

Summary

With this post, [@BA-Labs](#) provides an overview of LITE-PSM-USDC-A. We introduce a USDC migration plan from PSM-USDC-A and Coinbase Custody (RWA014-A) to LITE-PSM-USDC-A and a subsequent offboarding plan for PSM-USDC-A. Next, we elaborate on the motivations driving the migration. Relevant information regarding integrations with the LITE-PSM-USDC-A is included. Thereafter, we provide a parameter overview and proposed parameter changes for each phase of the planned migration. Formal parameter proposals and corresponding Scope language change recommendations will be provided in separate forum posts for each phase individually.

Introduction

In 2020 the concept of the Peg Stability Module (PSM) was first introduced as a mechanism, contributing to the price stability of DAI. Over time the USDC PSM became a building block for DeFi, with many protocols integrating the PSM into their products for its deep liquidity and low fees. A few years later, after Coinbase Custody [proposed MIP81](#), Maker's USDC liquidity also became a source of revenue for MakerDAO.

Building upon that experiment, MakerDAO has been collaborating with Circle and Coinbase towards an evolution of that traditional custody setup. The outcome of that work is the Lightweight Peg Stability Module (LitePSM), which allows for the custodied funds to be held in the LitePSM contract as opposed to relying on centralized exchanges or RWA trustees. This way the LitePSM balance acts as a price stability mechanism for DAI, deep liquidity source for DAI/USDC and also generates higher-tier marketing rewards from Coinbase.

As explained in the [LITE-PSM-USDC-A repository](#), the Lightweight Peg Stability Module implementation (LITE-PSM-USDC-A/LitePSM) is heavily inspired by previous PSM designs, including the [current PSM](#) and [PSM v2](#). The objective of LITE-PSM-USDC-A is to replace PSM-USDC-A as a facility through which users can swap Dai for USDC — either with no slippage, or with swap fees enabled. One of the most exciting new features for regular users and integrations is much higher gas efficiency while interacting with the module. Below, we briefly explain the most relevant features and functionalities that LITE-PSM-USDC-A

enables. For a more detailed technical description of the new LitePSM, refer to the [Lightweight Peg Stability Module \(PSM\) implementation Github repository](#).

New Features and Functionalities

New Custody Functionality

The LitePSM design allows for the PSM gem

balance to be held in a different address, with the main constraint being that LITE-PSM-USDC-A

should be able to freely move any amount of gem

on behalf of the custody address. For Coinbase Prime to distribute USDC rewards to MakerDAO, they need to be custodians of the assets which are used to calculate the USDC reward amount. This requirement is similar to the current Coinbase Custody (RWA014-A) solution, whereby MakerDAO sends USDC from the PSM to Coinbase Custody in connection with the Coinbase Institutional USDC Rewards Program. However in the new system design, all funds are custodied onchain without reliance on TradFi banks and RWA trustees.

USDC will be kept in a Coinbase Web3 Wallet (W3W) which will not be able to perform any transactions after the setup because at least 1 key shard will be burnt.

This will be further explained in the separate forum post specifically dedicated to the legal related items and included in the DAO Resolution which will be included in one of the future executive votes.

Gas Efficiency

Previous PSM implementations (including PSM-USDC-A) are relatively gas intensive since they directly manipulate the vat

on every swap through the minting and burning of DAI. With the purpose of reducing gas costs, the LitePSM is designed to maintain a fixed-sized amount of pre-minted DAI (buf

). This design reduces the PSM swap to two ERC20 token transfers in a pool of DAI and the PSM-supported stablecoin. The pre-minted DAI can only be released and enter circulation when new LitePSM stablecoin deposits have been made. The DAI in the (buf

) is not considered as circulating supply, and can instead be thought of as a portion of the available debt ceiling supply, but

in the pre-minted form.

No Fees for Authorized Parties

The [dss-psm](#) design allows Maker Governance to set optional fees in both directions of a PSM swap. These fees are controlled by the parameters `tin`

and `tout`

. The new LitePSM design will also utilize these parameters for setting optional fees for permissionless swaps. However, the new design also enables authorized parties to swap using the functions `buyGemNoFee`

and `sellGemNoFee`

. This new design offers Maker Governance greater flexibility in setting PSM fees. For example, Maker Governance can set positive `tin`

and `tout`

for permissionless swaps while offering zero fees to authorized actors, which can be used by future AllocatorDAOs responsible for market making and arbitraging with various external markets.

Additional Corresponding Features and Parameter Changes

Since the LitePSM has the pre-minted DAI in the `(buf`

`)`, the [LINE_MOM_GSM_Exception](#) is not sufficient to temporarily disable the module, therefore the `PSM_MOM` will be deployed which will have the ability to halt swaps on the LitePSM.

