

AIM¹-005: Block Storage Optimization

cshcomcom 2020-02-15

Problem Description

- Block query slows down as more blocks are stacked

Proposed Changes

AS-IS

- Blocks are stored with '{block_number}-{last_block_hash}-{block_hash}.json.zip' format.
- If we need to search block by number or hash, we should use regex search. (low performance & slower and slower)

TO-BE

- Don't use regex search
 - Store block with 'blocks/{block_number}.json.zip' format (time complexity: O(1))
- Support existing queries (number & hash)
 - Query block by block number can directly use
 - Query block by block hash can't use
 - Let's make 'block hash to block number' table
 - Store block number in 'block-hash-to-number/{block_hash}.json' file
- Don't hold 20 blocks
 - We don't need to hold 20 blocks. Use pointer instead

Document History

Date	Who	Change	Notes
2021-02-15	cshcomcom	Initial draft	
2021-02-16	cshcomcom, platfowner, liayoo, minsulee2, shyun-comcom, minho-comcom-ai	Internal review	
2021-05-13	platfowner	Published	

¹ AI Network Improvement Memo. Visit <https://docs.ainetwork.ai> for the full list.

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