

중학생도 만드는 IPFS DAPP 튜토리얼

한우영

(GoldenTime Blockchain Developer)



00. 발표자 소개



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- 부산에서 온 자퇴생 -> 굳이 나이로 따지면 중3
- GoldenTime BlockChain Developer
- 대구대학교 정보보호영재교육원 6기 해킹추적과정
- Blockpaper (전자 계약서 작성을 위한 이더리움 DAPP) 개발
- BlockChain(Klaytn) 기반의 IOT 펌웨어 보안 솔루션 개발
- 기타등등..?
- Digital Forensic, Pwnable / Flask, Node, Blockchain, C#
- <https://github.com/cokia>



00. 발표자 소개



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하고싶은게 무진장 많은, 새내기 개발자(?)



01. IPFS 란



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ZONE	EVM OPCODE	GAS/WORD	GAS/KB	GAS/MB
STACK	POP	2	64	65,536
	PUSHX	3	96	98,304
	DUPX	3	96	98,304
	SWAPX	3	96	98,304
MEMORY	CALLDATACOPY	3	98	2,195,456
	CODECOPY	3	98	2,195,456
	EXTCODECOPY	3	98	2,195,456
	MLOAD	3	96	98,304
	MSTORE	3	98	2,195,456
	MSTORE8	3	98	2,195,456
STORAGE	SLOAD	200	6,400	6,553,600
	SSTORE	20,000	640,000	655,360,000