The GSM delay will be reduced during the first phase of the migration process in order to allow for a faster reaction time in case of unwanted events.

The Emergency Shutdown Module (ESM) will be increased, as the long-term plan is to remove this feature from the system and the LitePSM module is not supported by the ESM. There is still some value of maintaining the module until the full deployment of the Allocation System as part of the Endgame, but the threshold should be increased in order to prevent hostile activation when the module should not be used.

LITE-PSM-USDC-A Parameters Overview

Below, we list LitePSM parameters that need to be determined by Maker Governance.

- Toll/Fee In (`tin`

`): tin`

is a percentage fee applied when trading the collateral asset into the PSM in exchange for DAI.

- Toll/Fee Out (`tout`

`): tout`

is the percentage fee applied when trading DAI into the PSM in exchange for the collateral asset.

- DC-IAM line

(Maximum Debt Ceiling): The maximum amount of debt the LITE-PSM-USDC-A can accrue.

- DC-IAM gap

(Target Available Debt): The target gap between the debt usage and the Debt Ceiling.

- DC-IAM ttl

(Ceiling Increase Cooldown): The minimum time requirement before it is possible to increase the debt ceiling.

- `buf`

: A fixed-sized amount of pre-minted Dai which LITE-PSM-USDC-A is designed to maintain most of the time. Note, however, that when a user calls `buyGem`

, the amount of DAI available can be temporarily larger than buf

LITE-PSM-USDC-A Migration Plan

There are four main goals that need to be considered when deciding on how migration will be processed and parameter values chosen during different phases of the migration:

- Ensure DAI peg stability through the migration process
- Minimize the negative impact on existing integrations with PSM-USDC-A and incentivize their migration to the LITE-PSM-USDC-A
- Have a test period for the new module with low exposure and potential damage in case of unwanted outcomes
- Maximize the yield generated on stablecoin reserves while achieving above items

The proposed plan only refers to the first migration, specifically to what currently exists. The later migrations, including wrapper for NST & LitePSM (DAI) and LitePSM (NST) at a later stage can repeat similar steps based on the outcomes of this migration and potentially be improved.

The target date for Phase 1 part of the migration process is expected to be included in the executive vote on July 11, but could be postponed, which will be communicated in this forum post in such a case. The duration of Phase 1 and Phase 2 is an estimate. Formal proposals for each of the migration phases will be in the form of a separate forum posts, which will follow the regular governance process. The proposal for Phase 1 of migration will also be subject to an onchain governance poll in order to authorize the deployment of LITE-PSM-USDC-A and the migration process. Various parameter values defined in this forum post might change in the formal proposals.

Migration in Phases

Phase 1 - Test period (approximate 4 week duration), included in July 11 spell

The main goal of Phase 1 is to have a low exposure period and additionally give integrators sufficient time to become familiar with the LitePSM and start migrating their solutions from PSM-USDC-A. The available DAI liquidity (DC-IAM gap & ttl) necessary to manage DAI peg stability is regularly maintained, but divided between the two PSM modules.

- Deploy LitePSM
- Deploy PSM_MOM GSM Exception
- Migrate initial USDC (20M) reserves from PSM-USDC-A to LitePSM with a script executed in the spell
- The current DC-IAM available DAI liquidity is distributed between the two PSMs
- PSM-USDC-A
 - Tin & tout: 0 (remains unchanged)
 - DC-IAM Line (max DC): 10B (remains unchanged)
 - DC-IAM gap: Decrease for 20M from 400M to 380M
 - DC-IAM ttl: 12h (remains unchanged)
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): 10B (remains unchanged)
- DC-IAM gap: Decrease for 20M from 400M to 380M
- DC-IAM ttl: 12h (remains unchanged)
- LITE-PSM-USDC-A
 - Tin & tout: Set to 0
 - DC-IAM Line (max DC): Set to 50M
 - DC-IAM gap: Set to 20M

- DC-IAM ttl: Set to 12h
- Buf: Set to 20M
- Tin & tout: Set to 0
- DC-IAM Line (max DC): Set to 50M
- DC-IAM gap: Set to 20M
- DC-IAM ttl: Set to 12h
- Buf: Set to 20M
- PSM-USDC-A
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): 10B (remains unchanged)
- DC-IAM gap: Decrease for 20M from 400M to 380M
- DC-IAM ttl: 12h (remains unchanged)
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): 10B (remains unchanged)
- DC-IAM gap: Decrease for 20M from 400M to 380M
- DC-IAM ttl: 12h (remains unchanged)
- LITE-PSM-USDC-A
- Tin & tout: Set to 0
- DC-IAM Line (max DC): Set to 50M
- DC-IAM gap: Set to 20M
- DC-IAM ttl: Set to 12h
- Buf: Set to 20M
- Tin & tout: Set to 0
- DC-IAM Line (max DC): Set to 50M
- DC-IAM gap: Set to 20M
- DC-IAM ttl: Set to 12h
- Buf: Set to 20M
- GSM delay: Decrease by 14h, from 30h to 16h
- ESM (Emergency Shutdown Module) minimum threshold: Increase for 150k from 150k to 300k

