

*Polkadot.*

# Parachain Economics

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DeFi Discussions

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*Polkadot.*



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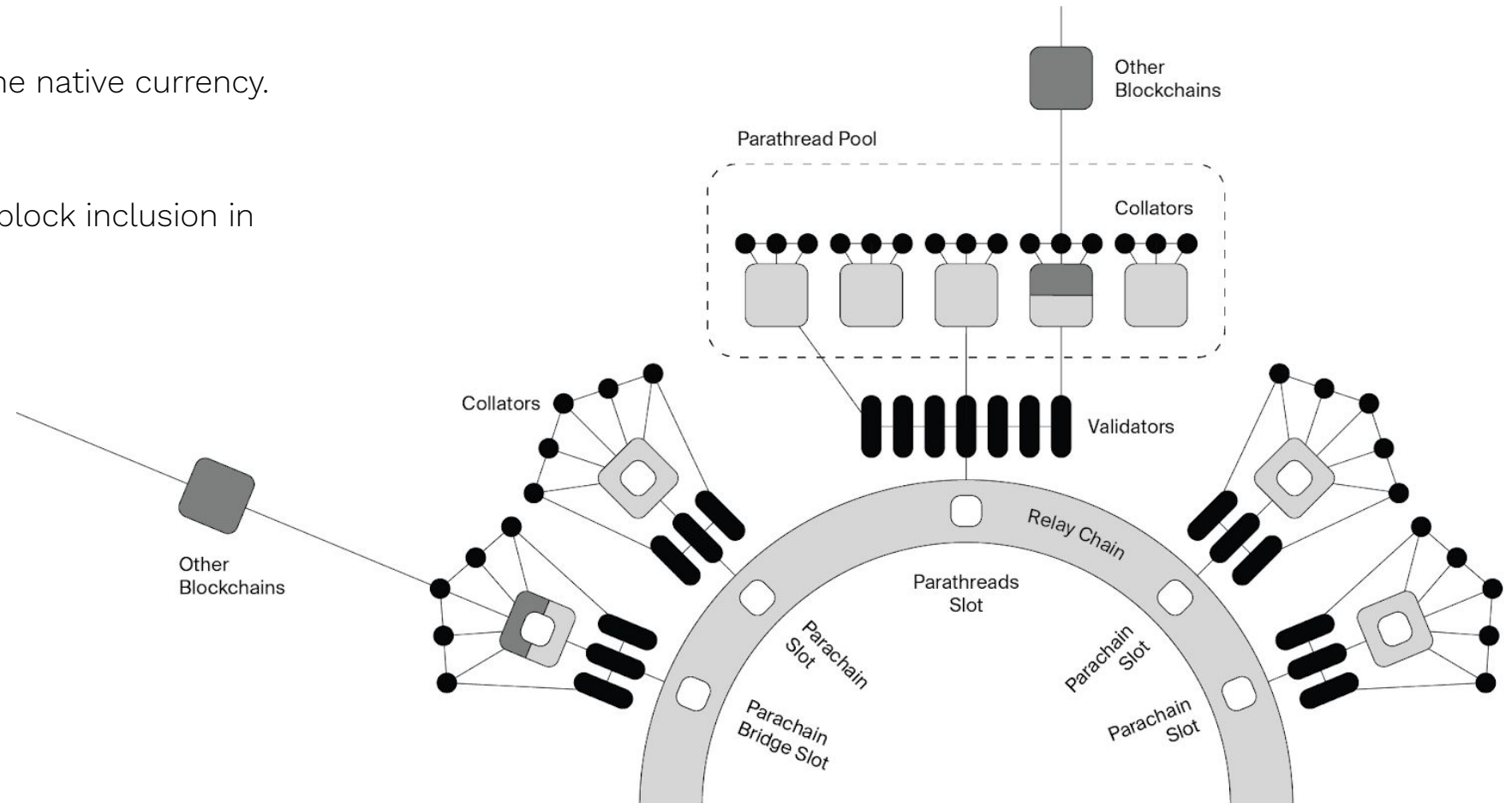
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# Polkadot. What are parachain economics?

In Polkadot there is an economic separation between the Relay Chain and parachains.

- On the Relay Chain, DOT is the native currency.
- DOTs are needed to acquire block inclusion in the Relay Chain.
- Parachains are economic blank slates, with their own incentive structures that are independent from DOT.



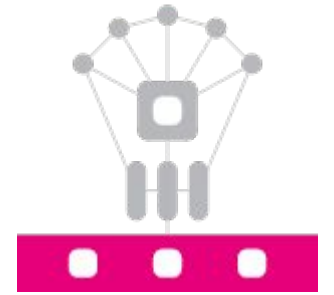
# Polkadot. Roles and Definitions

The Relay Chain and parachains have a number of actors.

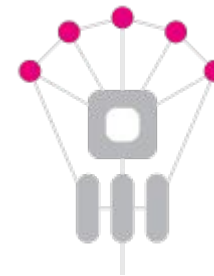
- **Validators** are the staked entities that secure the Relay Chain and verify new parachain blocks.
- **Collators** are the block producers of parachains, they package the transactions and hand off the PoV blocks to validators to verify.
- **Fishermen** are nodes with small stake, watching one or more parachains, ensuring a collator is performing honestly.



