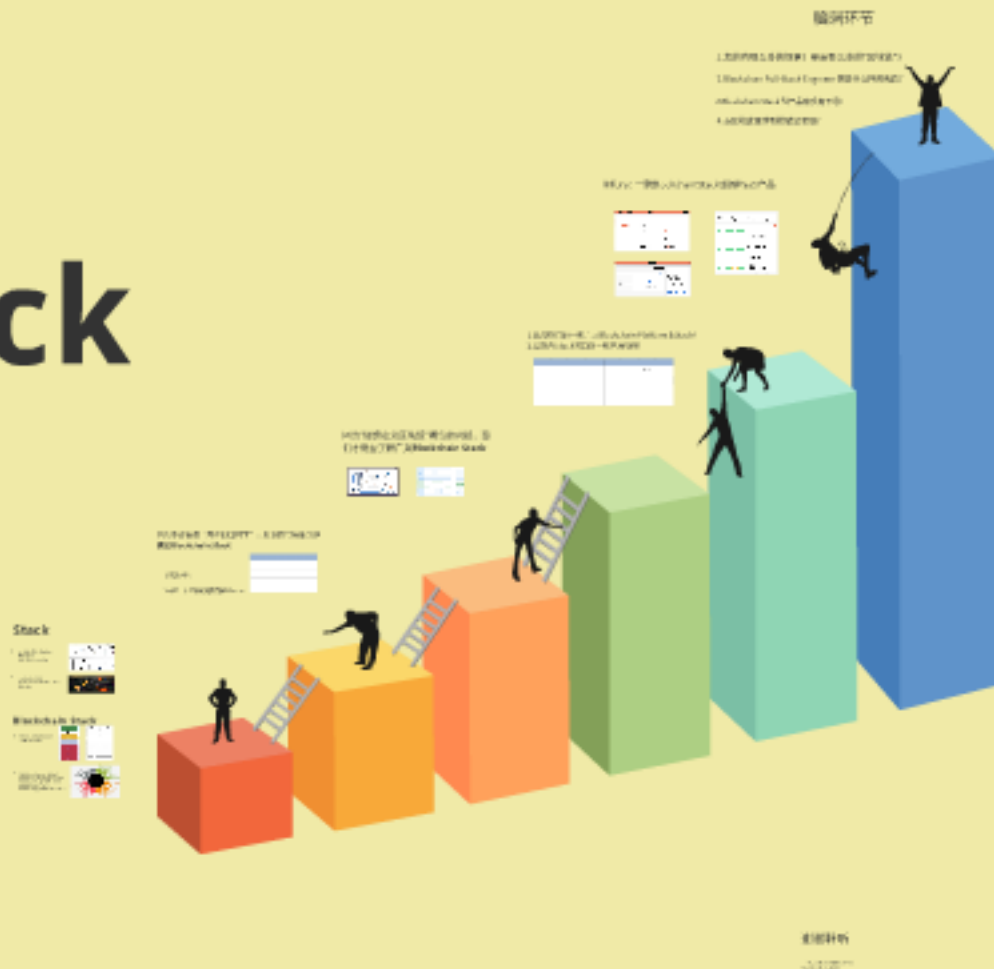


Blockchain Stack

分享人：戴嘉乐daijiale@daijiale.cn
时间：2018.8.7



Stack

狭义: An Abstract Data Structure
LIFO Queue
PUSH & POP Transaction



广义: A Technology Stack
N+Technical Combination (N>1)
All For One



Blockchain Stack

狭义: Blockchain Infrastructure
Subtechnical Set

