

1. 比特币区块链中的区块大小限制是多少? 一个区块中有多少字节可以填入非交易和非区块元数据的其他信息?

为防止以后单个区块容量不能满足使用, 区块设计成最大可支持 32M 容量, 后来把上限只设为了 1M。当隔离见证在 2017 年 8 月 24 日被激活时, 它将非隔离见证 1MB 的区块大小限制改为最大区块为 4MB。

根据 <http://Blockchain.info> 最新数据显示, 24 小时内平均区块大小是 1.21MB。同时, “区块大小”这种概念被“区块重量”取代——比特币现在支持重量高达 4MB 的区块。

2-100bytes 可以填入非交易和非区块元数据, 在文档的 coinbase 字段里的 nonce 中。

区块结构:

数据项	描述	长度
Magic no (魔法数)	总是 0xD9B4BEF9	4 字节
Blocksize (区块大小)	到区块结束的字节长度	4 字节
Blockheader (区块头)	包含 6 个数据项	80 字节
Transaction counter (交易数量)	正整数 VI=VarInt	1-9 字节
Transactions (交易)	交易列表 (非空)	<Transaction counter>-许多交易

区块头的结构:

数据项	目的	大小 (字节)
Version (版本)	区块版本号	4
hashPrevBlock (前一区块的 Hash)	前一区块的 256 位 Hash 值	32
hashMerkleRoot Merkle (根节点 Hash 值)	基于一个区块中所有交易的 256 位 Hash 值	32
Time (时间戳)	从 1970-01-01 00:00 UTC 开始到现在, 以秒为单位的当前时间戳	4
Bits (当前目标的 Hash 值)	压缩格式的当前目标 Hash 值	4

Nonce（随机数）	从 0 开始的 32 位随机数	4
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2. 比特币区块链的源代码最新修改日期是什么时候? 请列出源代码名称和大小。

版本: Bitcoin Core 0.17.0.1

Latest release

v0.17.0.1

1476554

Verified

## Bitcoin Core 0.17.0.1

laanwj released this 20 days ago · 863 commits to master since this release

Assets

2

Source code (zip)

Source code (tar.gz)

Bitcoin Core version 0.17.0.1 is now available from:

<https://bitcoincore.org/bin/bitcoin-core-0.17.0.1/>

For the release notes please see the git repository:

<https://github.com/bitcoin/bitcoin/blob/master/doc/release-notes/release-notes-0.17.0.1.md>

Preferably use the above download link, not the below links to download the source tarball, as the release tarballs are generated deterministically whereas GitHub's are not.

截止我写该作业时，最新 commit 版本时 2018 年 11 月 26 日。

Commits on Nov 26, 2018

Merge #14400: Add Benchmark to test input de-duplication worst case

...

Verified

327129f

<>

MarcoFalke committed 14 hours ago

✗

Commits on Nov 25, 2018

Add Benchmark to test input de-duplication worst case

...

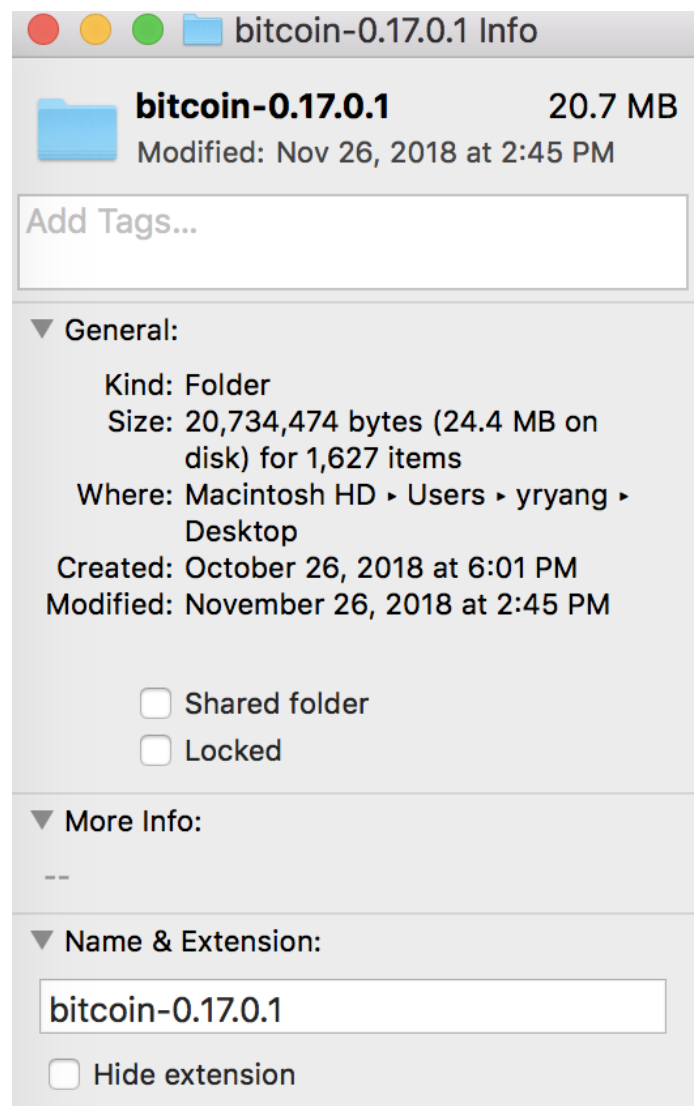
e4eee7d

<>

JeremyRubin committed on Oct 4

✓

源代码的大小：20.7MB



历史版本大小：113.88MB

```
1. yryang@yyy: ~/Documents (zsh)

branch      List, create, or delete branches
checkout    Switch branches or restore working tree files
commit      Record changes to the repository
diff        Show changes between commits, commit and working tree, etc
merge       Join two or more development histories together
rebase      Reapply commits on top of another base tip
tag         Create, list, delete or verify a tag object signed with GPG

collaborate (see also: git help workflows)
  fetch      Download objects and refs from another repository
  pull       Fetch from and integrate with another repository or a local branch
  push       Update remote refs along with associated objects

'git help -a' and 'git help -g' list available subcommands and some
concept guides. See 'git help <command>' or 'git help <concept>'
to read about a specific subcommand or concept.
➔ Documents git clone https://github.com/bitcoin/bitcoin.git
Cloning into 'bitcoin'...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 127096 (delta 6), reused 3 (delta 3), pack-reused 127084
Receiving objects: 100% (127096/127096), 113.88 MiB | 143.00 KiB/s, done.
Resolving deltas: 100% (88586/88586), done.
➔ Documents █
```