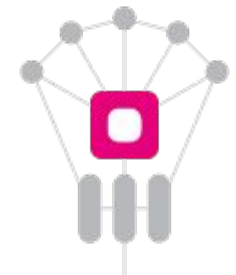
**Validator**



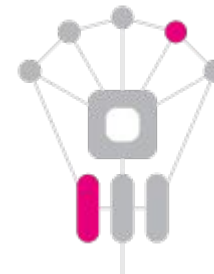
**Relay Chain**



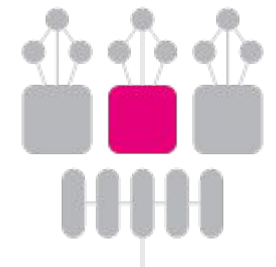
**Collator**



**Parachain**



**Fisherman**



**Parathread**



# Polkadot. Parachain Slots

One way that guarantees inclusion of blocks at every Relay Chain block is to acquire a parachain slot.

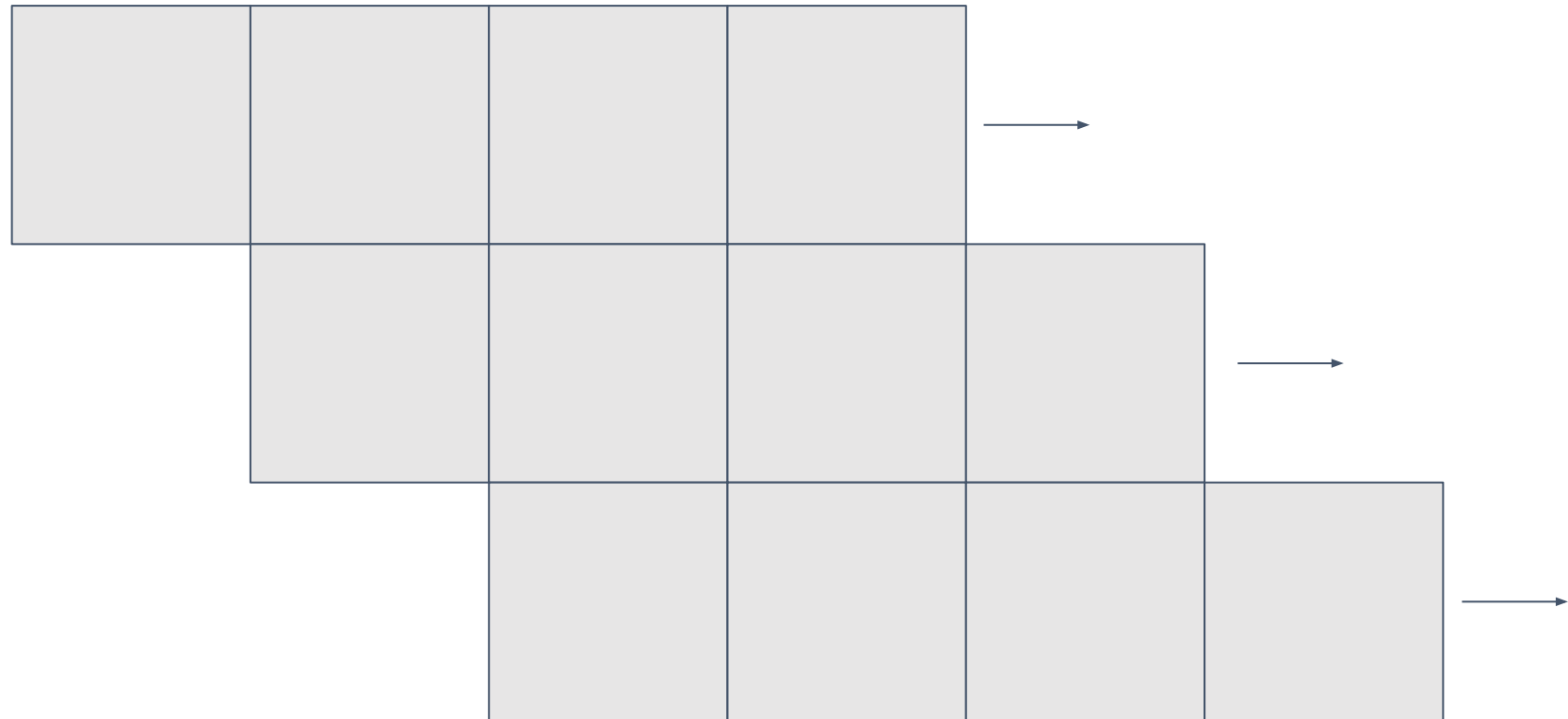
- Parachains acquire slots by participating in a parachain slot auction.
- Slot auctions are held on a rolling basis every six months.
- Slots are acquired for a lease period of 6 - 24 months.
- Winning bidders will have their DOTs locked for the duration of the lease period.