01. IPFS 란



이더리움 ETH/KRW ▼

315,550 KRW

671088640000

gwei



=

671.08864 ETHER



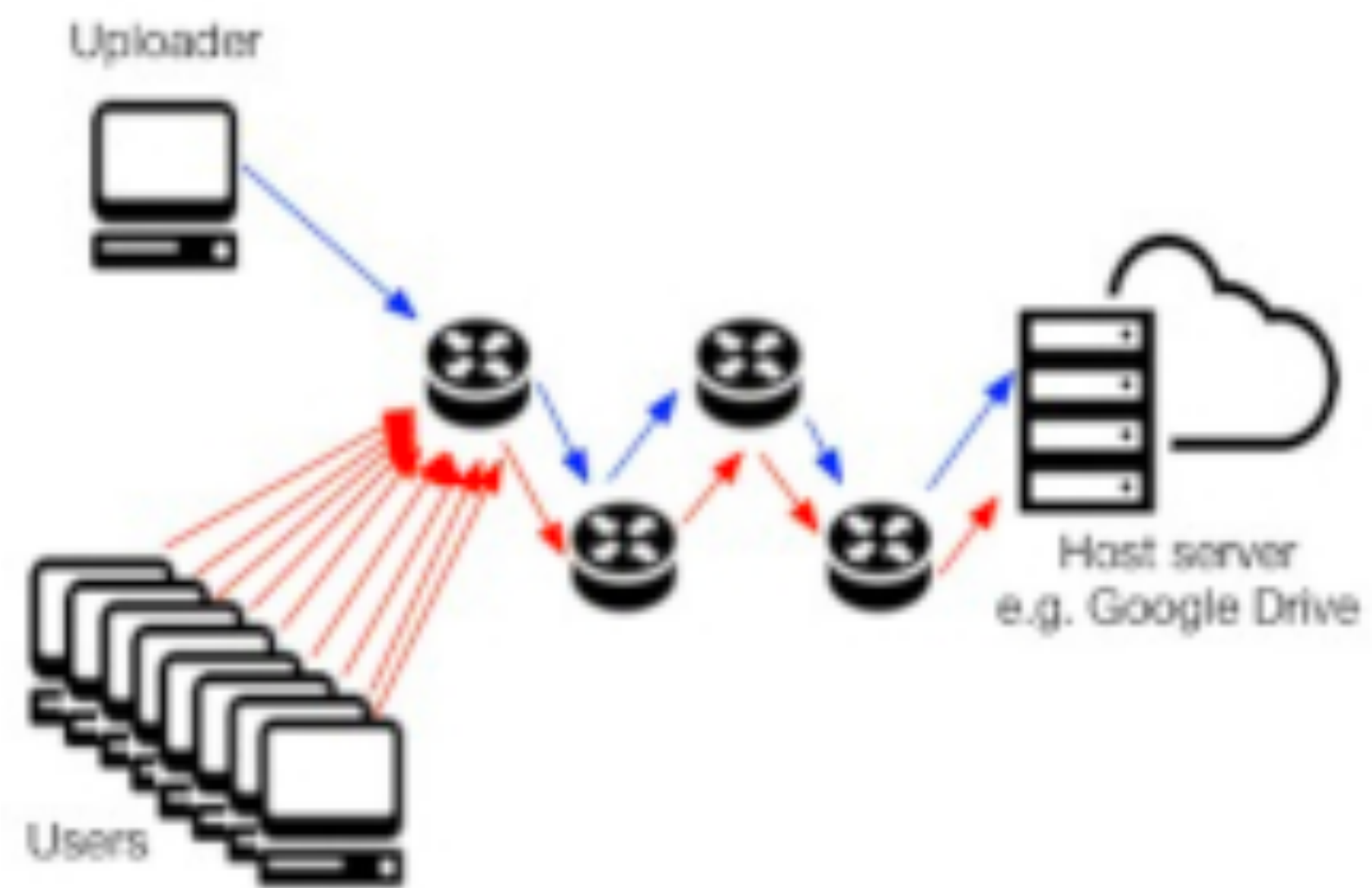
01. IPFS 란

$$671 * 315,550 =$$

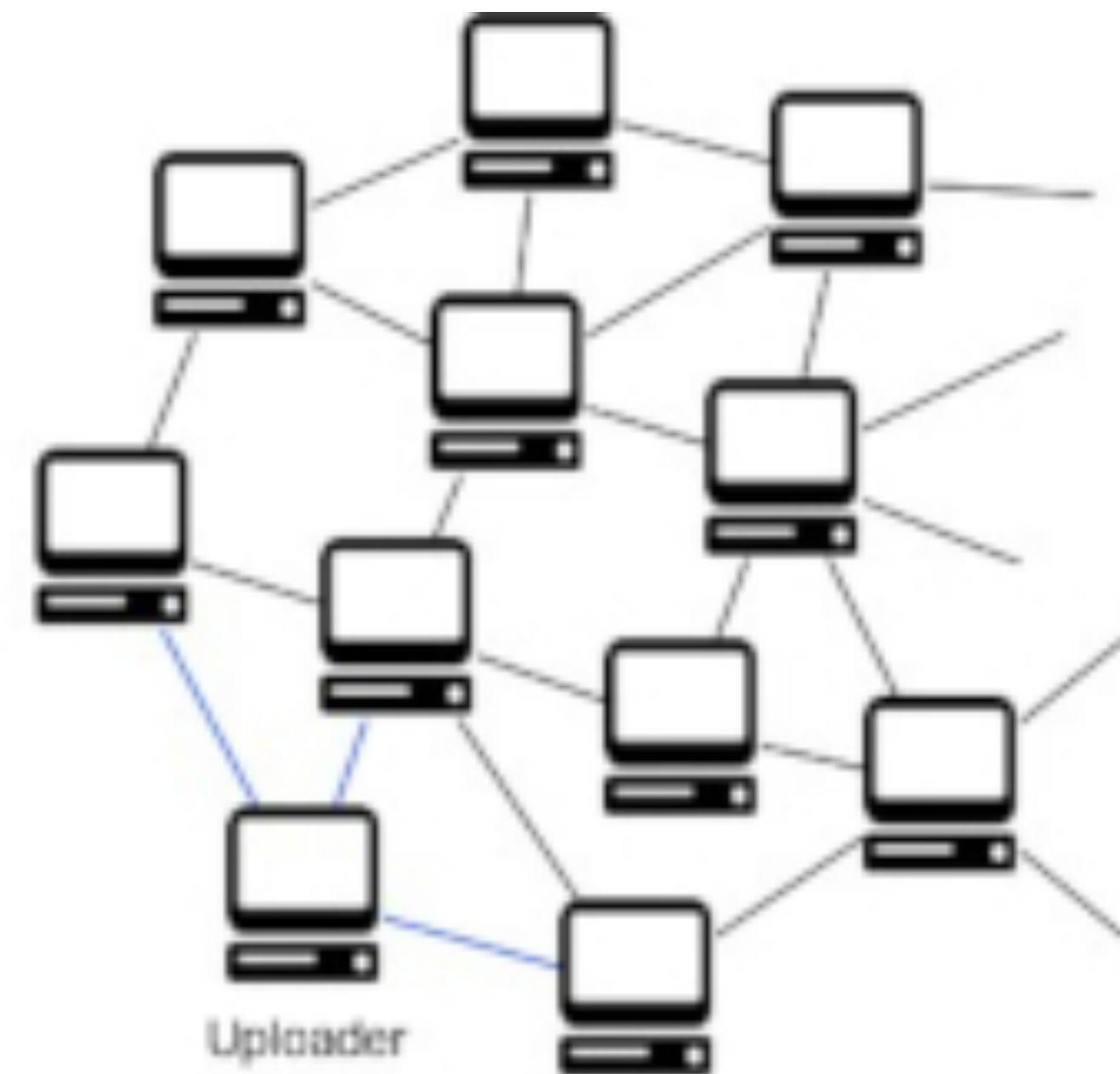
