

# Decentralized Cloud Blockchain

# **Blue Print**





When it comes to decentralization, it must be clarified that we are talking about the free running of the nodes where every transaction is transparent or allows for free block generation. Every consensus we currently know has its own shortcomings. **Our idea is to create a complex blockchain system with the ultimate goal of on-chain based data storage.** However, to efficiently run a platform like this in the long-term, we need to prioritize security.

The ILCOIN Development team has completely redesigned the generic build-up and base concept of blockchain technology, which also proves we are neither a replica nor a "cloned" system. We are convinced that, with the current mindset of most people, it is nearly impossible to exploit the most important benefits of blockchain technology.

The market needs innovation and more solutions, blockchain development must signify more than just the promotion of transaction processing or a DApp. Solutions that seem simple and practical can imply serious losses to users in the long run. Easy-to-use characteristics cannot be measurements for a quality concept in blockchain technology. While we still have to aim for a user-friendly interface, short-term compromises to increase popularity must not replace quality.

**On-chain based data storage is the future and DCB is the solution which will deliver it to users.** Data stored in blocks and the stern restrictions to access private data are currently thought to be the maximum extent of blockchain technology. The biggest challenge is the on-chain-based data storage of videos, files and documents. The partner node system basically involves rewards for those who use the ILC node system; whether it is for creating DApps or running full nodes on DCB.

DCB is all about the future as opposed to alternative solutions which aim to satisfy the needs set by today's marketing communication difficulties.



Decentralized Cloud Blockchain (DCB) is a software based on the RIFT protocol that gives the capability to have a fully encrypted environment through the Mini-Blocks. You will be able to store different versions of any media such as big files, videos, images, text, databases, etc., basically any file that you want to store. We also have the capability to track versions of files; keeping a record of the historical changes. All this in a complete decentralized autonomous system, cloud based, peer to peer, SHA-256 and PoW.

#### 1. Store files in the blockchain – General view.

- a. DCB requests the desired encryption depth level
- **b.** Then it will encrypt the file with a user's choice decryption password
- c. It will divide the file according to the requested encryption depth level
- **d.** Finally, each piece of the file is encrypted once again and will be physically stored in the Mini-Blocks





#### 2. Software communicates with API (User sends new file to store).

**a.** User selects a file to upload, introduces the desired encryption depth level, and introduces an encryption password.

b. File is uploaded to the Cloud
Explorer Software (CES). This
software interacts with DCB





**c.** Once the file is uploaded to the server, it splits in accordance with the desired encryption depth level





**d.** Each fragment of the file is encrypted using the encryption password the user entered before. (2.a.)



e. CES request to DCB a new Main Hash reference to start the upload process.





#### Decentralized Cloud Blockchain

# Definition

**f.** The CES sends each piece of the files to the DCB through an API communication



**g.** The DCB API answers the call with a successful JSON response. If this answer is not valid, the CES may try again





#### **h.** Once all the pieces of the file are sent, the uploading process finalizes



i. All the Hashes of the pieces of the file and the Main Hash together generate an input that will be recorded in one of the Blocks (PoW Block, first layer)





**j.** All the pieces of the file are peer-to-peer to DCB nodes and are added to the memory pool



**k.** The Mining Pool software reads the pending files that still need confirmation and generates a Mini-Block for each piece of the file. It places as many pieces of files as possible inside them with a size limit per Mini-Block of 25 MB (from different main files)





#### I. Once a Block is mined with its Mini-Blocks, the process is completed







# **Summary**



#### **Splited Information**

As many times as the data is being split, the higher encryption depth level it will have

#### Process:

- 1. User chooses the level of encryption
- 2. The File will be encrypted
- 3. Every Mini-Block is encrypted with a different hash
- 4. In order to retrieve the information, each Mini-Block must be decrypted
- 5. The private key is needed to open each and every Mini-Block
- 6. After, the decryption data needs to be assembled
- 7. Once the file is assembled, the private key is required to decrypt it and to be able to view it



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