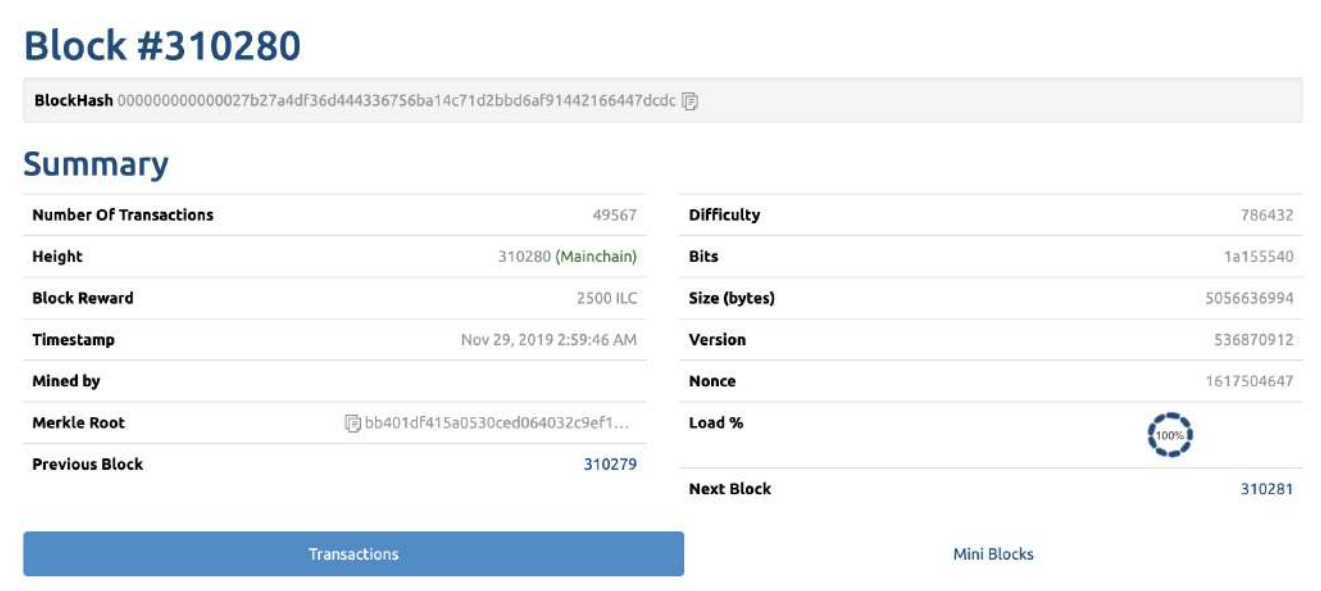
Explanation of 5GB of RIFT Protocol

310280 block number

ILCOIN Development Team March 2020

The RIFT Protocol allows the creation of Mini-Blocks which are not mined. These Mini-Blocks are capable of holding up to 25 MB of information each and must be referenced to a mined block through a complex system of hashes. At the moment, the RIFT Protocol allows for up to 200 Mini-Blocks per mined block; totalling 5 GB of information per mined block.

On Nov 28, 2019 at 7:59:46 PM, block number 310280 was mined on the live ILCOIN network. This block contained 5056636994 bytes of information; proving the blocks are capable of storing 5 GB of information.



https://ilcoinexplorer.com/block/000000000000027b27a4df36d444336756ba14c71d2bbd6af91442166447dcdc

Due to the quick block forging time on the ILCOIN live network (3 – 5 minutes average), it became necessary to fill the block space in another way since not even the most advanced cryptocurrencies to date have the need for such a large block using only transactions and not data storage. The block was filled using transactions generated by the ILCOIN Development Team and mined as proof of the RIFT Protocol's capability to store information on-chain.

The minimum amount of data necessary to govern a transaction is 232 bytes. To calculate the raw maximum number of transactions possible within a block, you need only divide the minimum transaction size against the maximum block capacity.

However, this calculation will only produce the maximum number of transactions possible per block and doesn't represent real-world usage.
An astute reader may have noticed the total number of transactions in block 310280 only numbers 49567. As was previously mentioned, the transactions within block 310280 were generated by the ILCOIN Development Team to reach the block's limit. Not every transaction carries the same weight (memory size) within the blockchain. To explain, we will be looking at two different transactions within block 310280:

01. The first example is 2000 ILC transferred from the wallet **1Dmxf8SZLBQ9ENMzKgCmasTwtomz2z42xK:**

Transaction

Transaction 8a2949b2d237849f41143f664e5481e0fc18c3bb1cb92e9680337289875492f8

Summary

Size	258 (bytes)
Fee Rate	0.000387596899224806 2 ILC per kB
Received Time	Nov 29, 2019 2:59:46 AM
Mined Time	Nov 29, 2019 2:59:46 AM
Included in Mini Block	abc2dfff7e058b5f69f0b23a411707e6add0bdd0a31bf91822166c7c8efcd129

https://ilcoinexplorer.com/tx/8a2949b2d237849f41143f664e5481e0fc18c3bb1cb92e9680337289875492f8

As we can observe, this transaction has a weight of 258 bytes. The amount of ILCOIN sent and the amount of sending and/or receiving addresses affect the weight of the transaction.

02. The second example is 100 ILC transferred from wallet **1M8aRZEhKk93BPvEfR6NtB7XPU26iadMxE:**

Transaction

Transaction f0907701777367bc6c260be4533f3af20cb00c6110989432577456b41ade7f4c

Summary

Size	102160 (bytes)
Fee Rate	0.000199999999999998 ILC per kB
Received Time	Nov 29, 2019 2:59:46 AM
Mined Time	Nov 29, 2019 2:59:46 AM
Included in Mini Block	abc2dfff7e058b5f69f0b23a411707e6add0bdd0a31bf91822166c7c8efcd129

https://ilcoinexplorer.com/tx/f0907701777367bc6c260be4533f3af20cb00c6110989432577456b41ade7f4c

In this transaction, even though the amount of ILCOIN transferred is smaller, we can see that the weight of the transaction is much larger at 102160 bytes. This is due to the three thousand receiving wallets. Each receiving wallet was considered an individual transaction in byte weight as each fraction of the ILC being transferred needed a different hash to distinguish where the ILC was going to end up. However, block 310280 counted these three thousand divisions as only ONE transaction within 310280.

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