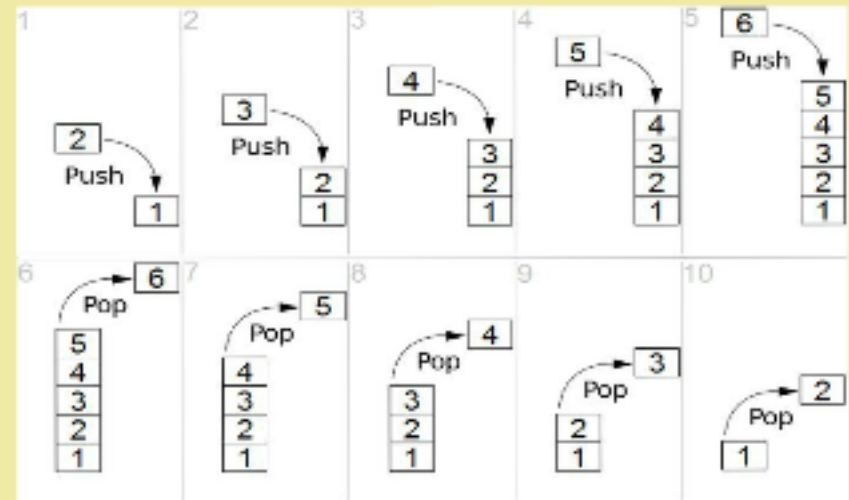


广义: Blockchain + Finance = Fintech
Blockchain + SmartContract = DApp
Blockchain + DApp + IPFS = DWeb
Blockchain + IoT = IOTA
Fintech + DApp + DWeb + IoT + AI = ?

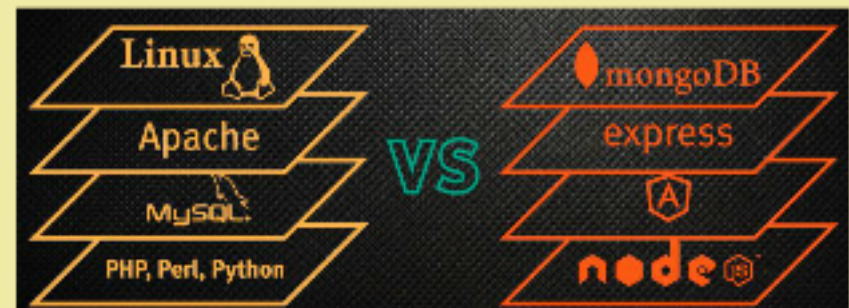


Stack

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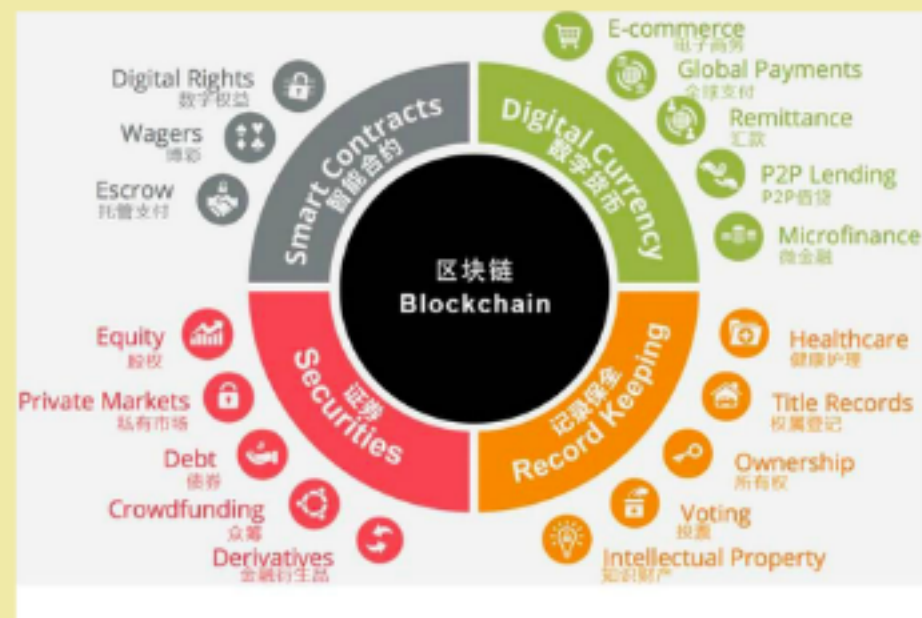


