
Tezos介绍
By @awasunyin

“Tezos系漫游指南系列”

The Hitchhiker’s Guide to Tezos

“Tezos系漫游指南系列”

The Hitchhiker’s Guide to Tezos: https://medium.com/cryptium/the-hitchhikers-guide-to-tezos-36f112662074

(中文版进行中)

1. What is Tezos?
2. Must-Know Tezos Vocabulary
3. Major Stakeholders on Tezos
4. Baking (Validation)
5. Delegation
6. Ecosystem

1. What is Tezos?

Open-source project mainly written in OCaml,
a functional programming language
使用Ocaml编写的一个开源软项目
(Ocaml为一种函数式编程语言)

Tezos is a public distributed ledger, or a blockchain, and open-source project mainly written in OCaml, a functional programming language. In addition to the ledger, it is also a smart contract platform that supports contracts written in a language called Michelson.
Tezos是一个主要使用Ocaml语言实现的开源的公开的分布式 账本(也是区块链)项目。Ocaml本身是一种函数式 编程语言。在除了账本之外，它同时支持一种使用Michelson语言编写的智能合约平台。

Liquid Proof-of-Stake (LPoS), as a mechanism to determine the conditions peers or nodes must fulfil to participate in consensus.
LPOS, 是一种能够决定对端或者节点能够满足参与共事的决定机制。

Tezos is characterised for its own interpretation and implementation of Proof-of-Stake, known as Liquid Proof-of-Stake (LPoS), as a mechanism to determine the conditions peers or nodes must fulfil to participate in consensus. LPoS is used in combination of *Nakamoto Consensus*, which states that the longest chain is the true one, to both incentivise entities to maintain the infrastructure and to coordinate the same trustless parties that form the Tezos network.
Tezos 以它自己解释并实现的权益证明而作为自身特色，也就是为人所熟知的液态权益证明(LPOS)。这种机制被用来决定对端或者节点参与共识过程中必须满足的条件。Lpos与Nakamoto共识结合使用，它声明最长的链是真正的链。这种机制被用来激励实体来维护系统架构并且与其他受信各方来在 Tezos网络中协同工作。

Tezos-一种自我修复的密码账本

Tezos的诞生目的是为了支持元升级或者包括源代码以及监管流程本身的升级。
在这个过程中，通过和否决都是通过链上的投票机制来完成。

Tezos—*a self-amending crypto-ledger*

Aim to support meta upgrades or changes not only in the source code, but also in the governance processes themselves, approval or rejection of which are determined via an on-chain voting system.

Another uncommon feature, pursued by the Tezos project, is the so-called *on-chain governance*. Governance, in blockchain literature, refers to the process or system for designing, proposing, enforcing, and implementing changes to a protocol or project. The well-spread tag line of "Tezos—*a self-amending crypto-ledger*" refers to Tezos' aim to support meta upgrades or changes not only in the source code, but also in the governance processes themselves, approval or rejection of which are determined via an on-chain voting system.

