v0.1

PugDAG Whitepaper

Introduction

PugDAG Overview

PugDAG is the latest MEME coin sensation, born on the robust Layer1 PugDAG blockchain. Our mission? To conquer the blockchain universe with a hefty dose of humor and a sprinkle of madness. We don't take ourselves too seriously (except when it comes to treats). Whether you're a crypto expert or a curious newbie, our goal is to make you smile with every transaction. It’s time for the PUG to take the throne and become the top dog in the meme coin world. Move over, Doge!

The Woof-tastic Features of PugDAG

GhostDAG Protocol

Our blockchain uses the GhostDAG protocol to create a Directed Acyclic Graph (DAG) infrastructure. This means we can handle more transactions faster than your dog can fetch a stick! No more waiting for blocks to propagate—PugDAG keeps things moving with a focus on decentralization and security.

GPU-Focused Mining

Say goodbye to ASIC domination! PugDAG embraces GPU mining, making it easier for everyone to join the fun. Whether you're using a gaming rig or an old laptop, you can contribute to the network and earn some PUG coins. It's all about keeping mining accessible and decentralized.

PugDAG's Unique Bark

Why GPUs?

1. **Democratization of Mining:** GPUs are like dog toys—everyone has them! This makes mining more accessible and fair.
2. **Enhanced Decentralization:** More miners mean more fun and a stronger, more secure network. Who doesn't love a bigger pack?
3. **Inclusivity and Sustainable Practices:** GPU mining is often more energy-efficient and inclusive. Plus, it keeps our carbon pawprint smaller.
4. **Countering ASIC Dominance:** No one likes a bully. By focusing on GPUs, we keep the big ASIC miners in check and the network balanced.

Technical Tidbits

Karlsen Algorithm

PugDAG uses the Karlsen hashing algorithm because it’s super efficient and eco-friendly. Think of it as the green energy of cryptographic hashing—powerful, yet kind to the environment!

Advantages:

1. **Energy Efficiency:** Karlsen is the most efficient algorithm, consuming the least electricity—just like a pug conserving energy with a good nap.

2. **Streamlined Design:** Simple and efficient, much like a pug’s approach to getting treats.

3. **Built-in Parallelism:** Can handle multiple tasks at once, like a pug managing to be adorable and mischievous at the same time.

4. **Optimized for Everyday Hardware:** Runs great on CPUs and GPUs, making it easy for everyone to join the mining fun.

