



POLKADOT

Sara Stojkov, WEB3 kamp u Petnici

Šta je polkadot?

- **Scalable**
- **Heterogeni**
- **Multi-chain**



Na kom nivou je Polkadot?

- Layer 0
- Nema built in funkcionalnosti – nema ugovora
- Foundation framework
- Sastoji se iz 2 glavne komponente:
 - Relay-chain
 - Parachains



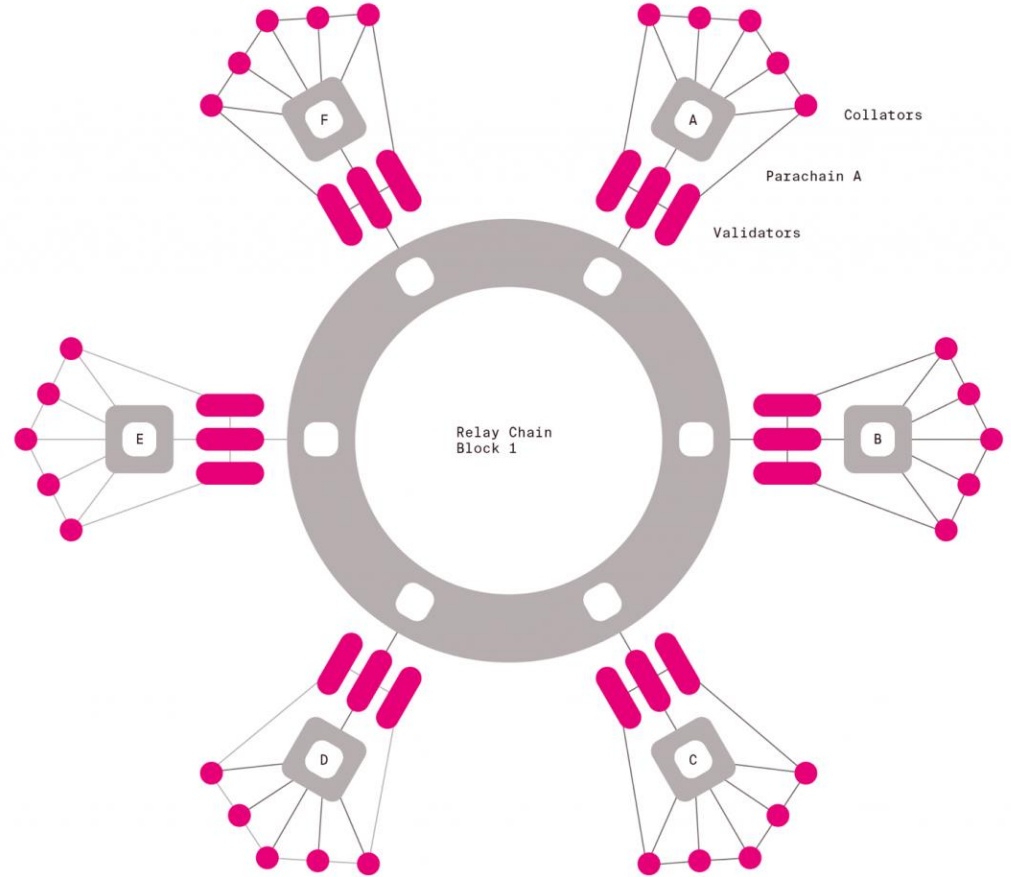
Relaychain

Shared security

Inter Chain Message Passing

Parachain

Blockchain that has own logic



Principi Polkadot framework-a

MINIMAL

SIMPLE

GENERAL

ROBUST



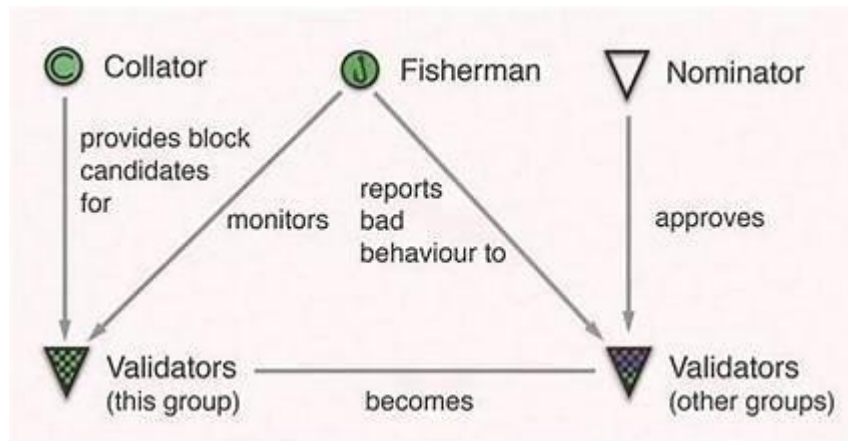
Čemu služi polkadot?

