Backing Up Your Manna Wallet

It is strongly recommended that you follow <u>both</u> of the backup methods below. Method 1 is more convenient for loading your wallet on a different computer, but in some situations the file can get corrupted. Method 2 is less risky and therefore <u>essential</u>.

Method 1: Save wallet.dat file

Your wallet data is stored in a folder on your computer called "Manna" (Windows and Mac) or ".manna" (Linux), which can be found in a different location depending on your operating system, as follows:

Windows (Vista, 7, 8, and 10):

<mark>C:\Users\YourUserName\AppData\Roaming</mark>

- AppData is a hidden folder by default. If you can't see it, you need to open the View tab in the File Explorer and check the box next to "Hidden items."

Windows (XP):

<mark>C:\Documents and Settings\YourUserName\Application Data</mark>

- Application Data is a hidden folder by default. If you can't see it, you need to do the following: Click Start and then click Control Panel. Click Appearance and Themes and then click Folder Options. On the View tab, under "Hidden files and folders" click "Show hidden files and folders."

Mac:

<mark>~/Library/Application Support</mark>

- To get to the Library, hit Command+Shift+G from the Mac desktop (or Finder > Go > Go to Folder) and type ~/Library
- Library is a hidden folder by default. If you can't see it, you need to do the following:
  - *Sierra and High Sierra:* Command+ Shift+L
  - *Lion and Mountain Lion:* Open Terminal found in Finder > Applications > Utilities. In Terminal, paste the following: <u>defaults write com.apple.finder AppleShowAllFiles YES</u>. Press return. Hold the 'Option/alt' key, then right click on the Finder icon in the dock and click Relaunch.
  - *Mavericks and Yosemite:* Open your home folder (/Users/yourusername) in the Finder. Still in the Finder, choose View > Show View Options (or press Command-J). Near the bottom of the resulting View-Options palette is a setting

called Show Library Folder. Enable this option. Your Library folder is immediately visible.

Linux:

<mark>/home/yourusername</mark>

Locate the "Manna" or ".manna" folder and open it. Inside, you will see several files and folders, including a file called wallet.dat. **With the wallet <u>not</u> running**, copy the wallet.dat file and save it on an external drive such as a flash drive.

It is recommended to make a new backup of your wallet.dat file at least after every 50 transactions sent or received in your wallet.

To restore your wallet from a wallet.dat backup:

1. Delete everything in the "Manna" or ".manna" folder.
2. Copy the backup wallet.dat file into that folder.
3. Run the wallet. It will download the blockchain from scratch. Initially it will show your balance as zero. Whenever it gets to a block in the blockchain where you received or sent coins, your balance will increase or decrease accordingly.
4. When your wallet has downloaded the entire blockchain, you should see your current correct balance. (Unless your wallet is corrupted, in which case you'll need to restore your balance from your private keys; see "import a private key" instructions below.)

Method 2: Save private keys

1. Click Help > Debug window
2. Click the Console tab
3. In the command line field, type or paste the following commands in order:
   a. (If your wallet is encrypted): **walletpassphrase** *YourPasswordHere* **600** – This will unlock your wallet for 600 seconds, i.e. 10 minutes. If your wallet is not encrypted, skip this step.
   b. **listaddressgroupings** – This will print a list of all addresses in your wallet and how many coins each one contains. Copy all the addresses with non-zero balances into a text file.
   c. **dumpprivkey** *YourWalletAddressHere* – Do this for each address you copied in the previous step. Copy the private keys that are printed on the screen and paste and save them in a text file. It is recommended to keep multiple copies such as on two different flash drives, and also to print them out on paper.

Now you will have a complete backup of all coins that were in your wallet. If your digital wallet ever gets corrupted, you can import your private keys into a new, uncorrupted wallet, and your coins will be accessible from the new wallet.

Note about "coin control" and private keys:

When you send manna, if you do not use the Coin Control feature, the wallet will create a new address to store the "change" left over each time you make a transaction. This is a security feature, but it has a downside, which is that your wallet will contain more private keys as you send more transactions. If you don't back up <u>all</u> your private keys, then you're relying only on the electronic backup of your wallet.dat file.

The easiest solution is to keep sending your change back into your primary wallet address, using Coin Control. To do this, copy your wallet address displayed in the Receive Coins tab of your wallet and paste it into the "custom change address" field of the Send Coins tab, and check the box next to that field. Then, when you make a transaction, your remaining manna will remain stored in the private key associated with that wallet address, and you won't have to back up another private key after each transaction.

In future versions of the Manna wallet, we are planning to make this the default setting, to increase the user friendliness of the software.

To import a private key into a wallet:

1. In the Console tab of the Help > Debug window, type or paste the following in the command line field: **importprivkey** ***YourPrivateKeyHere***
2. Wait for the import process to complete. It may take a few minutes for each key you import, during which time your wallet may seem like it's not working. Be patient and eventually it will finish importing. Then, close the wallet, and run it again. Upon restart of the wallet, you should see the imported coins in your balance.