

BIP: 35
Layer: Peer Services
Title: mempool message
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Comments-Summary: No comments yet.
Comments-URI: <https://github.com/bitcoin/bips/wiki/Comments:BIP-0035>
Status: Final
Type: Standards Track
Created: 2012-08-16

Abstract

Make a network node's transaction memory pool accessible via a new "mempool" message. Extend the existing "getdata" message behavior to permit accessing the transaction memory pool.

Motivation

Several use cases make it desirable to expose a network node's transaction memory pool:

1. SPV clients, wishing to obtain zero-confirmation transactions sent or received.
2. Miners, to avoid missing lucrative fees, downloading existing network transactions after a restart.
3. Remote network diagnostics.

Specification

1. The mempool message is defined as an empty message where pchCommand == "mempool"
2. Upon receipt of a "mempool" message, the node will respond with an "inv" message containing MSG_TX hashes of all the transactions in the node's transaction memory pool, if any.
3. The typical node behavior in response to an "inv" is "getdata". However, the reference Satoshi implementation ignores requests for transaction hashes outside that which is recently relayed. To support "mempool", an implementation must extend its "getdata" message support to querying the memory pool.
4. Feature discovery is enabled by checking two "version" message attributes:
 - (a) Protocol version ≥ 60002
 - (b) NODE_NETWORK bit set in nServices

Note that existing implementations drop "inv" messages with a vector size > 50000 .

Backward compatibility

Older clients remain 100% compatible and interoperable after this change.

Implementation

<https://github.com/bitcoin/bitcoin/pull/1641>