



Proposal: PolkaGate 2nd milestone

Proponent: Cgp9bcq1dGP1Z9B6F2ccTSTHNez9jq2iUX993ZbDVByPSU2 (PolkaGate)

Date: 13.3.2023 (discussion:13.2.2023)

Requested allocation: 6,533.71 KSM (210,000 USD, based on EMA7 by Subscan 1KSM = 32.141)

Short description: To provide the following new features to the PolkaGate extension.

- Identity management: integrating clearing, creating, and requesting judgment
- Governance 2 (OpenGov): multicore/list delegation, create/vote referendums, fellowship
- Light client integration: utilizing local light client as an endpoint
- Social recovery: make accounts recoverable, vouch/rescue accounts, close recovery
- Misc updates: adding some new functionalities to currently existing features

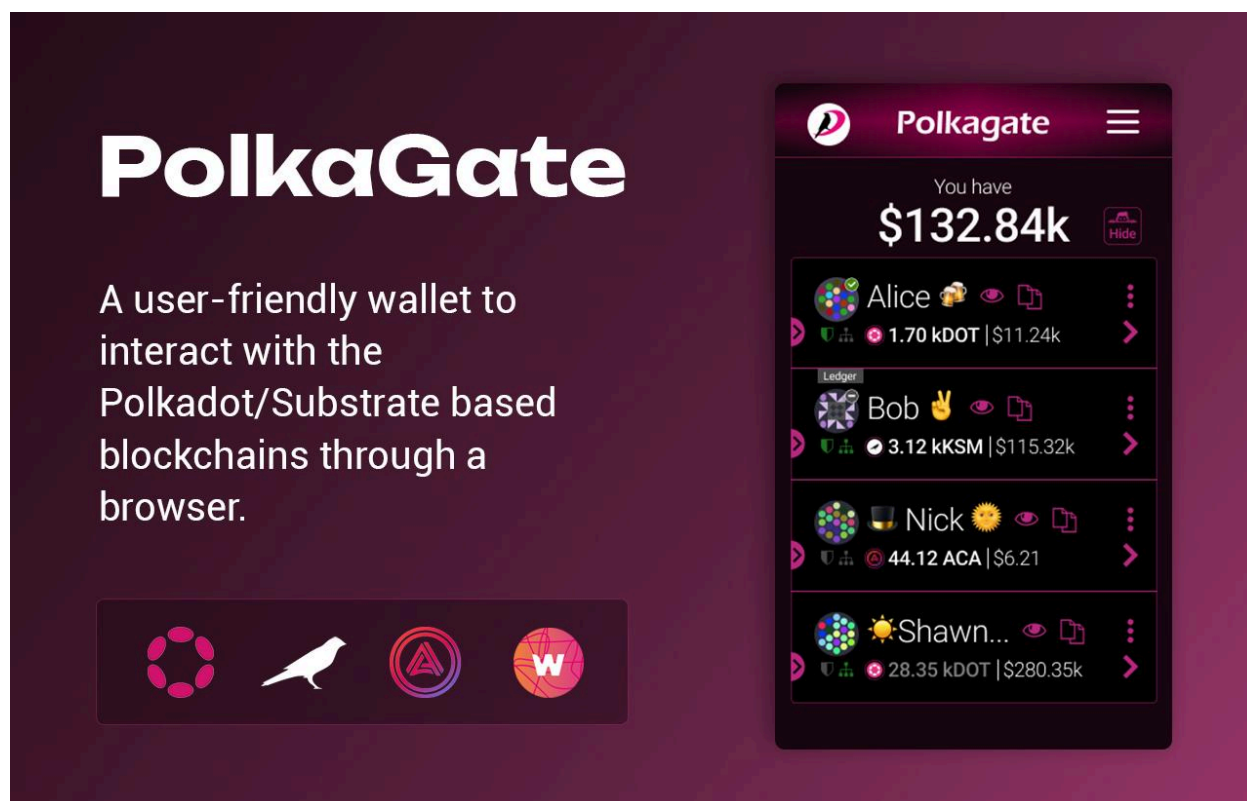


Fig. 1. PolkaGate intro



1. Context of the proposal:

Polkgate extension is a user-friendly extension/wallet to interact with the Polkadot/Substrate based blockchains through a browser. The extension allows users to access their Polkadot/Kusama ecosystem account(s), which can also be used to interact with decentralized apps. It injects a @polkadot/api signer into a page, along with any associated accounts.

Polkgate is now available on [Mozilla Firefox](#), [Google Chrome](#), and [Microsoft Edge](#) web stores for download.