# Polkadot. Parachain Slot Auctions

Bidder	Bid Amount	Lease Periods
Alice	100 DOTs	(0, 3)
Bob	70 DOTs	(0,3)
	50 DOTs	(0,1)
Charlie	60 DOTs	(2,3)

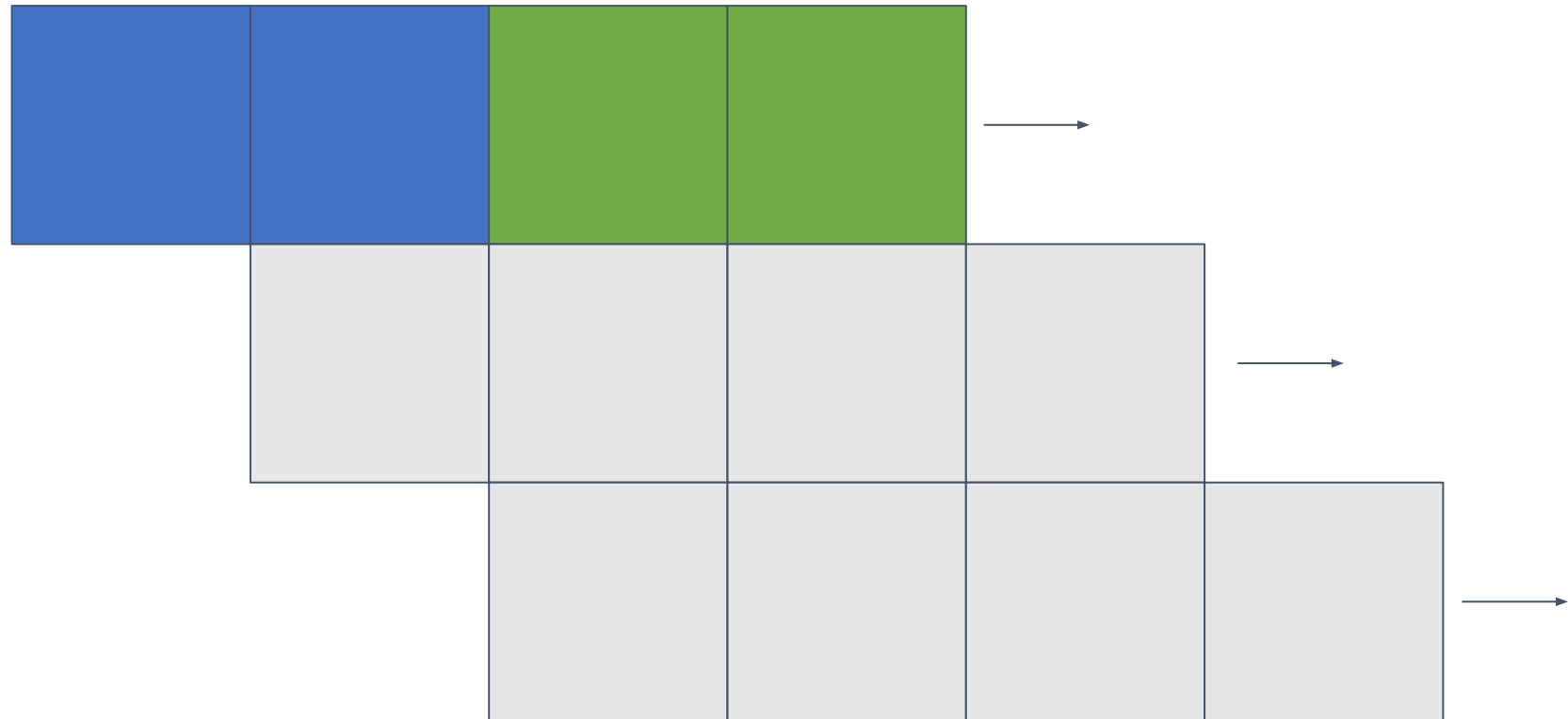
six months



# Polkadot. Parachain Slot Auctions

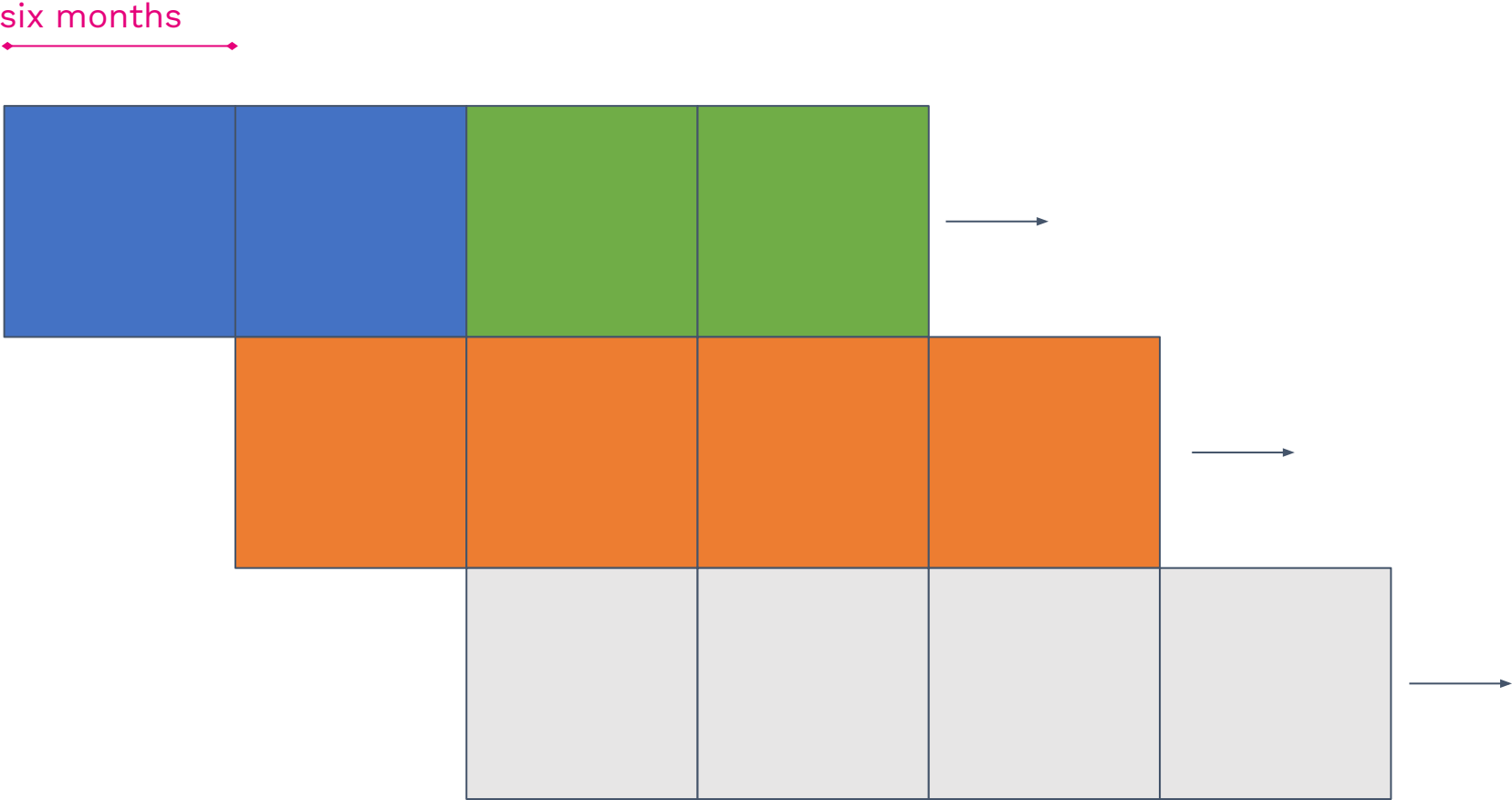
Bidder	Bid Amount	Lease Periods
Alice	100 DOTs	(0, 3)
Bob	<del>50 DOTs</del>	<del>(0,1)</del>
Charlie	<del>60 DOTs</del>	<del>(2,3)</del>