Blockchain Stack

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因为都想自造“真正的比特币”，所以我们需要了解
狭义Blockchain Stack

1.演变过程？

2.编写一个区块链数据层模型Demo？

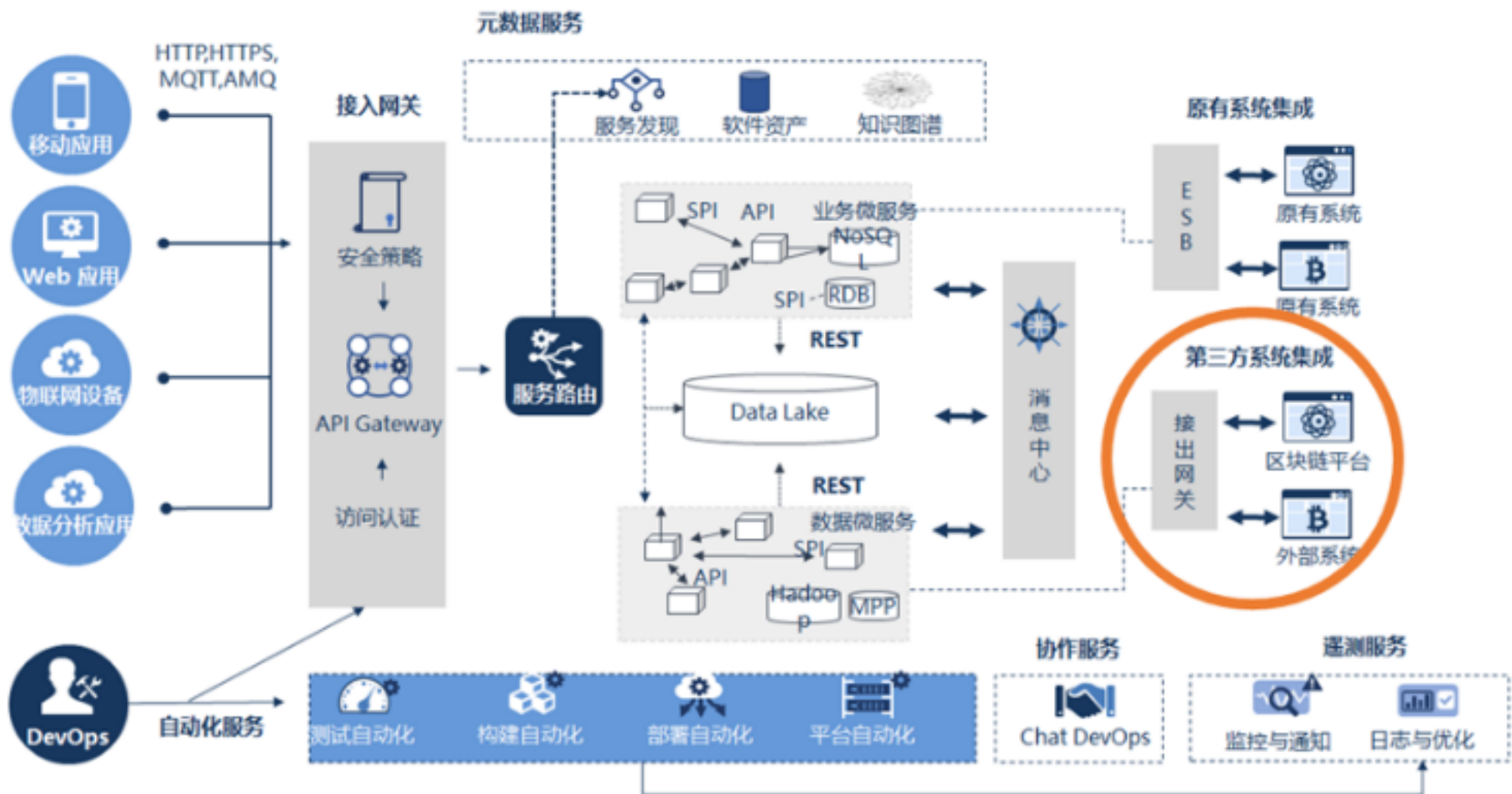
	区块链	应用层	数据层	网络层	共识	资源层
比特币	Bitcoin	SPV/Full Node	UTXO	P2P	工作量证明 (PoW)	算力
以太坊	Ethereum	Smart Contracts	账户模型	P2P	权益证明 (PoS)	算力
比特币闪电网络	Bitcoin	Lightning Network	UTXO	P2P	混合 (PoW + PoS)	算力 + 资金
比特币闪电网络	Bitcoin	Lightning Network	UTXO	P2P	混合 (PoW + PoS)	算力 + 资金