211,734,050



01. IPFS 란

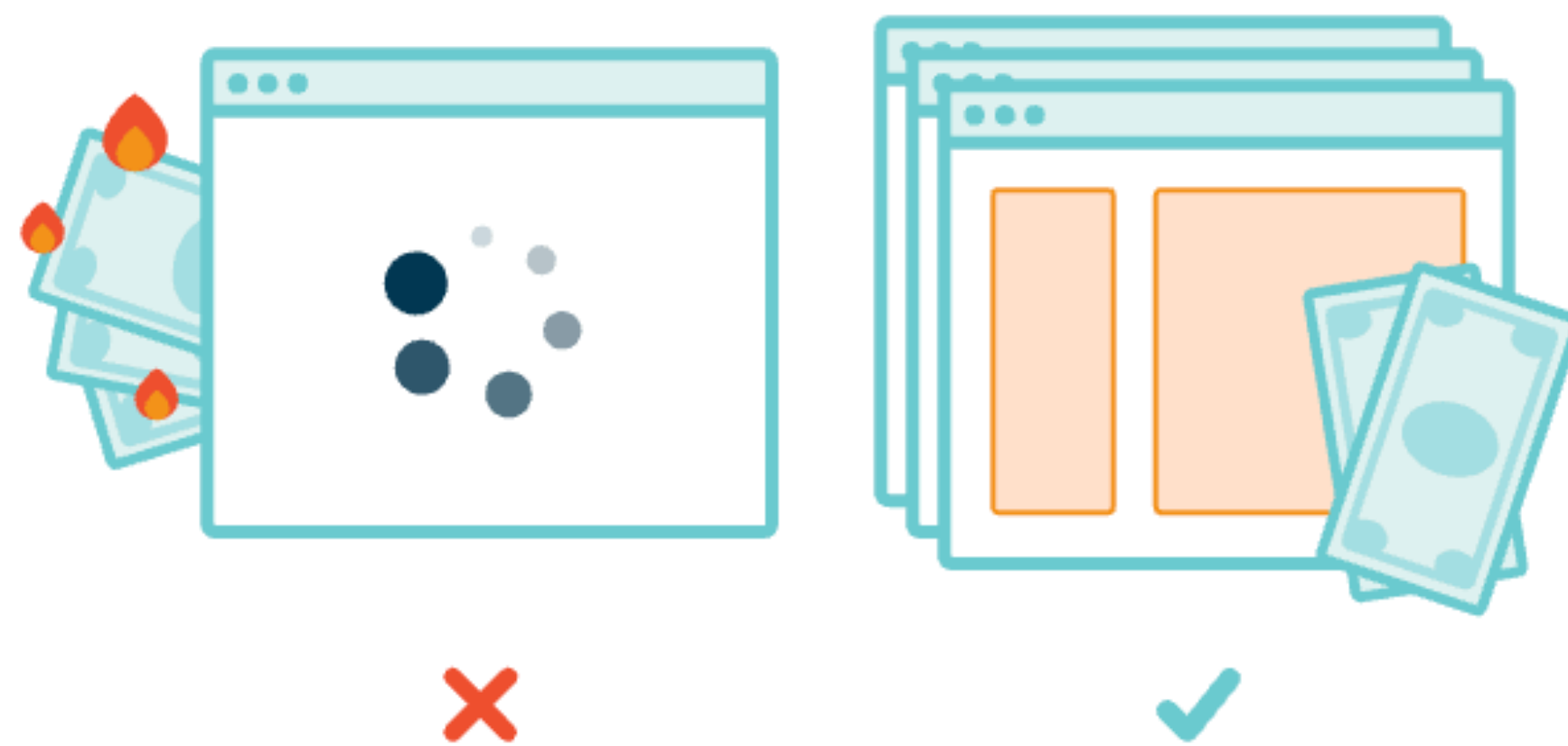


(a) Centralized system



(b) IPFS

01. IPFS 란



HTTP is inefficient and expensive

Luis Fonsi - Despacito

조회수 6,214,203,492회