six months



Polkadot. Parachain Slot Auctions

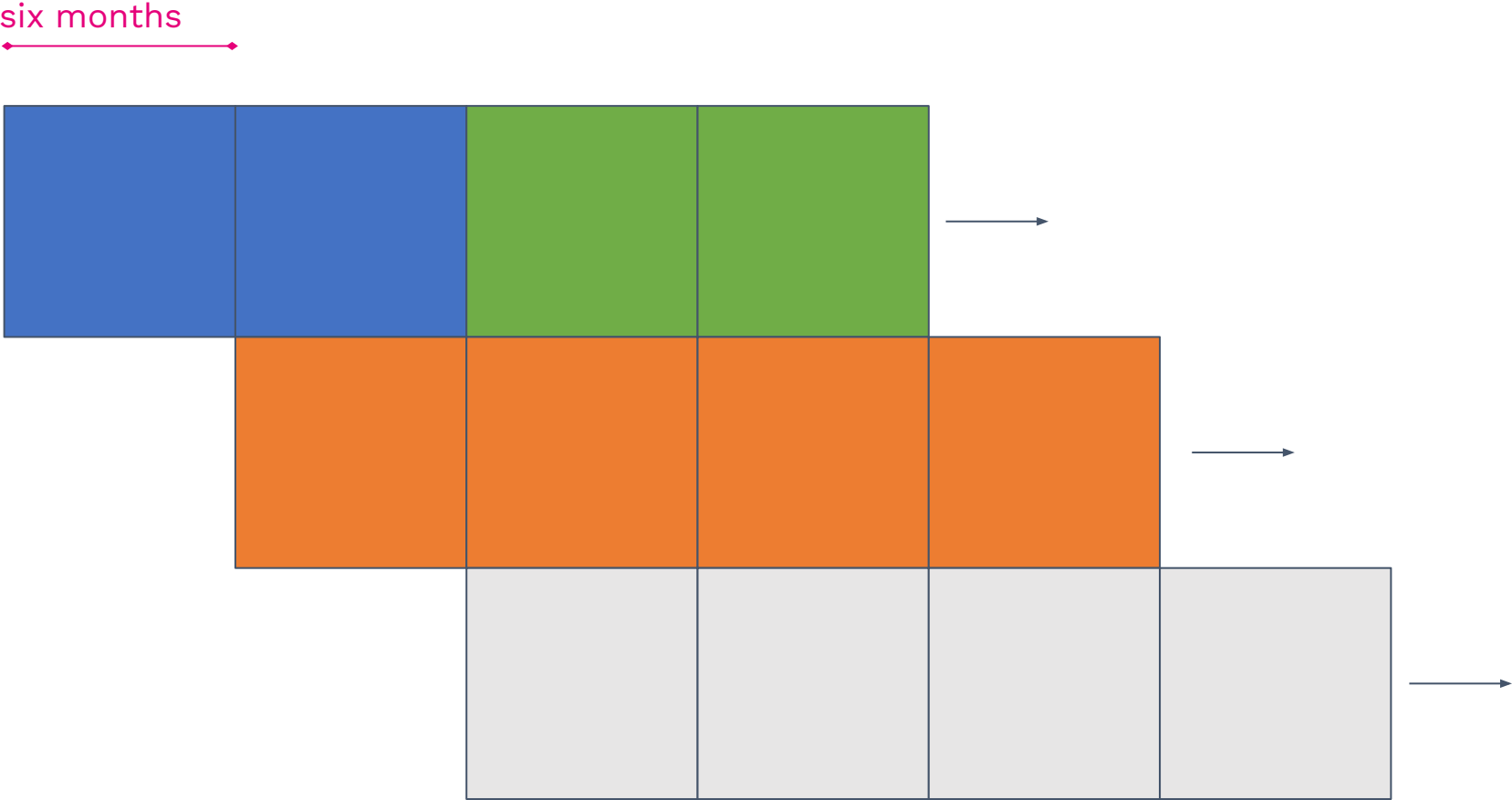
Bidder	Bid Amount	Lease Periods
Alice	<del>100 DOTs</del>	<del>(0, 3)</del>





