



Dash Integration Overview

Dash Core v0.13.x (<https://github.com/dashpay/dash/releases>) is a “fork” of Bitcoin and shares many common functionalities. Key differences relate to existing JSON-RPC commands which have been customized to support unique functionalities such as InstantSend.

These differences, as well as other general information, is summarized below.

1. **General Information:** Dash is a “Proof of Work” network and is similar to Bitcoin.
 - a. Block Time: ~2.6 Minutes per Block
 - b. Github Source: <https://github.com/dashpay/dash>
 - c. Latest Release: <https://github.com/dashpay/dash/releases>
2. **JSON-RPC Interface:** The majority of Bitcoin JSON-RPC commands are unchanged making integration into existing systems relatively straightforward. For a complete listing of RPC commands please refer to the [Dash Developer Guide](#).

The following transaction-related JSON-RPC commands have been modified to support InstantSend: *getrawmempool*, *getmempoolancestors*, *getmempooldescendants*, *getmempoolentry*, *getrawtransaction*, *decoderawtransaction*, *gettransaction*, *listtransactions*, *listsinceblock*.

Please see the [InstantSend Technical Reference](#) for additional integration information.

3. **Block Hashing Algorithm:** Dash uses the “X11” algorithm in place of SHA256 used in Bitcoin. It’s important to note, however, that this only affects the hashing of the Block itself. All other internals utilize SHA256 hashes (transactions, merkle root, etc) which allows for most existing libraries to work in the Dash ecosystem.
4. **Special Transactions:** Dash Core v0.13.x introduces the concept of “Special Transactions”. Please see the [Transaction Type Integration Guide](#) for more information.



Software Development Kits (SDKs)

These resources can be used to form transactions and/or perform various wallet services.

- **NodeJS:** Dashcore
Documentation: <https://bitcore.io/api/lib>
Repository: <https://github.com/dashevo/dashcore-lib>
See Also: <https://github.com/dashevo/insight-api>
- **PHP:** Bitcoin-PHP
Documentation: <https://github.com/Bit-Wasp/bitcoin-php/blob/master/doc/Introduction.md>
Repository: <https://github.com/Bit-Wasp/bitcoin-php>
- **Python:** PyCoin
Documentation: <https://media.readthedocs.org/pdf/pycoin/latest/pycoin.pdf>
Repository: <https://github.com/DeltaEngine/pycoin>
See Also: <https://github.com/DeltaEngine/python-dashrpc>
- **Java:** DashJ
Documentation: <https://bitcoinj.github.io/getting-started>
Repository: <https://github.com/HashEngineering/dashj>
- **.NET:** NBitcoin
Documentation: <https://programmingblockchain.gitbooks.io/programmingblockchain/content/>
Repository: <https://github.com/MetacoSA/NBitcoin>
See Also: <https://github.com/cryptean/bitcoinlib>