Phase 2 - Major migration (approximate 4 week duration)

In the second phase the module has been tested and it is ready to absorb the majority of existing stablecoin reserves. The PSM-USDC-A is maintained only to support integrations that did not migrate yet, but there is a fee incentive introduced which is meant to fasten the process.

- Change all Conduit pointing to LitePSM
- Monetalis Coinbase Custody start to migrate reserves to the LitePSM based on the throughput limits
- Migrate all but 100M USDC reserves from PSM-USDC-A to LitePSM with a script executed in the spell (has to be done before PSM-USDC-A tin & tout is increased in the spell transaction)
- The PSM-USDC-A liquidity throughput is decrease, the LitePSM is increased and potential liquidity remains constant
- PSM-USDC-A

- Tin & tout: increase for 0.01 percentage points, from 0% to 0.01%
- DC-IAM Line (max DC): Decrease for 7.5B from 10B to 2.5B
- DC-IAM gap: Decrease for 280M from 380M to 100M
- DC-IAM ttl: 12h (remains unchanged)
- Tin & tout: increase for 0.01 percentage points, from 0% to 0.01%
- DC-IAM Line (max DC): Decrease for 7.5B from 10B to 2.5B
- DC-IAM gap: Decrease for 280M from 380M to 100M
- DC-IAM ttl: 12h (remains unchanged)
- LITE-PSM-USDC-A
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 7.45B from 50M to 7.5B
- DC-IAM gap: Increase for 250M from 50M to 300M
- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 250M from 50M to 300M
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 7.45B from 50M to 7.5B
- DC-IAM gap: Increase for 250M from 50M to 300M
- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 250M from 50M to 300M
- PSM-USDC-A
- Tin & tout: increase for 0.01 percentage points, from 0% to 0.01%
- DC-IAM Line (max DC): Decrease for 7.5B from 10B to 2.5B
- DC-IAM gap: Decrease for 280M from 380M to 100M
- DC-IAM ttl: 12h (remains unchanged)
- Tin & tout: increase for 0.01 percentage points, from 0% to 0.01%
- DC-IAM Line (max DC): Decrease for 7.5B from 10B to 2.5B
- DC-IAM gap: Decrease for 280M from 380M to 100M
- DC-IAM ttl: 12h (remains unchanged)
- LITE-PSM-USDC-A
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 7.45B from 50M to 7.5B
- DC-IAM gap: Increase for 250M from 50M to 300M
- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 250M from 50M to 300M
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 7.45B from 50M to 7.5B
- DC-IAM gap: Increase for 250M from 50M to 300M

- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 250M from 50M to 300M
- GSM delay: Increase for 32h from 16h to 48h

Phase 3 - Final migration, USDC-PSM-A is offboarded

In this phase the remaining portion of reserves are migrated and USDC-PSM-A is offboarded. Hopefully all integrations will have had sufficient time to migrate their solutions.

- Migrate all remaining USDC reserves from PSM-USDC-A to LitePSM with a script executed in the spell (Note that PSM-USDC-A tin & tout will be set to zero before migration is executed in the spell transaction)
- PSM-USDC-A
- Tin & tout: decrease for 0.01 percentage points, from 0.01% to 0%
- DC-IAM Line (max DC): Decrease for 2.5M from 2.5B to 0
- Disable DC-IAM
- Tin & tout: decrease for 0.01 percentage points, from 0.01% to 0%
- DC-IAM Line (max DC): Decrease for 2.5M from 2.5B to 0
- Disable DC-IAM
- LITE-PSM-USDC-A
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 2.5B from 7.5B to 10B
- DC-IAM gap: Increase for 100M from 300M to 400M
- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 100M from 300M to 400M
- Tin & tout: 0 (remains unchanged)
- DC-IAM Line (max DC): Increase for 2.5B from 7.5B to 10B
- DC-IAM gap: Increase for 100M from 300M to 400M
- DC-IAM ttl: Set to 12h (remains unchanged)
- Buf: Increase for 100M from 300M to 400M

Integrations

Please refer to the [LitePSM user guide](#) if you are a current PSM user planning your migration to LitePSM or if you are planning to use LitePSM after its deployment. For any further questions about the LitePSM launch and migration, please reach out to the integrations team at [\[email protected\]](#).