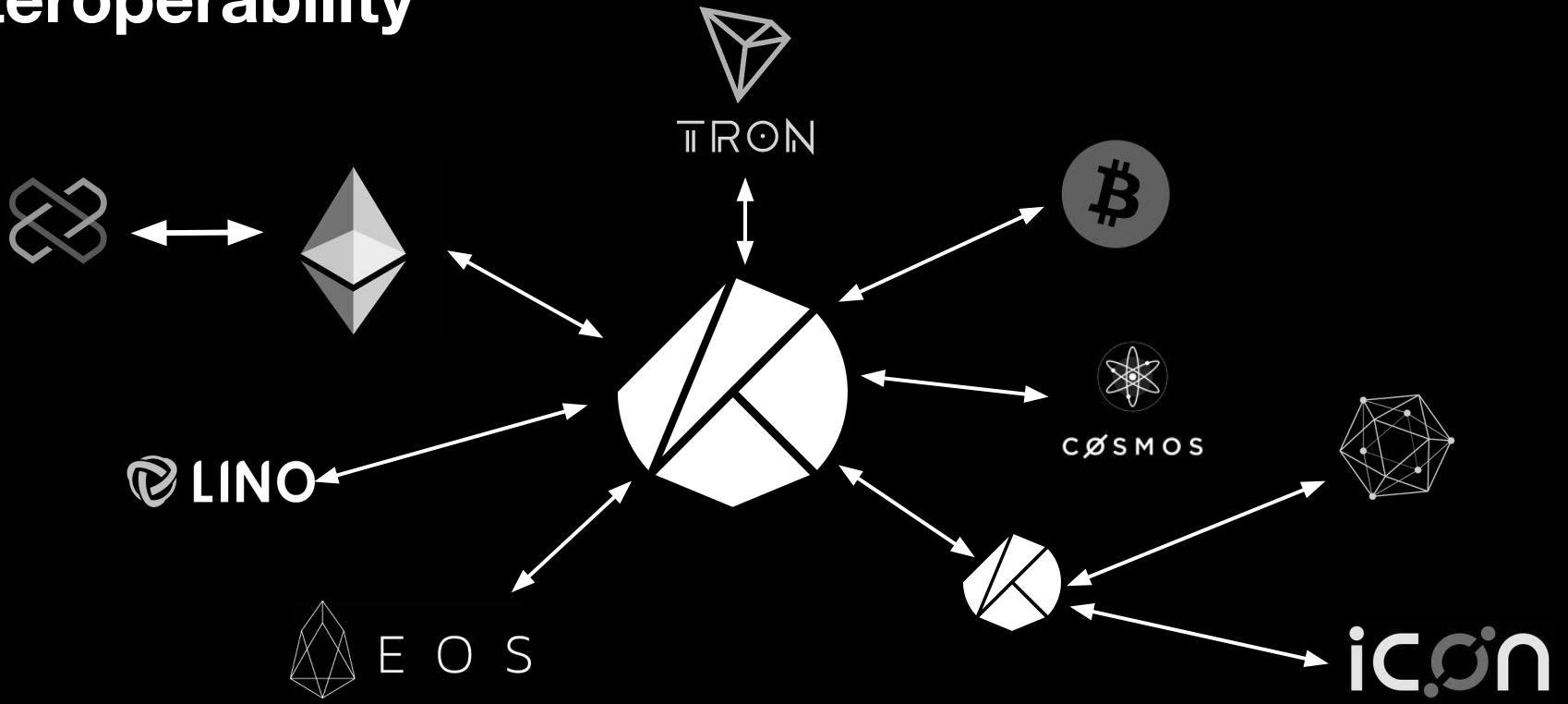
Interoperability



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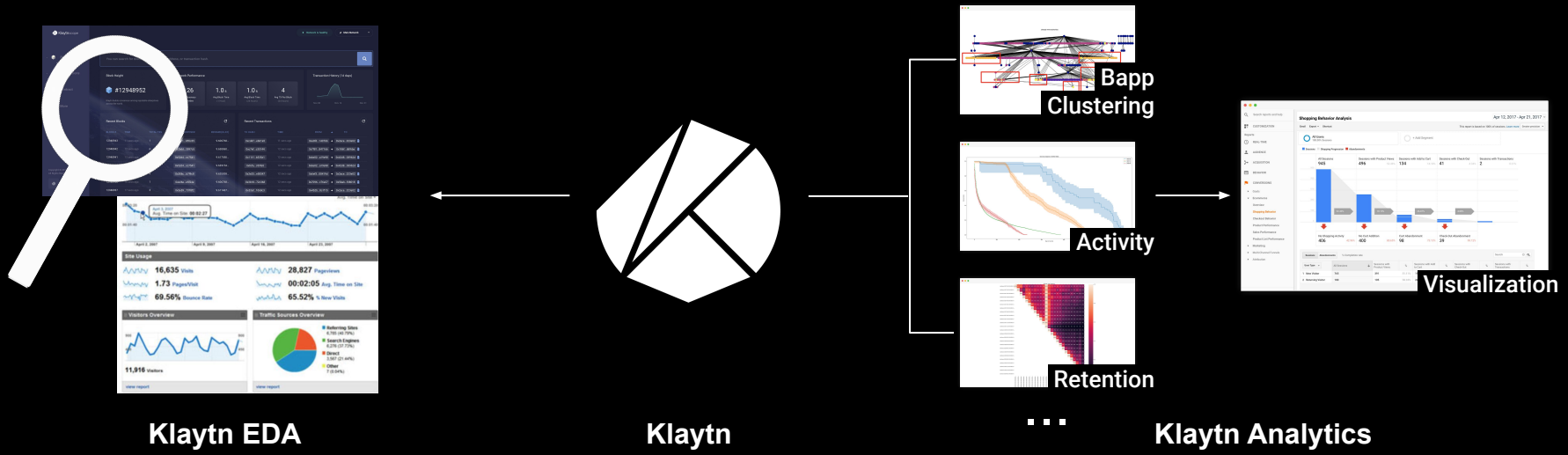
Digital Insight