Youtube HD (1080p25 = 8 Mbps)

300 MB



01. IPFS 란



Humanity's history is deleted daily

Not Found

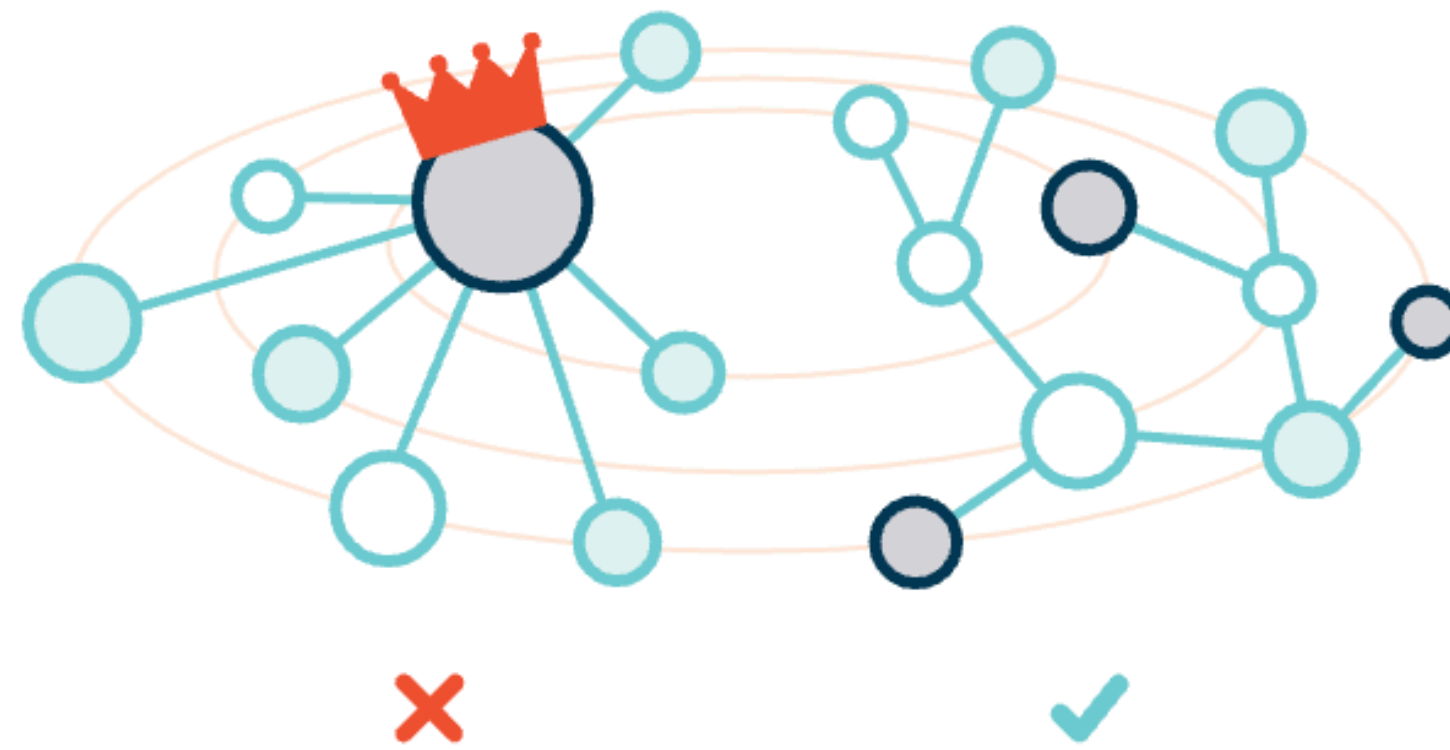
The requested URL /fgererg was not found on this server.