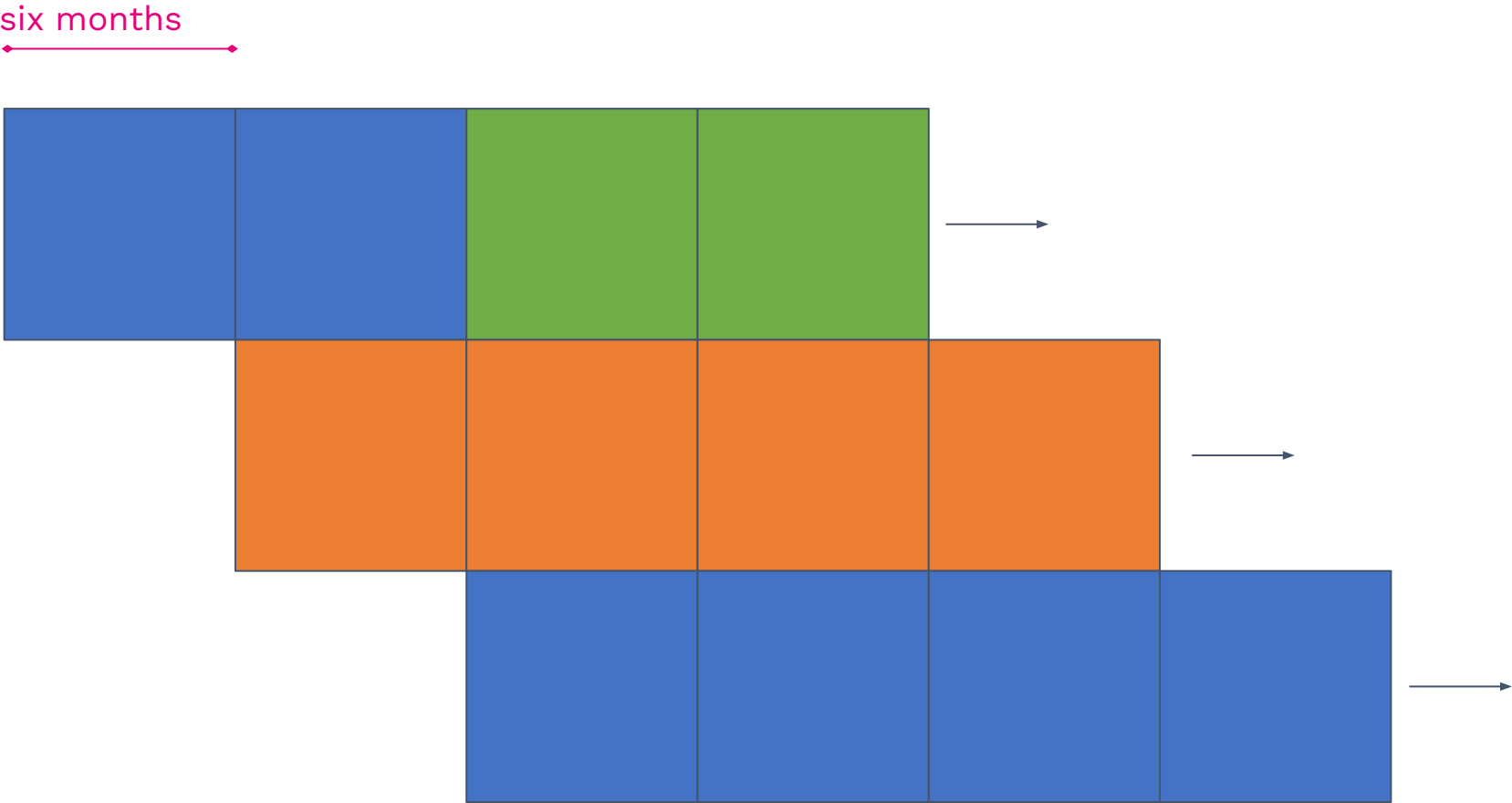
Polkadot. Parachain Slot Auctions

Bidder	Bid Amount	Lease Periods
Bob	200 DOTs	(2,5)



Polkadot. Parachain Slot Auctions

Bidder	Bid Amount	Lease Periods
Bob	<del>200 DOTs</del>	<del>(2,5)</del>



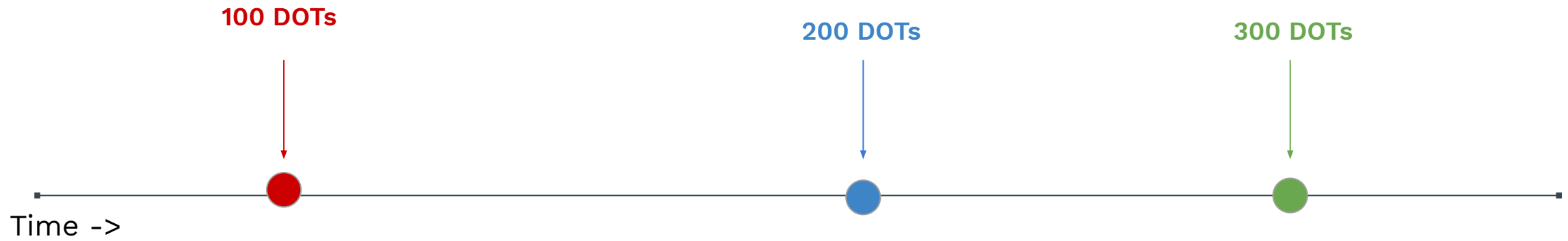
# *Polkadot.* Candle Auctions

Parachain slot auctions will use a candle auction mechanism.