The data in Klaytn will serve users as **useful information** through the **Klaytn EDA**, while enterprise-grade analytics continuously generate **actionable data-driven insights**



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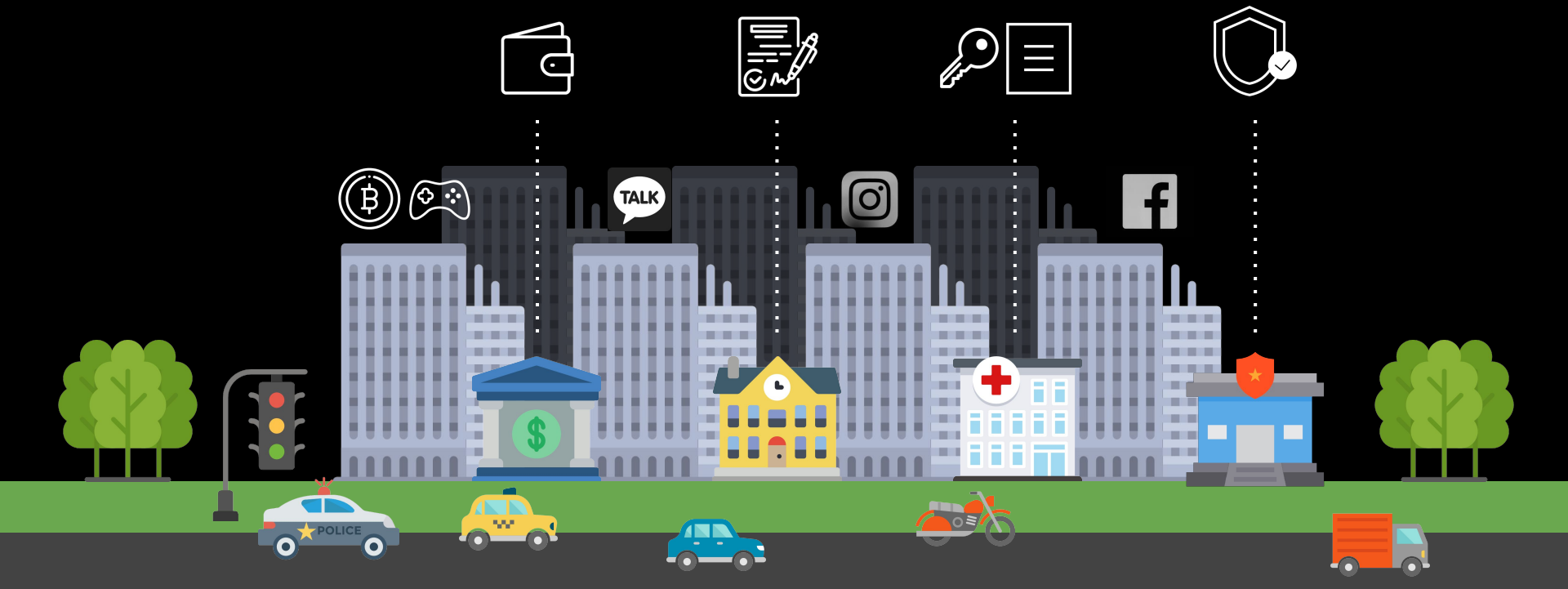
Klaytn World

Klaytn World is trusted digital world



Klaytn World Timeline

Infra Age

Focusing on base components (Klaytn, SDKs, toolkits)

Secure initial user-base

Expansion Age

Upgrade scalability & compatibility of Klaytn

Expanding user base by promoting killer Blockchain applications

Digital Age

Achieving mainstream adoption with performance, security and productivity on-par with the traditional Internet

Incubate unicorn Blockchain applications

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“Be the change you
wish to see in the world”
-Mahatma Gandhi-
Let’s **build together** a great **Klaytn World**!

THANK YOU

Ground X
27F, 521, Teheran-ro,
Gangnam-gu, Seoul, Republic of Korea

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