Additionally, a 404 Not Found error was encountered while trying to use an ErrorDocument to handle the request.

*Apache/2.2.34 (Unix) mod_ssl/2.2.34 OpenSSL/1.0.1e-fips mod_bwlimited/1.4 Server
at www.YourURL.com Port 80*



01. IPFS 란



The web's centralization limits opportunity



01. IPFS 란



Our apps are addicted to the backbone



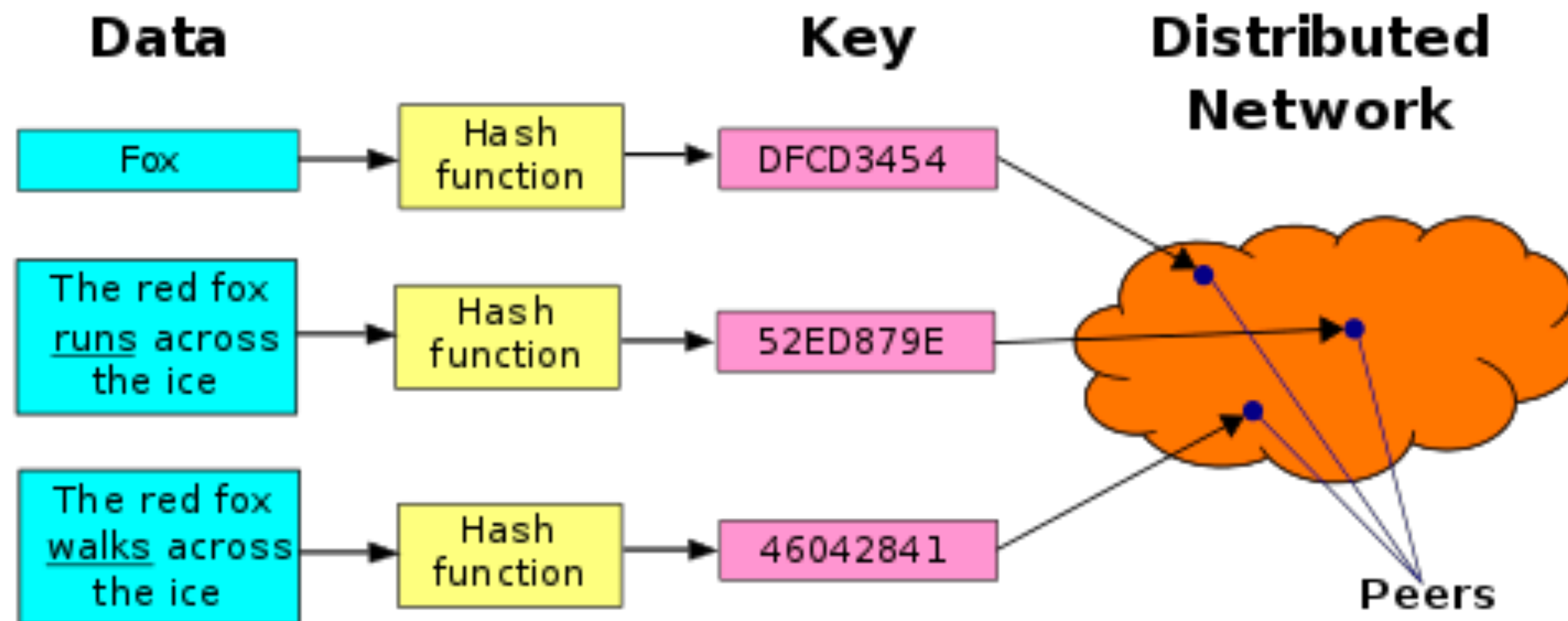
01. IPFS 란

1. Distributed Hash Tables(DHT) - Routing

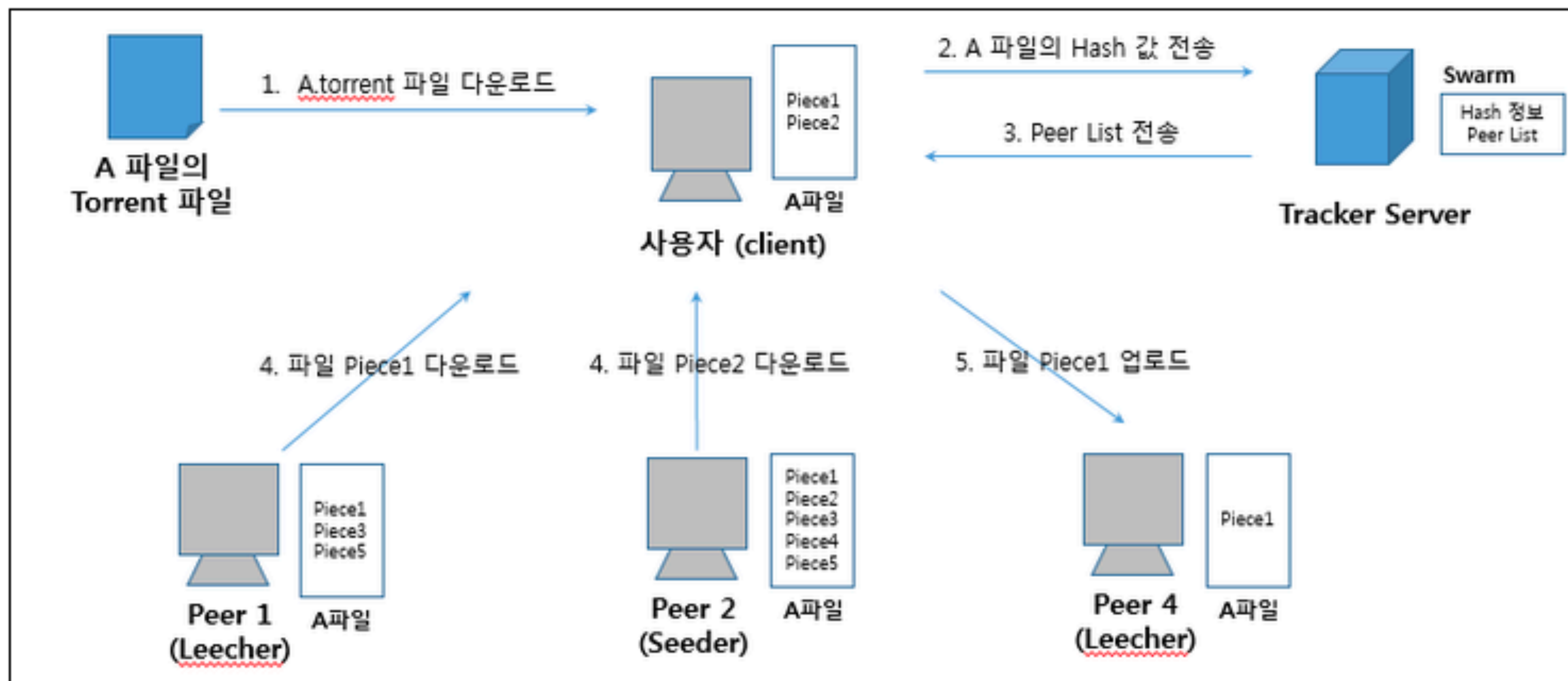
2. Bittorrent - File exchange



1. Distributed Hash Tables(DHT) - Routing



2. Bittorrent - File exchange



ipfs.cloudus.io
bit.ly/ethconipfs



Tutorial

```
const IPFS = require('ipfs-api');  
/* infura 사용 */  
const ipfs = new IPFS({ host: 'ipfs.infura.io', port: 5001, protocol: 'https' });
```

```
await ipfs.add(this.state.buffer, (err, ipfsHash) => {  
  console.log(err, ipfsHash);  
  this.setState({ ipfsHash: ipfsHash[0].hash });  
});
```

```
ipfs.get(this.state.cid, (err, files) => {  
  files.forEach((file) => {  
    console.log(file.path)  
    this.createAndDownloadBlobFile(file.content, this.state.cid);  
  });  
});
```



```
contract Contract {  
    string ipfsHash;  
  
    function sendHash(string x) public {  
        ipfsHash = x;  
    }  
  
    function getHash() public view returns (string x) {  
        return ipfsHash;  
    }  
}
```



Tutorial

Input Data:

β^2 5 .QmNmZk1qMkJp7vnQk7j fUCXyANgwyVn3CQD9XoB3FdVZFb



TXT

ipfs

dnslink=/ipfs/QmZpAMcBXmtKC7iCxe4aCTi1...

