Block File System

White Paper v1

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Disclaimer

This document is a marketing document. Its purpose is to provide correct informations about Block File System. $BFS is design to be used as a governance token on Block File System. The features for using $BFS on Block File System do not exist for now. $BFS is not a security or investment.

This document does not constitute at any time and in any way a recommendation to purchase $BFS or use BFS-Access. Certain statements contained in this document may constitute speak for future. These forward-looking statements or information involve uncertainties and unknown risks, which may result in material differences from actual events. No reliance should be placed on such forward-looking statements or information.

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Introduction

The Block File System and BFS-Access project were mainly designed to answer a few questions.

1 - How to have simple and secure access to several profiles without using differents and complicated passwords ?

2 - How to give value to the content that we develop into our account ?

3 - How to transfer or sell many accounts to someone else without giving up our passwords, usernames, emails address and/or Ethereum address ?

4 - How to easily verify the authenticity of an account ?

The uniqueness specific to user profiles and the authenticity of the account can be easily verified with NFTs.

To eliminate the management of passwords and keep a secure connection method, BFS-Access is stored in an Ethereum wallet like any NFT. You just need to be connected to your wallet to unlock your account with a BFS-Access.

As all the login information are in the token and you just need to hold the BFS-Access in your wallet to unlock the account, your BFS-Access can be transferred or sold like any other NFT. You can easely transfert your account to someone else without giving up your password, your email address or your Ethereum address.

Depending on the type of account to which it gives access and/or its content, the value of the BFS-Access may increase. As you collect new items in a game or develop the profile of your favorite application you can increase the value to your BFS-Access. It makes a game or an application more attractive and gives more benefit for users to use this login method rather than another.

Because the benefits of users are also the interests of developers, ease of use and integration were key concerns. BFS-Access can be created on the BFS platform with just one click, but not only.

A create button can be added to any website or application just as easily. By doing this, the website will add a new login option and attract new users. In the other hand, users can create their BFS-Access directly from the service they want to use with just one click.

With all that in mind, BFS-Access addresses our originals problems by providing a new easy-to-use connection method.

Blockchain Technology

A blockchain is a decentralized, distributed and public digital ledger that is used to recover transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the collusion of the network.

Blockchains grow constantly as a new block is ‘mined’ and are recorded in a chronological format from the most recent to the least recent. It gives market participants the opportunity to track their digital currency transaction without any form of central record keeping.

For every computer that is connected to the network, there is always a blockchain copy that is dedicated to it and automatically downloaded.

Blockchains were actually developed as a way of accounting for virtual currency.

Blockchains are a form of distributed ledger technology and they are slowly appearing in commercial applications that are seeing the benefits of the technology.

Blockchains are currently used to check transactions that are made via digital currencies although, it is also possible to code or embed any form of document within the blockchains.

This creates a permanent record that cannot be altered. Instead of confirming a record authenticity through a centralized authority, blockchains are used.

Benefits of blockchains

Managing And Securing Digital Relationships

Eliminating Middlemen/Gate keepers

Record Secure Transactions

Keeping Records Of Past Actions

Decentralisation Makes It Possible To Be Used Anywhere

Data Immutability

BFS technology

BFS-Access are created on the Ethereum blockchain with the ERC-721 standard.