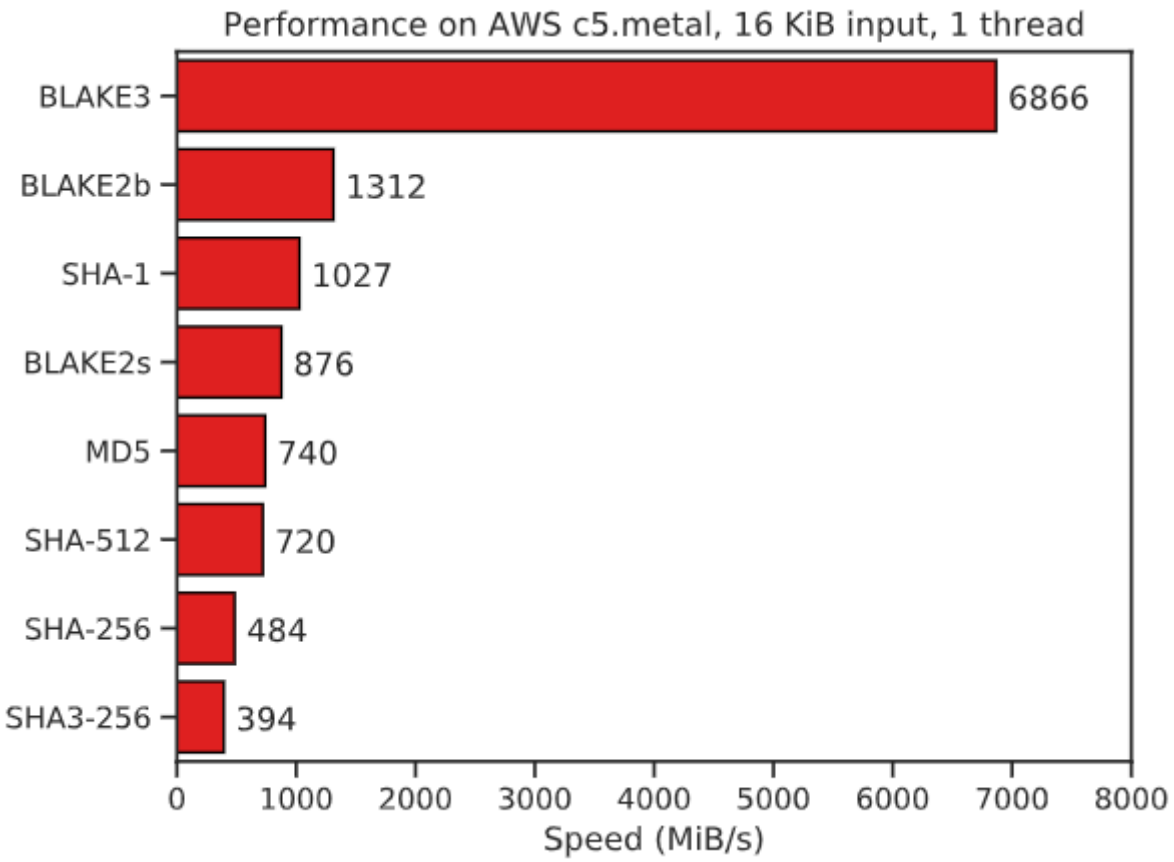
Project Objectives

1. **Enhancing Network Distribution:**
    - **Equitable Mining:** Democratizing mining by leveraging GPUs.
    - **Curtailing Centralization:** Countering the centralizing influence of ASIC mining clusters.

2. **Promoting Miner Inclusivity:**
    - **Cost-Efficiency:** GPUs are more budget-friendly, much like getting your dog a toy that lasts.
    - **Broad Availability:** GPUs are more accessible for the average user compared to niche ASIC equipment.
    - **Multi-Purpose Functionality:** Beyond mining, GPUs are versatile and can be used for gaming, graphic processing, and more.

3. **Reinforcing Network Security:**
    - **Mitigating Majority Attacks:** A decentralized mining framework reduces the risk of majority attacks.
    - **Amplifying Stakeholder Diversity:** A network with a broad miner base benefits from a multitude of protectors, enhancing overall security.

The chart below is an example benchmark of 16 KiB inputs on a Cascade Lake-SP 8275CL server CPU from 2019



Source : https://github.com/BLAKE3-team/BLAKE3

Economic Model:

The blockDAG architecture – with rapid block rates – allows more mining decentralization and enables effective solo-mining even at lower hashrates.

The block reward undergoes a halving process annually, but this reduction is gradual rather than abrupt. The initial block reward was 500 PUG. The block reward halves once per year, but smoothly: every month, the block reward is reduced by a factor of (1/2)^(1/12).

This will result in a maximum supply of **25,431,205,439 PUG.**

Please note that the policy determines the number of coins created each second, independent of the block rate. Hence, if there’s a change in the block rate in the future, the reward for each block will be modified to ensure the emission rate remains constant.

Also, the last block will be mined on **05/18/2059.**

PugDAG emission schedule for the first 2 years

Date	BlockReward
May 2024	500
Jun 2024	**440**
Jully 2024	415,3
August 2024	391,99
September 2024	369,94
October 2024	349,22
November 2024	329,62
December 2024	311,62
January 2025	293,66
January 2025	277,18
March 2025	261,62
April 2025	246,94
May 2025	233,08
Jun 2025	**220**
Jully 2025	207,65
August 2025	195,99
September 2025	184,99
October 2025	174,61
November 2025	164,81
December 2025	155,56
January 2026	146,82
February 2026	138,59
March 2026	130,81
April 2026	123,47
May 2026	116,54
Jun 2026	**110**

Conclusion

PugDAG is on a mission to keep blockchain fun, accessible, and eco-friendly. With our focus on GPU mining and the super-efficient Karlsen algorithm, we're making sure everyone can join in the fun while keeping our carbon pawprint small. It’s all about building a strong, decentralized community where everyone can mine, trade, and laugh together. PugDAG is ready to lead the pack in the meme coin world—let’s fetch those gains!