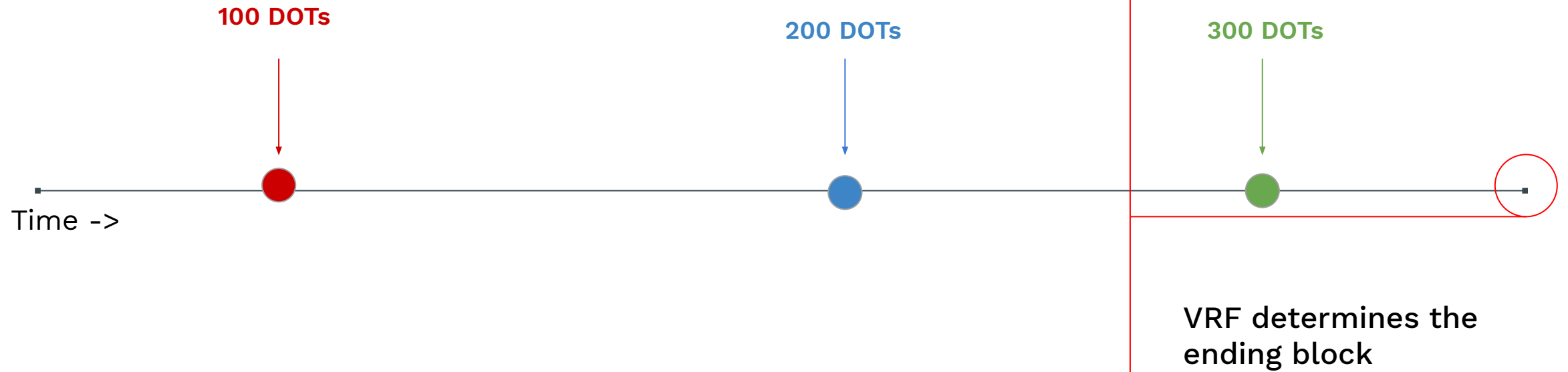
- Candle auctions are a type of first-price auction that have a random duration (in other words an unknown close).
- As it's used in Polkadot the end time will be determined retroactively using the same VRF that is generated by validators and used in BABE.
- The highest bid at the retroactively determined ending time will be the winner.



# Polkadot. Candle Auctions



# Polkadot. Candle Auctions



# *Polkadot.* Crowdfunding Parachains

There is a built-in module for trustlessly crowdfunding parachain slots.

- Contributors can lock their DOTs for a specific parachain and get their tokens back at the end of the term.
- Parachain teams can incentivize this in different ways, such as by minting tokens on the parachain in accordance to the contributions.
- Can be used to run Initial Parachain Offerings (IPOs) without trust.