- Pooled security
- Trust-free interchain transakcije
- Interoperability
- Broj transakcija po sekundi
- Tzv. Blockchain blockchainova



Uloge korisnika u Polkadotu

1. Collator
2. Validator
3. Nominator
4. Fishermen



Dizajn polkadota

1. Konsenzus

- Low level
- Koristi asinhroni Byzantine fault tolerant algoritam kako bi ostao otporan na maliciozne napade

2. NPOS

- Nominated Proof of Stake
- Nominator stavlja *stake* na određenog validatora
- Validator se bira na osnovu visine uloga koji je na njemu
- Sistem nagrade i kazne (penalties)

Dizajn polkadota

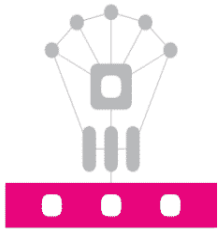
3. Relay chain

- Za razliku od Ethereum, nema ni pametnih ugovora ni gasa
- State based, ima stanje koje mapira adrese naloga
- Nalozi služe da bi se znalo ko ima koliko tokena za uloge
- „Bedrock“ deo koji je osnova za ostalo, nema built-in funkcionalnosti
- Zadužen za konsenzus, sigurnost mreže i koordinaciju svih interakcija između parachain-ova

Dizajn polkadota

4. Parachains

- Postoji Parachain registry koji čuva podatke(chain indekse, validation protokol i rute za transakcije)
- Layer 1
- (Para)Validatori
- Povezani su, čine ekosistem zajedno sa ostalim komponentama
- Bezbednost im obezbeđuje relay chain



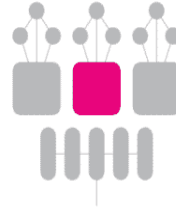
Relay Chain

The heart of Polkadot, responsible for the network's shared security, consensus and cross-chain interoperability.



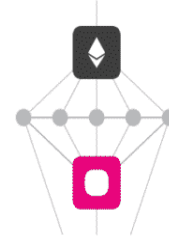
Parachains

Sovereign blockchains that can have their own tokens and optimize their functionality for specific use cases.



Parathreads

Similar to parachains but with a pay-as-you-go model. More economical for blockchains that don't need continuous connectivity to the network.

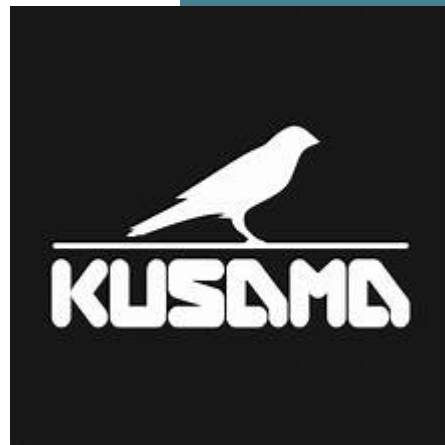


Bridges

Allow parachains and parathreads to connect and communicate with external networks like Ethereum and Bitcoin.

Kusama

- Ista arhitektura kao polkadot
- Ima niži fee za validatore i niže barijere za parachainove
- Nije testnet, ali je okruženje za eksperimentisanje
- Ima svoje tokene



Substrate (SDK)

- Rust programski jezik

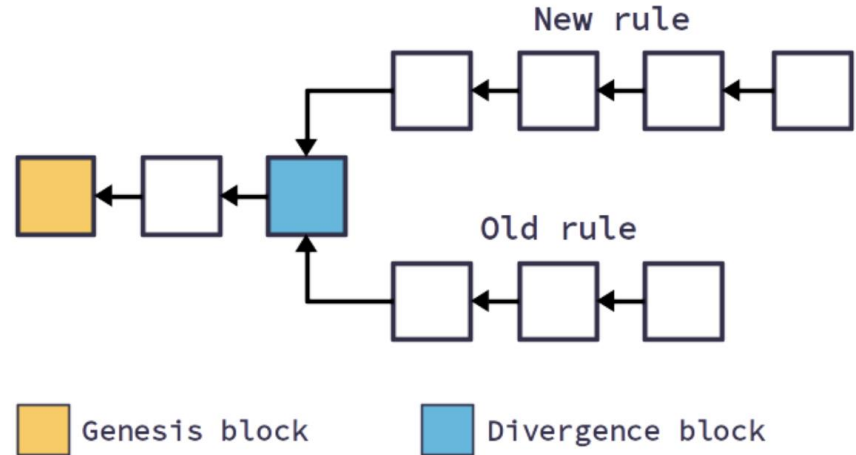


DOT token i DOT coin



Potencijalni problemi

- Network forking
- Relay chain forking



**HVALA NA
PÁŽNJI!**