比特币源码研读系列3 创建tx(4)

上篇我们讲完了步骤2，创建tx。

1. **Find my spendable money**
2. **创建tx。**
3. **广播tx**

这篇我们来看看步骤3，广播tx。

CommitTransaction方法用于将创建的tx广播出去，入参中的wtxNew就是刚创建成功的tx，connman是网络连接句柄。

*bool CWallet::CommitTransaction(CWalletTx& wtxNew, CReserveKey& reservekey, CConnman\* connman, CValidationState& state)*

*{*

*{*

*LOCK2(cs\_main, cs\_wallet);*

*LogPrintf("CommitTransaction:\n%s", wtxNew.tx->ToString());*

*{*

*// Take key pair from key pool so it won't be used again*

*reservekey.KeepKey();*

*// Add tx to wallet, because if it has change it's also ours,*

*// otherwise just for transaction history.*

*AddToWallet(wtxNew);****//放入钱包***

*// Notify that old coins are spent*

*for (const CTxIn& txin : wtxNew.tx->vin)****//修改刚引用到的那些tx的状态***

*{*

*CWalletTx &coin = mapWallet[txin.prevout.hash];*

*coin.BindWallet(this);*

*NotifyTransactionChanged(this, coin.GetHash(), CT\_UPDATED);*

*}*

*}*

*// Track how many getdata requests our transaction gets*

*mapRequestCount[wtxNew.GetHash()] = 0;*

*if (fBroadcastTransactions)****//如果需要广播***

*{*

*// Broadcast*

*if (!wtxNew.AcceptToMemoryPool(maxTxFee, state)) {****//放入mempool***

*LogPrintf("CommitTransaction(): Transaction cannot be broadcast immediately, %s\n", state.GetRejectReason());*

*// TODO: if we expect the failure to be long term or permanent, instead delete wtx from the wallet and return failure.*

*} else {*

*wtxNew.RelayWalletTransaction(connman);****//广播tx***

*}*

*}*

*}*

*return true;*

*}*

*bool CWalletTx::RelayWalletTransaction(CConnman\* connman)*

*{*

*assert(pwallet->GetBroadcastTransactions());*

*if (!IsCoinBase() && !isAbandoned() && GetDepthInMainChain() == 0)****//检查tx是否是coinbase tx，是否被丢弃，以及在主链中的位置***

*{*

*CValidationState state;*

*/\* GetDepthInMainChain already catches known conflicts. \*/*

*if (InMempool() || AcceptToMemoryPool(maxTxFee, state)) {*

*LogPrintf("Relaying wtx %s\n", GetHash().ToString());*

*if (connman) {*

*CInv inv(MSG\_TX, GetHash());*

*connman->ForEachNode([&inv](CNode\* pnode)****//向p2p邻近节点广播tx***

*{*

*pnode->PushInventory(inv);*

*});*

*return true;*

*}*

*}*

*}*

*return false;*

*}*

到这里，创建tx的整个过程我们就简单看了一遍，创建tx的系列到此结束。接下啦我们会再来看看比特币是如何挖矿的。