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Is it chain of headers rather than a chain of blocks?

We know widely used explanation of the blockchain: "Every block contains a hash of the previous block". The sentence above implies that since every block contains a hash of the previous block, therefore every block should have a knowledge about transactions included into the previous block because every block has a following structure:

Block:

1. Magic No
2. Block Size
3. Block Header
4. Transaction counter
5. Transactions

Block Header:

1. Version
2. hashPrevBlock
3. hashMerkleRoot
4. Time
5. Bits
6. Nonce

However, every block does not have knowledge about transactions incuded into previous block **correct???**

As fas as I understand there are two chains in the Bitcoin:

1. a chain of blocks headers (a block chain)
2. a chain of transactions (Prev Tx Hash)

Hence just to clarify, rather than saying: "every block contains a hash of the previous block", would not it be correct to say: "header of every block contains a hash of header of the previous block"?

Please correct my assumptions if I am wrong. Thanks.

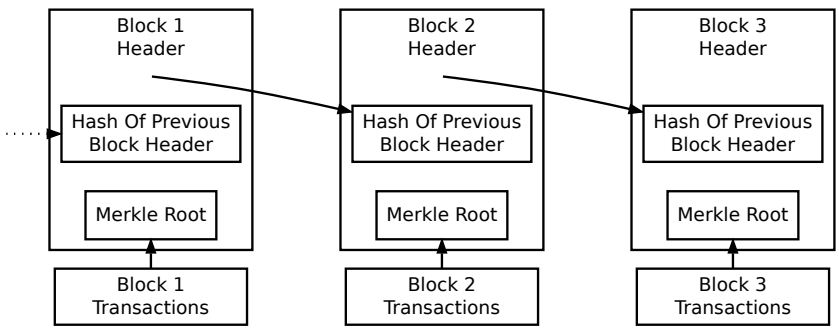
blockchain block-header

edited Aug 3 '16 at 6:34
Murch ♦
33.5k 26 109 307

asked Jan 12 '15 at 12:03
Nur
181 2 12

1 Answer

Blocks contain a header, and headers are chained, so blocks are chained also. Note the merkle root from your question: this attaches the transactions in the block to the header, making them a logical combined unit:



Simplified Bitcoin Block Chain

That is, you can't attach an arbitrary block to an arbitrary header---each header only attaches to one set of transactions.

You are correct that this expression is wrong: "every [valid] block contains a hash of the previous

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