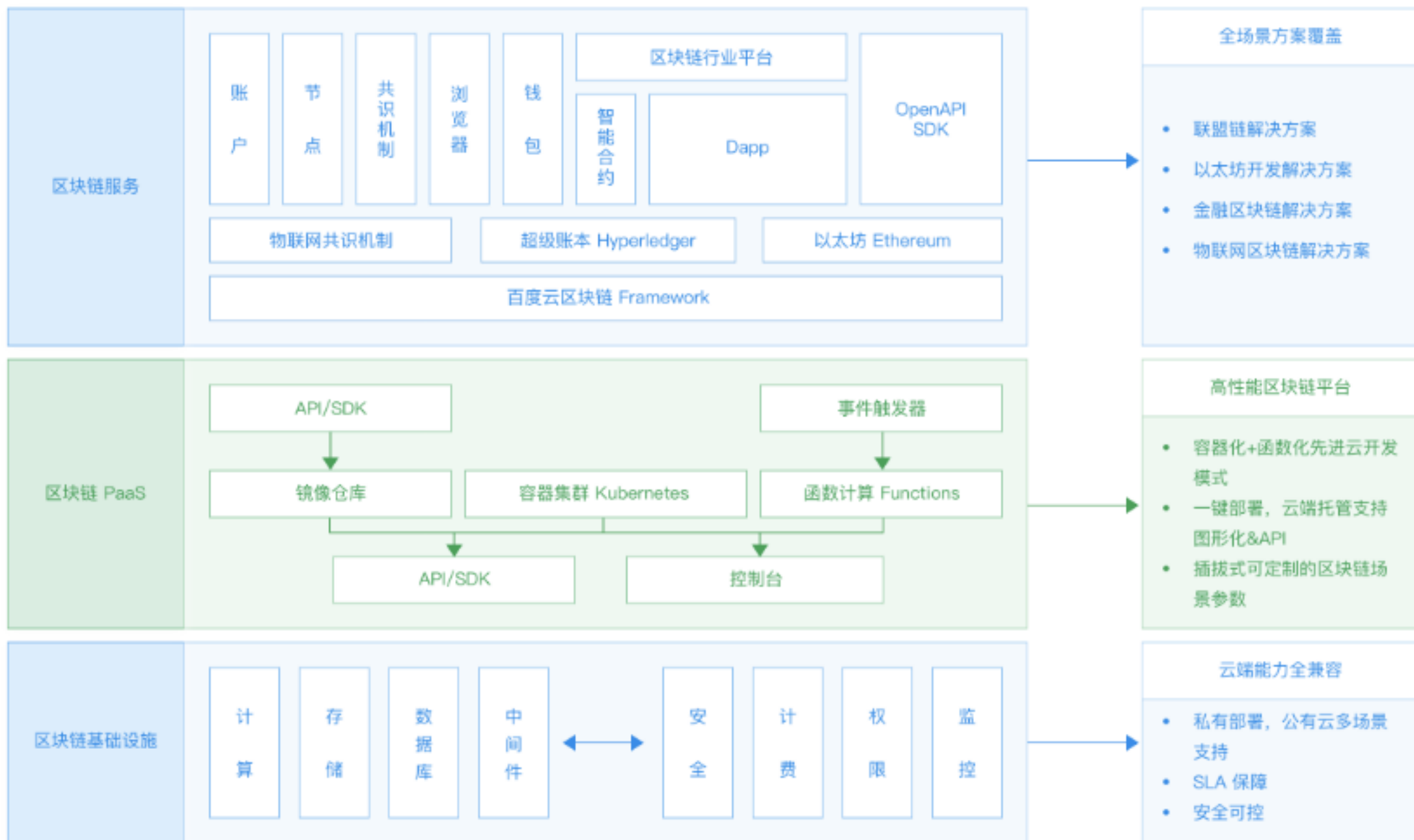


	区块数据结构	P2P网络协议	共识算法	加密签名算法	虚拟机	智能合约语言
比特币	Merkle Tree	基于C++的比特币P2P网络通信库	POW	椭圆曲线加密算法、SHA256	脚本引擎	C++
以太坊	Merkle Patricia Tree	基于Go的以太坊P2P网络通信库	POW/POS	AES、FNV	EVM	Solidity
NEO	Merkle Tree	基于C#的NEO P2P网络通信库	DBFT	SHA256	NeoVM	C#、Python、Java
ONT	Merkle Tree	基于Go的Ont P2P网络通信库	VBFT	Ontology Crypto	Ontology WASM	C/C++/Rust/Go

因为"服务定义区块链"概念的兴起，我们才需要了解广义Blockchain Stack







- 1.比较热门的一些广义Blockchain Platform & Stack?
- 2.以及各Stack对口的一些应用场景

Stack	Blockchain Platform	Component	Asset	Target	Example	Example	Scenario
Stack A	Enterprise Blockchain	Blockchain	Value Chain	Enterprise Blockchain	Enterprise Blockchain	Enterprise Blockchain	Enterprise Blockchain
Stack B	Public Blockchain	Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain
Stack C	Private Blockchain	Blockchain	Private Blockchain	Private Blockchain	Private Blockchain	Private Blockchain	Private Blockchain
Stack D	Public Blockchain	Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain
Stack E	Public Blockchain	Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain	Public Blockchain



比较热门的一些广义Blockchain Platform & 以及各Stack对口的一些应用场景

Stack	Blockchain Platform	Front-End	Back-End	Storage	DevOps	Example	Direction
Stack A	Ethereum+KyberNetwork	JavaScript	Solidity/golang	localStorage/levelDB	Docker or K8S	去中心化交易所、ETF指数基金	跨境、金融衍生产品
Stack B	Chain	JavaScript	golang	localDB/sinkDB	Docker or K8S	比特币系统中间件	金融、联盟链
Stack C	Fabric	JavaScript	SDK	levelDB/couchDB	Docker or K8S	分布式账本、票据	联盟链
Stack D	EOS + IPFS	React.js + GraphQL	C/C++	IPFS Block-Producer	Docker or K8S	竞拍、游戏型DApp	实时性要求更高
Stack F	XuperChain	百度医药、医宇宙	防伪溯源，版权保护

Infura : 一款BlockchainStack型的PaaS产品





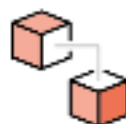
→ ETHEREUM INFRASTRUCTURE AT YOUR FINGERTIPS

Our world-class infrastructure will ensure that your decentralized application scales to meet the demand of your users. Your product's success is our number one priority.