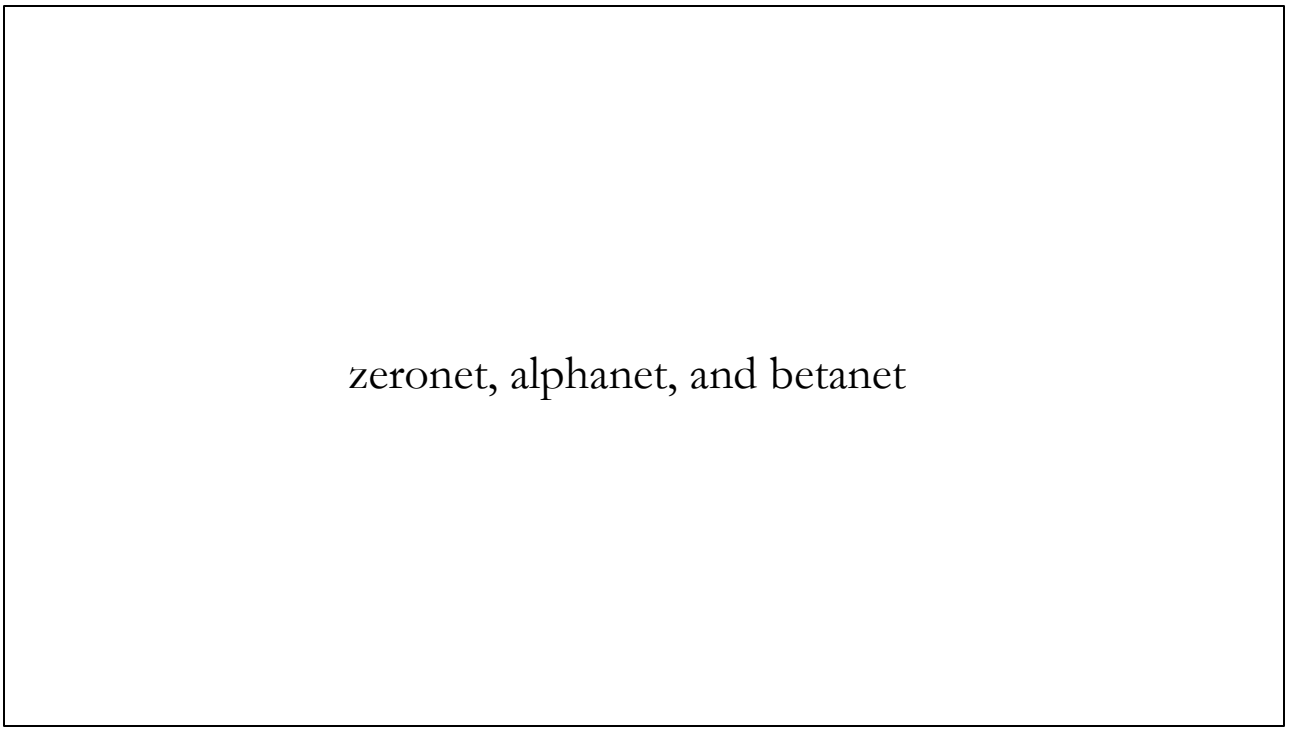
Tezos项目追求的另一个不寻常的特征就是所谓的链上治理。区块链中的治理是指用于设计，提议，实施和实施对协议或项目的更改的过程或系统。"Tezos - 一种自我修正加密分类帐本"的广泛标记行指的是Tezos的目标是不仅支持源代码中的元升级或更改，还支持治理流程本身，通过在线投票系统确定批准或拒绝。

Tezos的首次发币于2017年月1日开始，一直持续到7月13日为763,306,929.69 XTZ募集2.32亿美元

Tezos' initial coin offering started on the 1st and lasted until the 13th of July 2017, raising $232 million for 763,306,929.69 XTZ

Tezos' initial coin offering started on the 1st and lasted until the 13th of July 2017, raising $232 million for 763,306,929.69 XTZ *with 20% locked in vesting contracts*, according to this statistical study of the event.

根据该事件的统计研究(这个应该是个超链接)，Tezos的首次发币于2017年月1日开始，一直持续到7月13日，为763,306,929.69 XTZ募集2.32亿美元，其中20%锁定了归属合约。



Up to date, there are mainly three releases of Tezos: *zeronet*, *alphanet*, and *betanet*. They are, respectively: a testnet including the latest most stable features; a testnet including more experimental and development-oriented features; and the testnet closest to production, transactions and originations (smart contracts) on which will persist on the future *mainnet*.