Polkgate extension's main supported functionalities are as follows:

- Add address only accounts (To be used as a watch only and proxied address)
- Contribute to Crowdloans (View contributions/auctions, and contribute to crowdloans)
- Export/Import/Derive account(s)
- Ledger support
- Parachain accounts
- Phishing website detection
- Pool staking (Fully supported, including pool management and owners exit facilities)
- Proxy management (Add/Remove proxy accounts, sign with proxy accounts)
- QR account import
- Solo staking (Fully supported, including fast unstake, reward history, and advanced settings)
- Support different remote nodes
- Switch to recent chains
- Transfer funds
- View balances (Crypto/USD)
- View transactions history
- View an address as a QR code



2. Problem statement

Polkagate team aims to provide additional new features, and the budget is requested for the development of the 2nd milestone:

2.1 First Milestone:

The first milestone of the Polkagate extension supported by the Kusama treasury has been completed. The 1st milestone's delivery report is published on Medium. The Medium link is included in a comment below the [1st milestone's proposal](#) on the Polkasassembly website.

2.2 Second Milestone:

After the delivery of milestone 1 of the PolkaGate extension with the above mentioned features, We are going to develop the milestone 2 of the proposal to add the following features to the PolkaGate extension:

1. **Identity management**
2. **OpenGov**
3. **Light client integration:** utilizing a [smoldot](#) Wasm light client to securely connect to the blockchain network without relying on specific third parties
4. **Social Recovery**
5. **Misc. updates:** un-delegation on unbonding, supporting XCM, showing voting locks details and clearing them

The 2nd milestone's features are presented in detail as follows:

2.2.1 Identity management

Identities exist on-chain but cannot be managed via the extension, we already have shown the identity for accounts, but we want to bring the full management of identities into the extension.



Problem: Accounts' names in the extension may differ from their on-chain identities, and this may be inconvenient to distinguish which identity belongs to which name/Id. This problem will be more for users with multiple accounts. Moreover, in social account recovery, when you lose your account, most probably you cannot remember the address, hence on-chain names come in handy!

Solution: By integrating the identity management into the extension, users not only can easily set their identities but also request judgements using the extension. In addition, using the on-chain identity instead of the local name of accounts, makes the accounts management more convenient. Identities also help social recovery be more user-friendly for users.

2.2.2 Governance 2 (OpenGov)

We would like to have OpenGov features in the extension so that most token holders of the community can easily participate in new governance activities.

Problem: openGov is new with more changes in the pipeline (v2.5). Community involvement is still low in openGov activities. Sometimes proposals are very technical, and sometimes users may not be available in the voting period to vote.

Solution: Making voting more accessible and providing vote/list delegation besides all governance facilities in Polkagate extension, will increase the tokens participated in different OpenGov voting activities.



Polkagate - Kusama Governance

Governance 2 | Alice | [Menu]

Home / Referenda / Treasury / Big Spender

About Big Spender

Origin able to spend up to 5,000 KSM from the treasury at once.

Capacity:	5/50	Min Enactment Period:	1 days	Prepare Period:	4 hrs
Decision Period:	14 Days	Decision Deopsit:	13.33(KSM)	Confirm Period:	2 days

Threshold Curves:

100%
75%
50%
25%
0%

0ms 112ms 224ms 336ms

Support Approval

New Delegate

Referenda

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- #93 Proposal: GMI crypto media, an original network public service podcast series
By: DECENT PARTNERS | Big Spender | 3 Days ago | Deciding
- #77 Trial fund for Virto team
By: VirtoTeam | Big Spender | 26th Jan '23 | Confirmed
- #68 Developer friendly stack to build Impactful Web3 Infrastructure for Kusama
By: VirtoTeam | Big Spender | 16th Jan '23 | Rejected

Fig. 2. A demo of governance 2 in the Polkagate extension in **Full Mode**.

2.2.3 Light client integration

We would like to provide the Polkadot light client as an end point in the extension, which will make the extension much more standalone, and help the ecosystem to be more decentralized.

Problem: If blockchain endpoints stop servicing for whatever reason, since no data can be fetched from them, hence all extensions and wallets would be useless.

Solution: Integrating the light client ([link](#)) inside the extension not only helps to distribute the Polkadot ecosystem more but also lets the extension operate while all existing



endpoints stop servicing. However, we need to consider the sync waiting time when using the light client.

2.2.4 Social Recovery

Problem: Managing your own private keys is a difficult task. The average person doesn't want to spend multiple hours to ensure the security of their keys. This leads to people having difficulties to join the blockchain space or even worse leads to the loss of funds.

