Datachain: The Data Blockchain

Introduction
The Datachain would be a new secondary blockchain built on top of a parent blockchain for the specific purpose of storing data. Users would pay a fee to store files in the Datachain for a specified amount of time. New parent chain Masternodes, known as Datanodes, would store the Datachain data. Datachain users would be permitted to upload files to the Datachain by sending parent chain coins to a parent chain burn address.

The upload contract would work as follows:
- if you send X amount of parent chain coins/MB to the parent chain burn address, your data will be guaranteed to be stored in the Datachain for Y amount of time.
- As the contract nears its end, the user could renew it by sending more parent chain coins to the burn address.

The Parent Chain
The Datachain could be built on any blockchain with Masternode technology, but I personally envision Datachain on PIVX and/or Horizen because of the unique characteristics that I have observed in their communities, and aspects of their blockchains that encourage decentralization.

The Datachain
The Datachain would have the following characteristics:
- 52,560,000 blocks
- block time: 10 minutes
- block reward: 1 Datacoin
- Cost to to start 1 Datanode: 10,000 PIV or 500 Zencash
- Datanode weighting factor: if a Datanode maintains 50% of the data in the Datachain, it has 50% the chance of receiving a block reward compared to a Datanode that holds 100% of the Datachain.
- Data can be optionally unlocked based on time, and on PIV/ZEN sent to a PIV/ZEN address.

Datanodes
Datanodes would store the Datachain data in exchange for a chance to earn newly minted Datacoins. The odds of a Datanode winning a Datachain block reward would increase with the percentage of the Datachain that they stored. For example, a Datanode holding only 50% of the Datachain would have half the odds of winning a block reward when compared to a Datanode holding 100% of the Datachain.

Most Datanode operators would probably choose to store all encrypted data, but could optionally choose to not store data. For example, a Datanode operator may choose to not store un-encrypted data that they find objectionable, or presenting a legal liability. Un-encrypted data is equivalent to unlocked data as described in the Datachain Case Study below.

Datachain Case Study: Beyonce's New Album
Beyonce records a new album at her home studio and uploads it to the Datachain. The album consists of 10 songs in the FLAC loss-less compression format. She sends 100 parent chain coins to the burn address to have the Datanodes host her album for 1 year. The Datanodes that host her album increase their odds of earning Datacoins as block rewards. Beyonce wants to make a profit on her album, so she sets the album to unlock automatically when 100,000 parent chain coins are sent to her address by her fans. Once the 100,000 coin threshold is met, the album will be unlocked automatically, and available for download by anyone.