1.IPFS 는 ENS 같이 DNS 시스템이 없나요?
A: (ex: /ipns/ipfs.hanukoon.com)

```
h4nuko0n@MacBook-Pro-3 ~  
ipfs cat /ipns/ipfs.hanukoon.com
```



2.데이터 안정성 보장은 어떻게..?

A: Pin 기능을 활용!

```
h4nuko0n@MacBook-Pro-3 ~  
[ ipfs pin add /ipns/ipfs.hanukoon.com  
pinned QmZpAMcBXmtKC7iCxe4aCTi1MVDuV5x1cKpTFa9APq1mq2 recursively
```



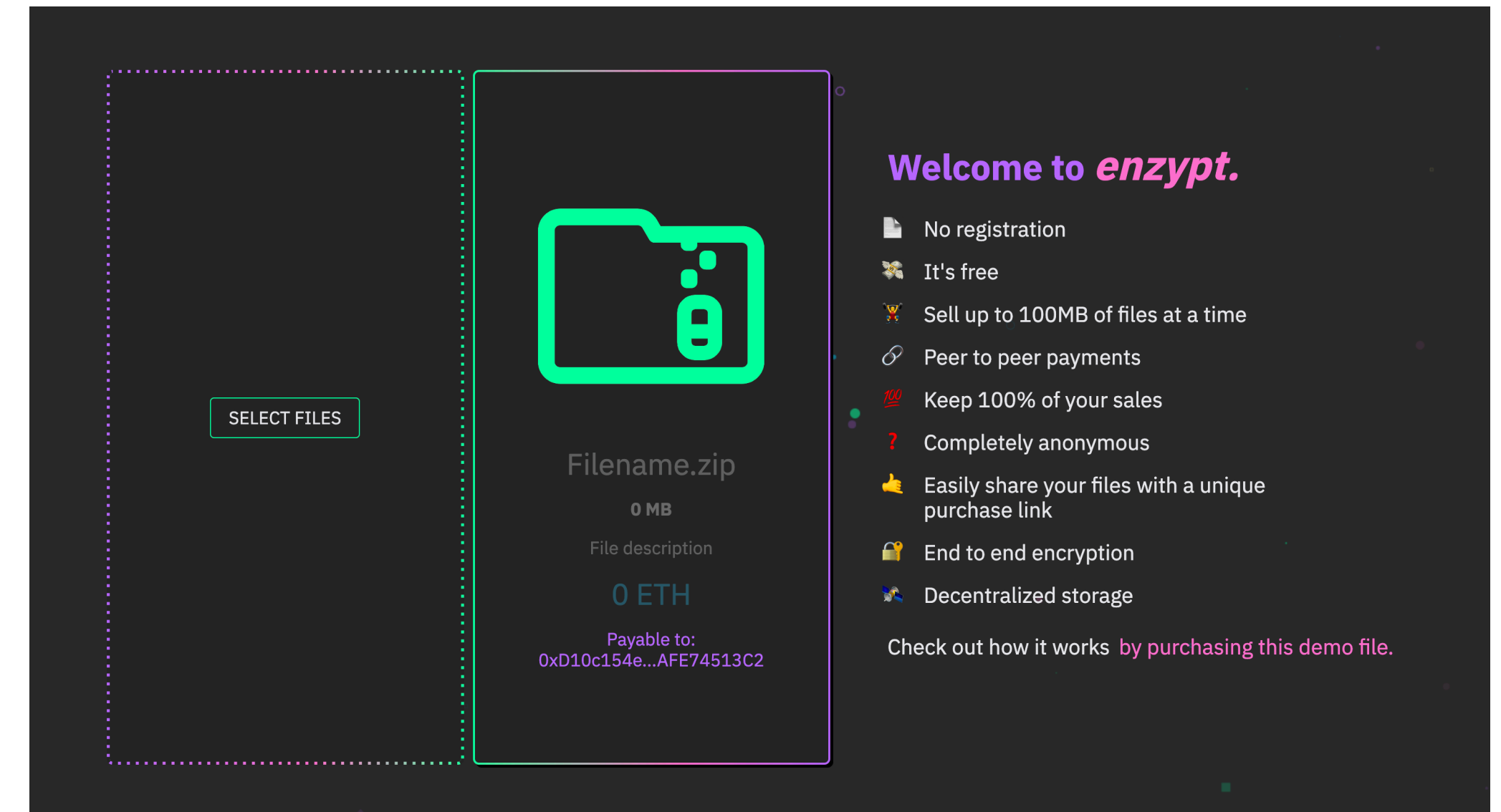
3. 왜 해시는 QM으로 시작하나요?