Solution: Social account recovery is the solution. It allows users to recover their accounts if their key or other authentication mechanism has been lost. When an account is recoverable, if you lost the account, you can create a new account named Rescuer, and recover your lost account with the help of your lost account's on-chain friends in a recovery process.

2.2.5 Misc. Updates

Problem: Due to adding new features in milestone 2, some new functionalities need to be added to the currently existing features, and pages need to be upgraded.

Solution: With vote locking in openGov, the extension's account page needs to be upgraded to show locks information and let account holders to clear the locks, and also show suitable alerts when locks expire. With vote delegation, we are going to let users have the option to choose un-delegation while unstaking, to have the unlocking period overlapped not stacked. To support XCM, we want to add multi chain transferring to the transfer fund page to let users teleport their tokens.

Table 1. The feature set of the 2nd milestone of the proposal

Theme	Feature	Description
Identity management [2 weeks]	Creating on-chain Identities	Allow an account holder to create an identity for an account
	Showing identity information in the extension	Updating the extension pages to show each account's identity and judgements if any



	Clearing an identity	To let an account holder to clear an account identity/sub identity
	Requesting judgements for an identity	To let users easily choose a registrar and request a judgment for accounts through the extension
OpenGov [5 weeks]	Multirole delegation	Let voters specify a different vote delegation for every class of referendum in the openGov system
	List delegation	To delegate all tracks to listed individuals, being able to select candidates
	Create referendums	So that users can add preimage and submit new proposals
	Vote for referendums	Let users view the list of available referendums, and cast their votes
	List fellowships	To have fellowship list, tracks, proposal info, and votes.
	Submit fellowship proposals	Let fellowship members to add/list preimages and submit proposals
	Whitelisting	To show fellowships' whitelisted proposals
Light client integration [2 weeks]	Add endpoint option in the UI endpoints	User can optionally select to use the light client as an endpoint
	Add core functionality of the light client to the extension	Current API's will need to be updated so that supports fetching of data from the local chain, and almost all of the existing features will require to be adapted with this change
Social recovery [4 weeks]	Recoverable account	Let account holders make their account recoverable or delete recovery.
	Rescue account	Let a rescuer account do all the complex processes of rescuing an account as simple as possible.
	Vouch recovery	Let friends of a lost account to easily confirm a rescuer account eligibility for recovery.
	Close recovery	Show suitable alarms, and provide facility to punish a malicious rescuer who wants to hijack a recoverable account.



Misc. updates [2 week]	Delegation removal on solo unstaking	Update staking page to suggest users if they want remove delegation while unbonding staked tokens
	Show locked tokens in voting	Update account page to show detail information (e.g., amount, remaining period) of locked tokens in referendums
	Clear locks	Facilities to let users know their locked tokens are available to be cleared, and let them to clear it
	XCM support	Let users teleporting tokens between relay chain and parachains

3. Projected allocation & budget:

Polkagate team ([website](#)):

1. Kami Ekbatanifard — Founder/CEO & Engineering Team Lead
2. Morteza Chalaki — CFO
3. Mehran Pourvahab — Blockchain researcher & TS Engineer
4. Martin Azarbad — UI/UX specialist
5. Amir Ekbatani — Test engineer

Proposal Execution:

- **Milestone 2: 15 weeks (Mar. 2023 — July 2023)**
 - Updates to Browser extension stores

**Payment details:**

- **Milestone 2: KSM from Kusama Treasury: 6533.71** (based on EMA7 by Subscan, 1 KSM = 32.141)
- **Beneficiary:** Cgp9bcq1dGP1Z9B6F2ccTSTHNez9jq2iUX993ZbDVByPSU2 (PolkaGate)
 - **Hourly rate:** 100 USD/h.
 - **Total team hours:** 2100.00 (see table below)
 - **KSM price:** TBC. USD (30d mva on ...th of Feb. 2023)
 - **Total USD:** 210,000.0

Table 2. Payment details of milestone 2 of the Polkagate extension development

Theme	Man-hours Estimate (hours)				
	TS engineer 1 FTE	UI/UX 0.75 FTE	QA 0.75 FTE	Team Lead 1 FTE	Total Team
Identity management [2 weeks]	80	60	60	80	280
Misc. updates [2 weeks]	80	60	60	80	280
OpenGov [5 weeks]	200	150	150	200	700
Light client integration [2 weeks]	80	60	60	80	280
Social recovery [4 weeks]	160	120	120	160	560
Total					2100