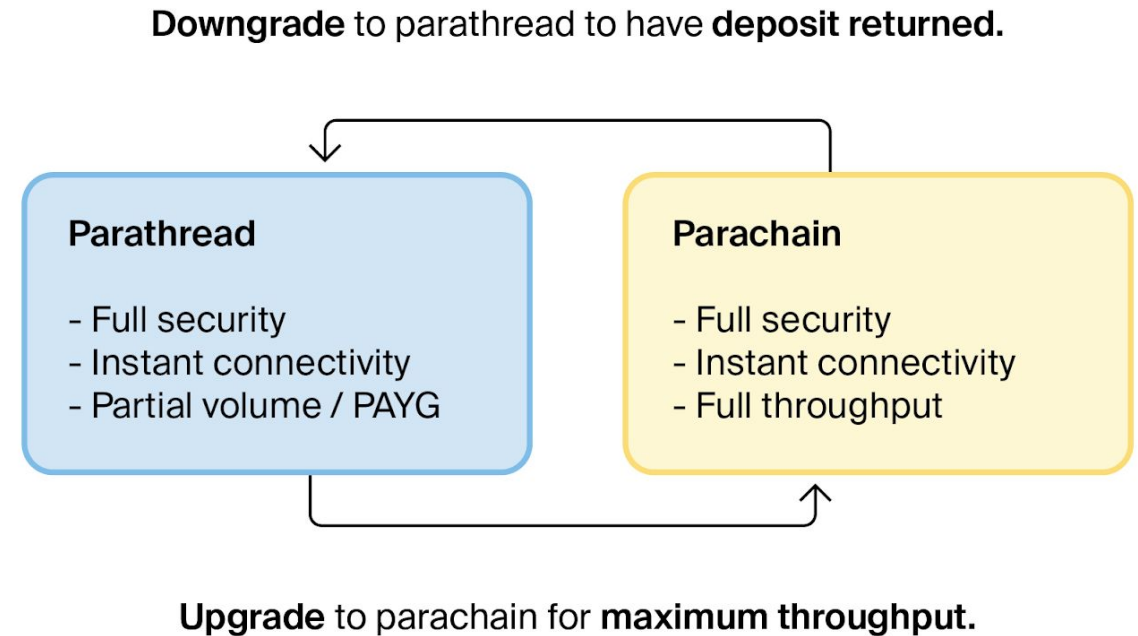




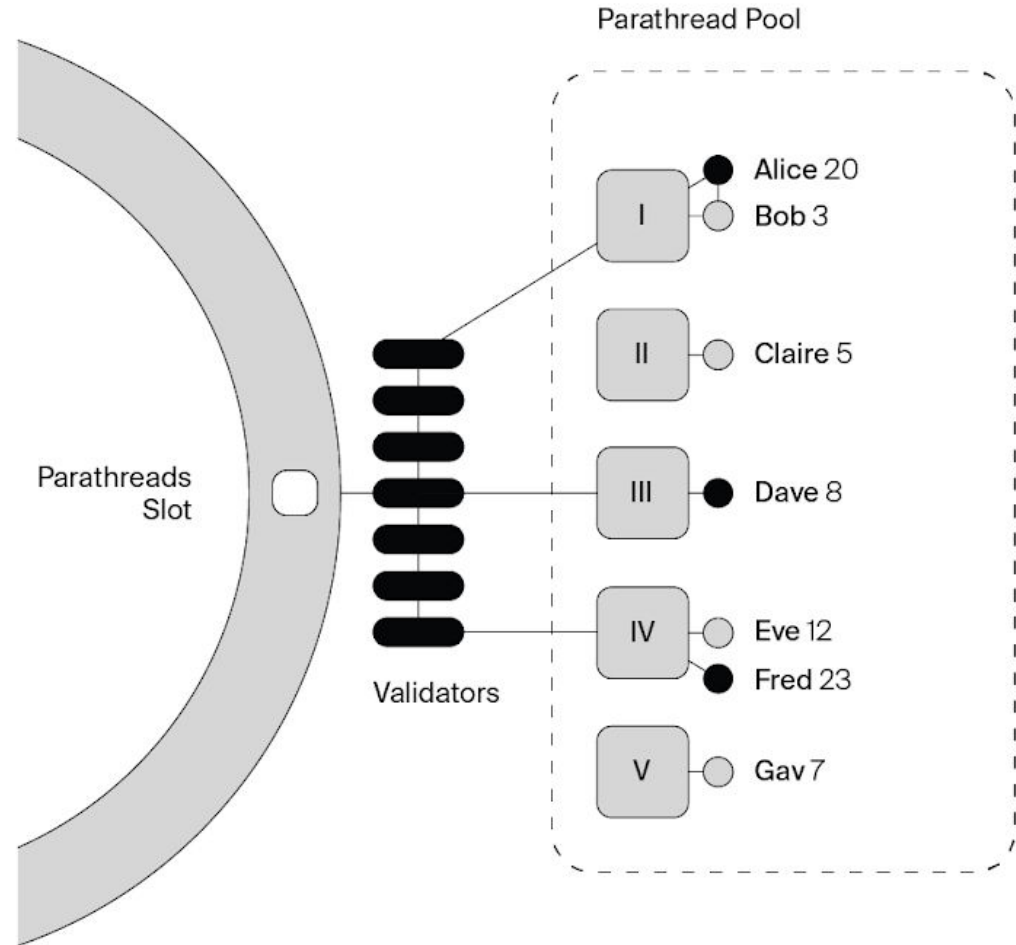
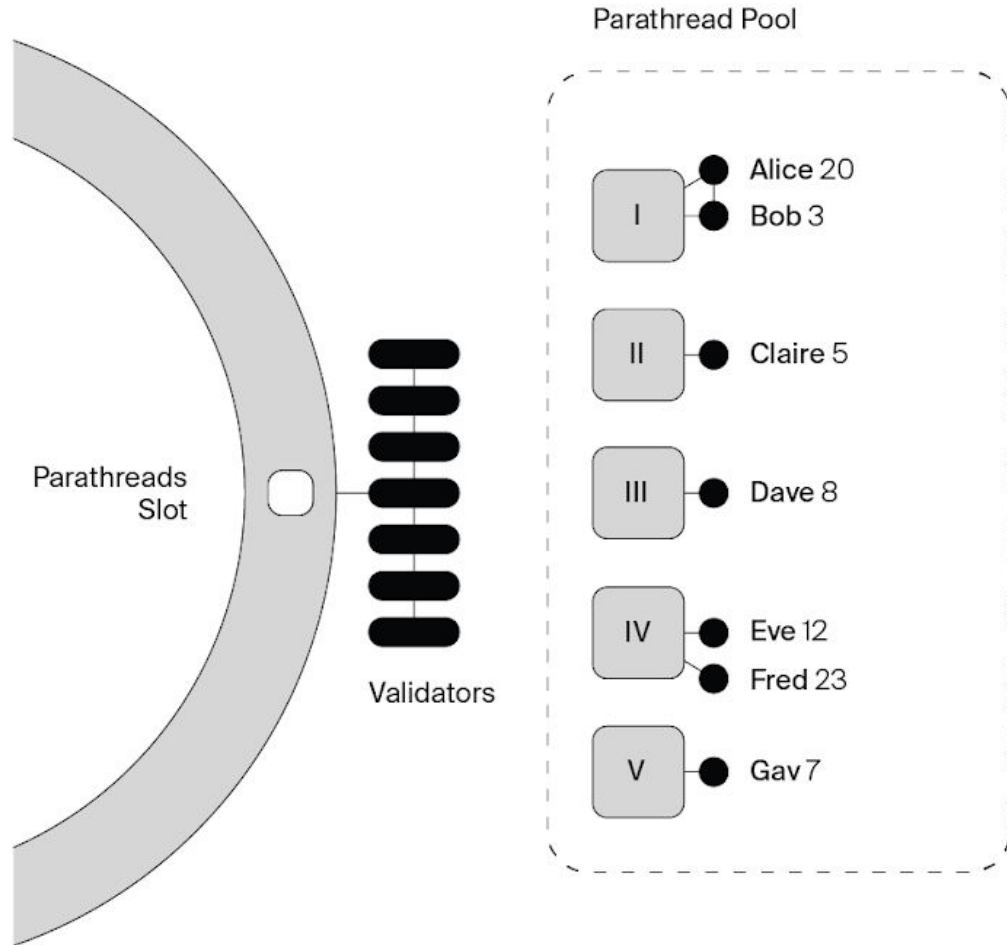
# Polkadot. Parathread Economics