The latter's launch (aka *lunch date*) remains unclear, despite the estimations found on public threads, for instance this enthusiastic counter in Paris time. The *betanet* was launched on the 30th of June 2018, and was operated by 8 Tezos Foundation bakers until Cycle 7. At the Cycle of writing (Cycle 23), there appears to be 449 distinct bakers.
迄今为止，主要有三个版本的 Tezos：zeronet，alphanet和betanet。它们分别是：包含最新最稳定功能的测试网络;一个包含更多 实验和开发导向功能的测试网络;最接近生产，交易和原产地（智能合约）的测试网将持续存在于未来的主网上。后者的 发布（即午餐日期）仍然不清楚，尽管在公共 线索上发现了估计，例如在巴黎 时间这个热情的柜台。
Betanet于2018年6月30日推出，由8个Tezos Foundation烘焙师操作，直到第7周期。在写作周期（第23周期），似乎有449个不同的烘焙师。


Tezos Foundation
@TezosFoundation
Follow
Have a great weekend, everyone, because mainnet arrives Monday!
6:37 pm - 14 Sep 2018
426 Retweets 905 Likes
82
426
905

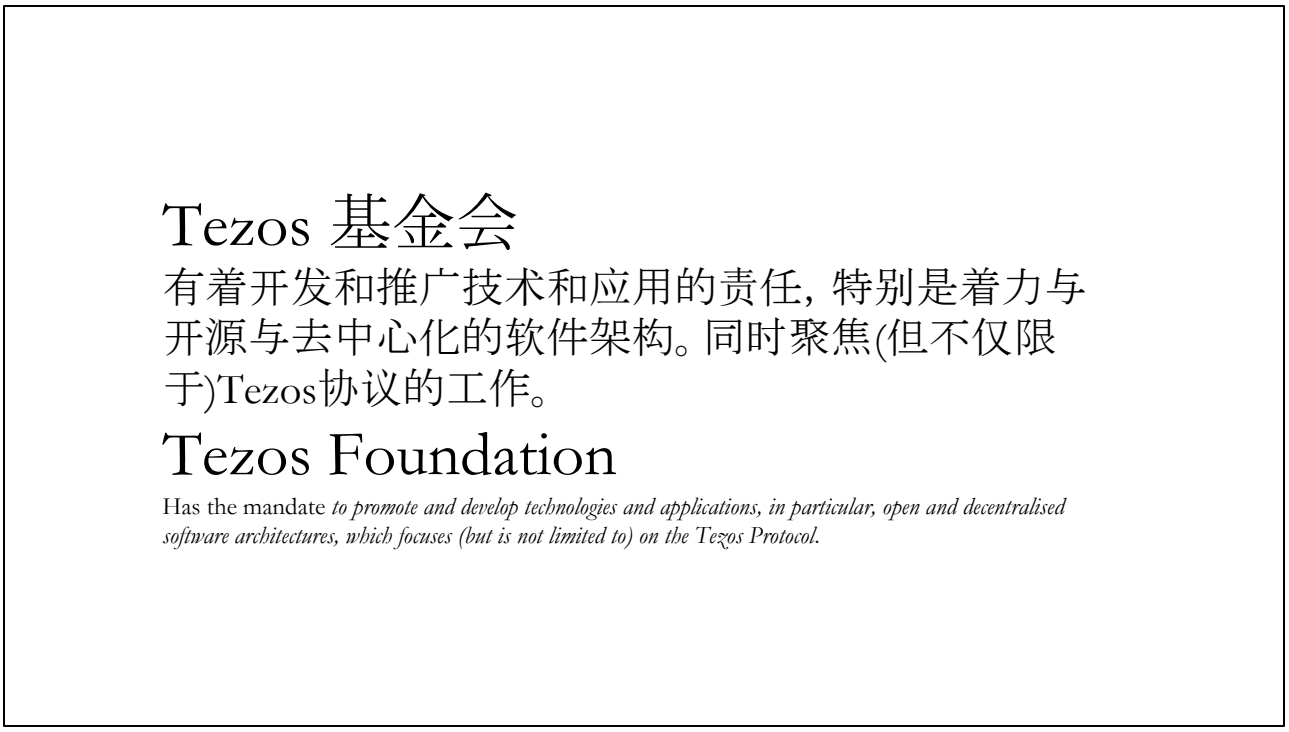
2. Must-Know Tezos Vocabulary

Cycles, TZ1, KT1

Time is measured by Cycles (~2–3 natural days). There are two types of accounts: the ones starting with TZ1 which hold the funds, and the ones starting with KT1 which are the *originations* (smart contracts) for delegation. Tezos is a *public blockchain*, anyone who fulfills the self-bond requirements can participate in consensus. For now, there is only two ways of acquiring XTZ: having participated in the crowdsale (to use those funds one must go through KYC to *activate* the account) or OTC.