A : SHA256 + Base58-btc 로 인코딩..!



radicle^{alpha}

*A peer-to-peer stack for code
collaboration*



eternum

Welcome to Eternum

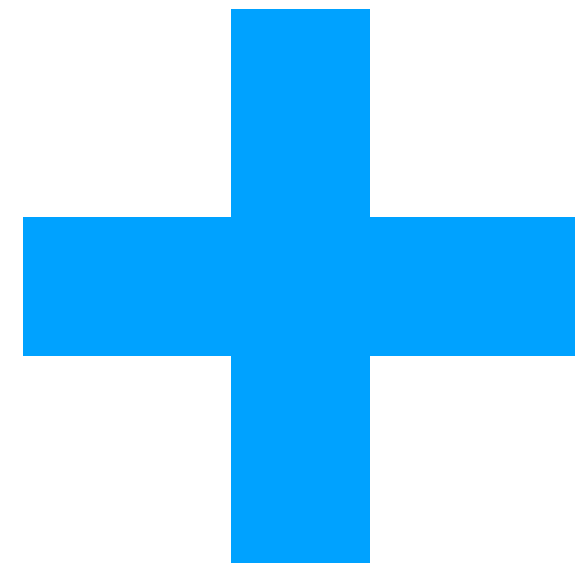
Eternum is an [IPFS](#) pinning service that aims to be simple and easy to use. It will host your IPFS files so you can be sure that they'll always be available, and it comes with an [API](#) that you can use in your applications.

The service costs [around](#) \$0.14 per gigabyte per month.

To sign up (or log in), just enter your email address below and click the link we send you:

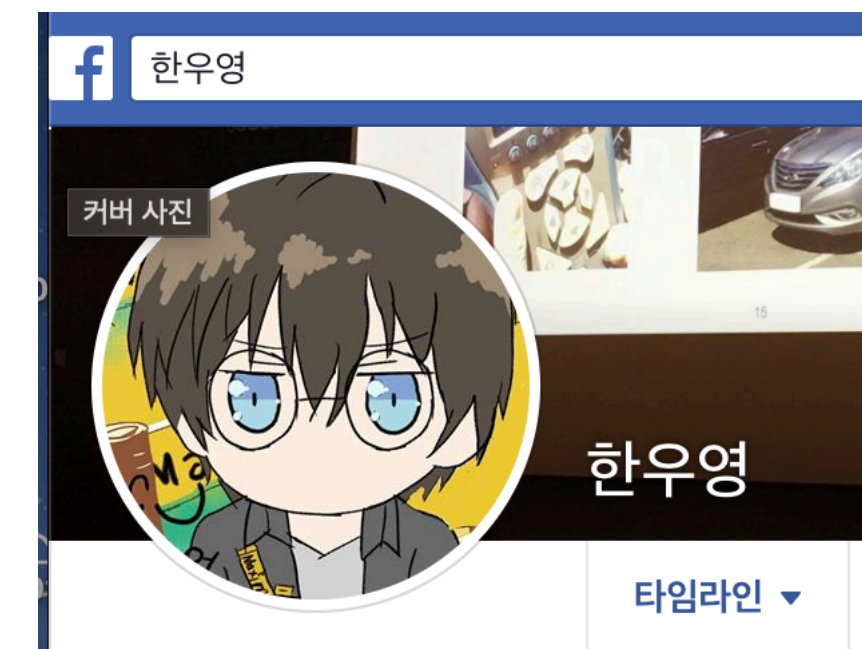


감사합니다 :)



Q&A

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Special Thanks to Daniel

