“Let Me Win” Crypto Pool

A New Crypto Mining Experience

Mining Difficulty, Target and VarDiff Technical Overview

1. Hash, Target and Difficulty

Bitcash mining uses SHA-256 to compute 256-bit hashes. A valid block or share is one whose hash interpreted as a large integer is less than or equal to a target value. Difficulty is a normalized measure: difficulty 1 corresponds to a target equal to the historical MAX_TARGET. The formula is target = MAX_TARGET / difficulty. As difficulty increases, the target gets smaller, making valid hashes rarer.

2. Variable Difficulty (VarDiff)

Pools implement VarDiff to adjust the per-miner share difficulty up or down to keep the average time between shares close to a target time. Key parameters:

- minDiff: the minimum difficulty a miner can be assigned.
- maxDiff: the maximum difficulty allowed.
- targetTime: desired average seconds between accepted shares.
- retargetTime: evaluation window in seconds before retargeting.
- variancePercent: how much deviation is tolerated before a retarget.

VarDiff starts inside the pool at the configured diff value and moves up or down within minDiff and maxDiff to maintain the targetTime per share.

3. Common Rejection Reasons

- low_difficulty: the submitted share did not meet the assigned difficulty.
- duplicate: the same nonce was already submitted.
- job_not_found: the job ID was no longer valid (new block notified).

4. Tuning Tips

- Adjust overclocking to avoid excessive low-difficulty rejections.
- Ensure good cooling to maintain stability at higher frequencies.
- Monitor efficiency = valid shares/ (valid shares + invalid shares).