时间以周期（约2-3个自然天）来衡量。有两种 类型的账户：以TZ1开头持有资金的账户，以及以KT1开头的账户（智能合约）。Tezos是一个公共区 块链，任何满足自我约束要求的人都可以参与共 识。目前，只有两种方式 获得XTZ：参与了众筹（使用那些必 须通过KYC来激活帐户的资金）或场外交易。

3. Major Stakeholders



The Tezos Foundation is a nonprofit entity funded, based in Zug, and governed by the laws of Switzerland. The Foundation has the mandate *to promote and develop technologies and applications, in particular, open and decentralised software architectures, which focuses (but is not limited to) on the Tezos Protocol*.

Tezos基金会是一家资助的非营利性实体，总部设在zug，受瑞士法律管辖。基金会的任务是促进和开发技术和应用，特别是开放和分散的软件架构，其重点（但不限于）Tezos协议。

Bakers (Validators)
烘焙师(校验师)

- Allocated a minimum amount of XTZ as *self-bond* (staked), making them eligible to participate in consensus
  - 分配最小数量的XTZ作为自我约束(被质押)，是他们能够有资格去参与共识。
- To receive baking (block validation, earning (16 XTZ + fees/block) and endorsement rewards (earning 2 or 1 XTZ per endorsement)
  - 他们可以通过接收烘焙物(块验证收入 (16xtz +每个block的交易费) 与背书(每次背书获得2个或者1个 XTZ) 来获得奖励
- Can lose at least 512 XTZ (plus the rewards earned so far) per double-signed block, and 64 XTZ per double-endorsed block, and a maximum of their total self-bond.
  - 如果出现双重签名的区块，烘焙师有可能会失去最少 512个XTZ(甚至加上目前为止赚到的奖励)。如果有双重背书的区块，则最少失去64XTZ，最大的情况，有可能失去他们的质押物)。

Entities that have allocated a minimum amount of XTZ as *self-bond* (staked), making them eligible to participate in consensus, and hence to receive baking (block validation, earning (16 XTZ + fees/block) and endorsement rewards (earning 2 or 1 XTZ per endorsement). While there are individuals that act as bakers (aka *solo-baking*), there are entities that provide public services to token holders by charging service fees. This also means that for every baked block, the total supply of XTZ increases by 16 XTZ.

实体已将最低数量的XTZ分配为自我保证(质押)的实体，使其有资格参与共识，从而获得烘焙(区块验证，收入(16 XTZ + 费用/区块)和背书奖励(获得2或每个代言1 XTZ)。虽然有个人作为面包师(又称个人烘焙)，但有些 实体通过收取服务费向代币持有人提供公共服务。这也意味着对于每个烘焙区块，XTZ的总供应量增加16 XTZ。

Baking and endorsement rights are assigned to bakers following a lottery-like system, with priority lists. Because of this, senior bakers might have earned up to date larger amounts of rewards in comparison to newer bakers, as the amount of bakers, so far, has increased cycle by cycle.

烘焙和认可权利被分配给遵循像彩票系统的烘焙师，并设定了优先级列表。正是因为这个原因，与较新的烘焙师相比，高级面包师可能获得了更多的奖励，因为到目前为止，烘焙师的数量随着轮数的增加在逐渐增加。

Bakers can lose at least 512 XTZ (plus the rewards earned so far) per double-signed block, and 64 XTZ per double-endorsed block, and a maximum of their total self-bond. When bakers get punished, the tokens get burnt, they disappear from the

total supply.