TLS-ENABLED ENDPOINTS

Public endpoints for the Ethereum Mainnet and all testnet networks



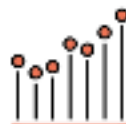
TLS-ENABLED IPFS GATEWAY

Decentralized storage with custom reliability features



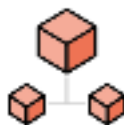
PORTABLE ETHEREUM INTERFACE

Compatible with the standard JSON-RPC API and popular web3 libraries



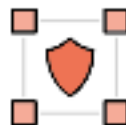
FERRYMAN™ SERVICE LAYER

A custom reverse proxy for scaling and reliability



MULTI-CLIENT BACKEND

Both Geth and Parity for robustness and resiliency



CUSTOM INSTALLATIONS

Private infrastructure deployments for your organization



YOUR PROJECTS

CREATE NEW PROJECT



BLOCKCHAIN-DEMO



EDIT

API KEY

4cc2114d89374ae28d53848...



API SECRET ⓘ

dd3efa82781c4a0c8b604c7...



ENDPOINT

MAINNET



mainnet.infura.io/v3/4c...



Whitelist Contract Address...

ADD



Whitelist Your Contracts ⓘ

Search and whitelist the specific smart contracts that your application uses.

WHAT'S NEW

JULY 18, 2018

Our developer portal and V3 API auth flow are now live! We are excited to give you more control over sending requests to Infura. The V3 auth flow will become mandatory soon, and we will stop supporting legacy API keys.

Stay tuned as we look forward to releasing new features to help you manage and run your application on Ethereum.



DOCS



STATUS



SUPPORT

MATHNET BLOCK STATS

Average based on previous 10 blocks

BLOCK NUMBER

6,103,799

AVG GAS PRICE

15.45Gwei

AVG GAS LIMIT

7.98Mgas

AVG BLOCK FULLNESS

99.7%

INFURA STATUS

Status represents Infura, not the Ethereum network

MATHNET

PREV 60 DAYS



486PS AVG RESPONSE TIME

100.00% UPTIME

RINKERY

PREV 60 DAYS



887PS AVG RESPONSE TIME

100.00% UPTIME

ROPSTEN

PREV 60 DAYS



902PS AVG RESPONSE TIME

100.00% UPTIME

KOVAN

PREV 60 DAYS

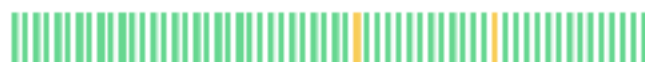


423PS AVG RESPONSE TIME

100.00% UPTIME

TPT3

PREV 60 DAYS



298PS AVG RESPONSE TIME

99.99% UPTIME

MATHNET TRANSACTIONS

PENDING

FAILED

BLOCK #109704

0xede99b1765296f2f1445cd0580e372118301380b...
TRANSACTION

100%

0xae6b0231a340b1160a55390bc88e800a2f05e0e3e...
TRANSACTION

100%

0xc3f3f2d49bb682ad37a7a7760085f568335c9e15...
TRANSACTION

100%

0xc0e2fae6e923435a31600945719e7e05008e78ab...
TRANSACTION

100%

0xe30117cb29c15a15748d58ec9785c7a338a80a76...
TRANSACTION

100%

0x7db57b817077c338363158ae40af57d80f0804b...
TRANSACTION

100%

0x4f34380f6f480cd488f329c0900f1d2c038834ec...
TRANSACTION

100%

0x653cd05434e4784831992a317b594337c4b9e58...
TRANSACTION

100%

0x754f18741a89e1ae214e128b0a5cdf67177168b2...
TRANSACTION

100%

0x81bb062ea688728405a38cd1615121aa817ac1...
TRANSACTION

100%

0xa5f4182e341258f2_c72668383248587d158a15...
TRANSACTION

100%

0xae81a7c333ac0fcd95892783126f6aee2c912e6a...
TRANSACTION

100%

0x7c5623844e5a871d1a58c2874dfaa2e443f00c88...
TRANSACTION

100%

脑洞环节

- 1.真的有那么多的场景？需要那么多的"区块链"？
- 2.Blockchain Full-Stack Engineer 需要什么样的素质？
- 3.Blockchain Stack 型产品有没有市场？
- 4.从区块链里学到的链式思维？



谢谢聆听

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Wechat: daijiale6239