This post serves as an explainer and provides some context around the topic of executive proxies, the first of which is proposed to be deployed for Spark Protocol.

What is an executive proxy?

An executive proxy is a smart contract that sits between the Maker Protocol PauseProxy and a 'ProxySpell' smart contract that triggers a set of actions meant to update or configure an external-to-maker set of smart contracts, such as Spark Protocol.

Unlike the PauseProxy, an executive proxy is not granted any permissions over the core contracts of the Maker Protocol. Instead it is granted permissions over an external protocol, like Spark.

A key detail of this implementation is that a ProxySpell cannot take any action unless it is triggered by the execution of a Maker Core executive spell (which can only be done when it is voted to the 'hat' by MKR holders).

What are the benefits of using an executive proxy?

There are two primary benefits to using an executive proxy, rather than interfacing with an external protocol directly using a Maker Core executive spell.

Security

The first major benefit is that the contents of a ProxySpell contract cannot affect any of the Maker Core contracts or parameters (in the absence of a heretofore undiscovered bug or exploit within Maker Core.)

Instead, the impact is limited to what access or funding Maker Core governance has given the external protocol over the Core Maker Protocol.

Using Spark as an example, the Spark executive proxy would be able to access DAI up to the debt ceiling granted through the Spark D3M, but no more than that.

Essentially, the proxy system puts an upper limit on the damage to Maker Core from malicious or bugged code meant to deal with configuration changes in an external set of smart contracts.

Process

Because a ProxySpell can have no impact on Maker Core, it can be created and deployed separately from a Maker Core executive spell.

The process of ProxySpell creation can then be managed by one or more external teams of smart contract developers, improving efficiency by parallelizing spell work.

Further, this also allows the process to prepare a ProxySpell to diverge from the Maker Core executive process if this is deemed worthwhile by the responsible teams.

Ultimately, this gives the MakerDAO executive process scalability in a way which has not previously been present.

How does this change the governance process for changes in Spark Protocol?

Internal Changes

Internal to the executive spell creation process, the following changes will take place if this pattern is adopted by Maker Governance:

- Changes to Spark Protocol will be produced by Phoenix Labs, rather than written and reviewed by the Maker Core executive spell producers (currently Sidestream and Dewiz.) In the interim period, Phoenix Labs may request reviews from Sidestream or Dewiz.
- When a Spark ProxySpell is ready for inclusion, Phoenix Labs will inform the Governance Facilitator (formerly Arbitration Facilitator) who will ensure that the triggering call to the Spark Proxy is included in the next executive spell and that the spell copy includes relevant information.
- The cut-off for inclusion is not currently well defined, and will likely be determined as the relevant parties gain experience with this working pattern.

External Changes

Externally, and apparent to Maker Governance, the following changes will take place if this pattern is adopted:

- Changes to the spark protocol will no longer be directly included in Maker Core executive spell code.
- Maker Core executive spell code will sometimes include calls to the Spark Proxy, directing it to execute a ProxySpell at a given ethereum address. This ProxySpell will make configuration changes in Spark Protocol.

What isn’t changing?

Polls will still be used to determine changes to Spark Protocol, and will be published to the official MakerDAO voting portal as they are currently. They will be voted on by MKR holders like any other poll.

MKR Holders still retain full control over any changes to Spark Protocol. Any changes must still be triggered via an executive vote in Maker Core.

Changes to Spark Protocol are still subject to the GSM (governance security delay / timelock).

How will executive proxies be used in Endgame?

(subject to change, etc)

The future plans for executive proxies are that each SubDAO has its own SubDAO Proxy, and that this proxy is granted permissions over anything relevant to the given subDAO.

SubDAOs will be responsible for producing their own ProxySpells if they need changes to be made to contracts or protocols under their control.

SubDAOs will also control the polling process that governs their ProxySpells, with items included in ProxySpells only after SubDAO token holders vote to take action.

In this paradigm, execution of a SubDAO’s ProxySpell in a MakerCore executive will likely be determined by some combination of Governance Facilitators for Maker Core and the Facilitators managing the SubDAO’s governance processes.