烘焙师对一个区块的双重签名可能会失去至少 512 XTZ（加上迄今为止所获得的奖励），针对每个双重背书的区块可以失去64 XTZ，最大数量会直到他们失去所有的质押。当烘焙师受到惩罚时，令牌会被销毁，它们会从总供应中消失。

Delegates (Delegators)
授权(授权者)

- Delegations cannot be lost as a punishment for the baker double-baking or endorsing
  - 授权不能因为烘焙师双重烘焙或者是双重背书遭受惩罚而丢失。
- Opportunity cost
  - 机会成本
- A baker not paying the rewards
  - 烘焙师不去支付奖励
- A baker not being alive for the assigned baking and endorsing spots causing them to not earn the rewards.
  - 对于指定的烘焙任务烘焙师并不活跃，并且针对背书点的背书让他们无法获得奖励。

Delegations, as opposed to transactions, do not cause the delegator to lose custody of their funds. A delegation is an origination (a smart contract), whose owner is the aforementioned one. Among other fields, the origination contains a parameter that is the target baker's address, which is used to assign the delegation to that specific baker (again, it does not mean that the baker will gain any control over these funds).

与交易相反，委托不会 导致委托人失去 对其资金的保管。委托是一个起源（一个智能合约），其所有者是前面提到的。在其他字段中，起源包含一个参数， 该参数是目 标烘焙师的地址，用于将委托分配 给该特定烘焙师（同样，这并不意味着烘焙 师将获得对这些资金的任何控制）。

Unlike bakers' self-bond, delegations cannot be lost as a punishment for the baker double-baking or endorsing. The highest risk for delegators is the opportunity cost of delegating to a baker that shuts down their service. In this scenario, if a delegation is not switched within the same cycle, the funds will be *unproductive* for one more cycle, besides the 7 base cycles (required until the delegation is taken into account for the new batch of baking and endorsing slots). Other considerable risks are the likelihood of a baker not paying the rewards or the likelihood of a baker not being alive for the assigned baking and endorsing spots causing them to not earn the rewards.

与烘焙师的自我约束不同，授权者不能因为烘焙师的双重烘焙或背 书而受到损失。授权人面临的最大风险是委托给关闭其服务的烘焙师的机会成本。在 这种情况下，如果一个

励的可能性，或者烘焙 师因指定的烘焙而不能存活的可能性以及 认可他们不能获得奖励。

Tezos Ecosystem
Tezos 生态系统

- Wallets(钱包):
  - Cold / hot wallets (hardware / software wallets)
    - 冷/热钱包(硬件/软件钱包)
  - Examples: Tezos-Client, Ledger Nano S, TezBox, Galleon, WeTez
    - 例子:Tezos-Client, Ledger Nano S, TezBox, Galleon, WeTez
- Essential Services (必要服务):
- Block Explorers: TzScan
  - 区块发现: TzScan
  - Baker Listings / Baker Analytics: MyTezosBaker, Bakendorse
  - 烘焙师列表/烘焙师分析:MyTezosBaker, Bakendorse
- Community (社区):
  - https://github.com/cryptiumlabs/library/tree/master/communities

Further Reading
延伸阅读

English

- The Hitchhiker's Guide to Tezos
- Is Your Favourite Baker Overdelegated
- Introduction to Proof-of-Stake in Tezos and Understanding Baking and Endorsement Rewards

中文

- https://github.com/cryptiumlabs/library/tree/master/tezos/chinese

问答环节Special Q&A Sessions

有两种方式的问答：

1. 在每个话题结束的时候举手问问题（用英语提问），我们会现场马上回答
2. 在微信群里写下你的问题。如果是英语的提问，我们会马上回答，如果是中文的，我们会收集整理成中文的FAQ并在微信群内分享

If you have questions about the presentations, the topics, or Cryptium Labs, you can do two things:
Option A) Ask the question in public (must be in English) at the end of every presentation topic by raising your hand, we will answer them immediately on stage.
Option B) Write your question in our WeChat group! If it's in English, we will answer them during the event in public, if it's in Chinese, we will collect them and compile FAQ in Chinese and share with the WeChat group.


CRYPTIUM LABS