Technologically, parathreads have the same properties as parachains. However, the difference is economic.

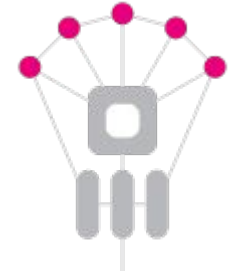
- While parachains have guaranteed inclusion in every Relay Chain block, parathreads must pay as they go.
- To do this, parathreads will participate in a per-block auction against other parathreads in the pool.
- Parathreads can switch into parachains and vice versa.



# Polkadot. Parathread Auctions



# Polkadot. Collator Incentivization on Parachains

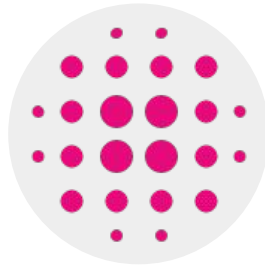


Parachains are free to implement an incentivization scheme for collators that fits their economic model. There are various options they may choose (or come up with something new).



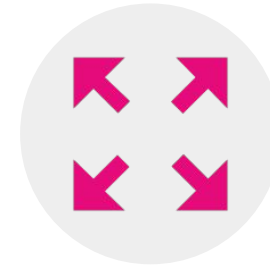
## Transaction Fees

- Transactor pay fees for transactions, these fees go to collators.
- Familiar to most users of blockchains.



## Treasury Subsidies

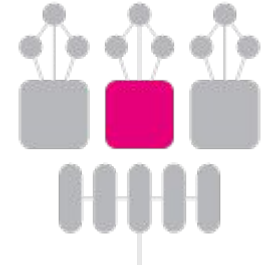
- The project initially imbues an on-chain treasury with some funds.
- The funds act as a “coinbase” for the collators.



## External Incentives

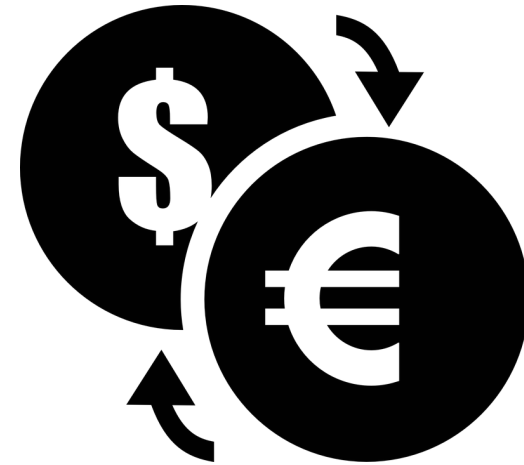
- The parachain team may bare the costs of running collators themselves and have some external benefit (such as onboarding more users).

# *Polkadot.* Incentivizing Parathread Collators



How does the incentivization of parathread collators differ?

- Payment options are roughly the same as for parachains, with a few key differences.
- Parathread collators must place bids to validators in DOTs (since this is the only currency the Relay Chain understands).
- Parathread collators can accept any currency, whether this is a parathread native token, or a wrapped version of DOT.



Designing your own Parachain?

# *Polkadot.* Parachain Economy Toolbox

Here are some of the standard tools for designing the economy from the ground-up.

## **Token Types**

- Utility
- Asset-Backed
- Spendable
- Tradable
- Fixed
- Schedule-based
- Inflationary
- Burnable
- Voting
- Payment

## **Token Distribution**

- Private Investors
- Crowdfunding Participants
  - Reserved for treasury
  - Reserved for IPOs
- Founders & Employees
- Reserved for Service Providers
- Reserved for Ecosystem Funding
- Reserved for Future Fundraising

## **Variables**

- Inflation Rate
- Money Supply
- Protocol Payouts
  - Block Rewards
  - Others
- Deposits and Costs
- Distribution



# *Polkadot.* Get Involved !

Run a **node** or  
**nominate a validator.**

[Node management](#)

[Nomination Guide](#)

Use the **web-based application** to perform  
network tasks

[Polkadot user interface](#)

Become a **builder** or  
**network maintainer**

[Builder's Portal](#)

[Network Maintainers](#)

See the **governance proposals**  
and **validator dashboard**

[Polkasassembly](#)

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Visit the Polkadot's  
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[Subscan](#)

Check the list and map  
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