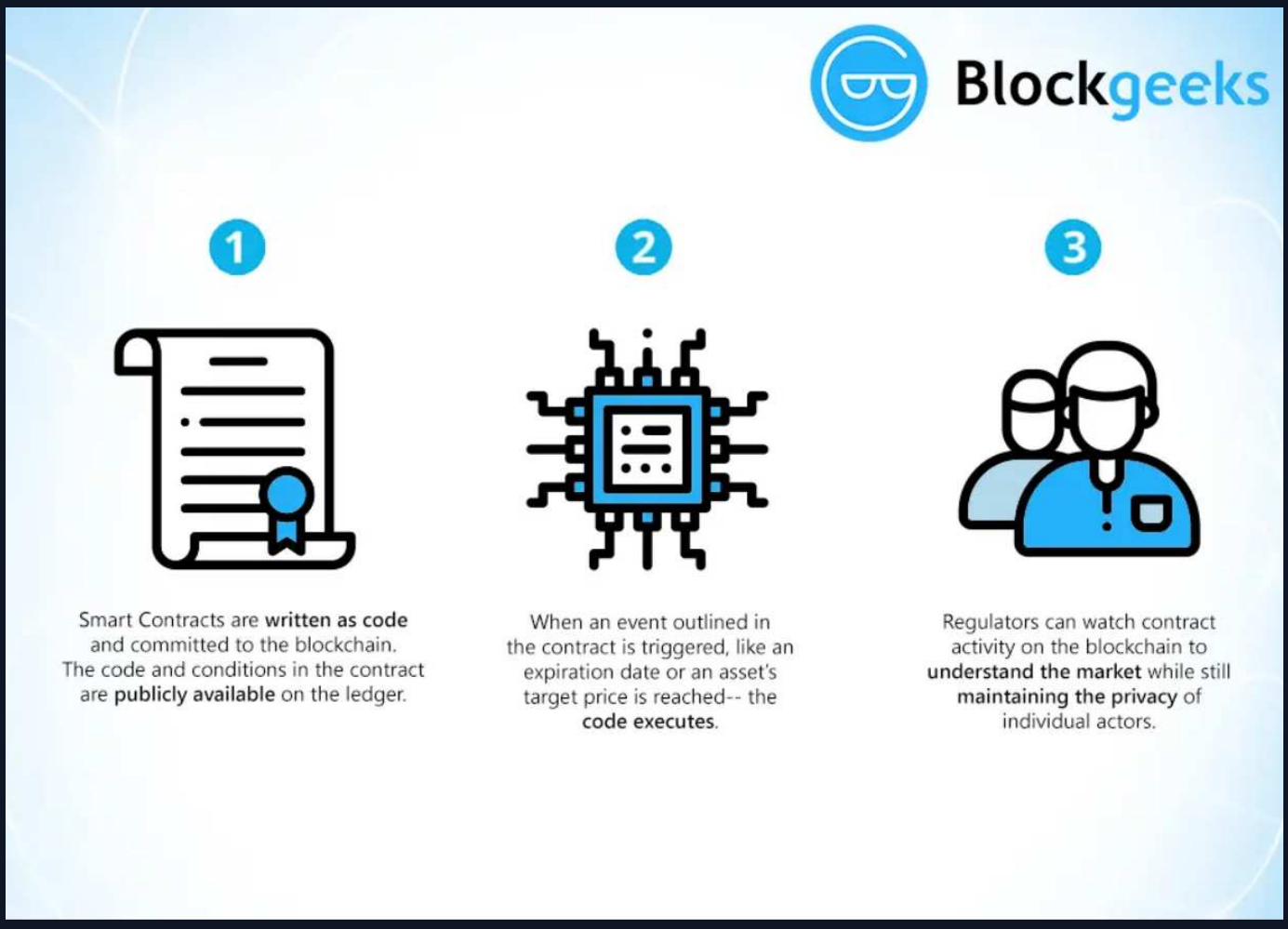
What is Ethereum ?

Ethereum is a global, decentralized platform for money and new kinds of applications. On Ethereum, you can write code that controls the money, and build applications accessible anywhere in the world. Beyond Bitcoin & first-generation decentralized applications. Although commonly associated with Bitcoin, blockchain technology has many other applications that go way beyond digital currencies. In fact, Bitcoin is only one of several hundred applications that use blockchain technology today.

Until relatively recently, building blockchain applications has required a complex background in coding, cryptography, mathematics as well as significant resources. But times have changed. Previously unimagined applications, from electronic voting & digitally recorded property assets to regulatory compliance & trading are now actively being developed and deployed faster than ever before. By providing developers with the tools to build decentralized applications, ethereum is making all of this possible.

Ethereum smart contract

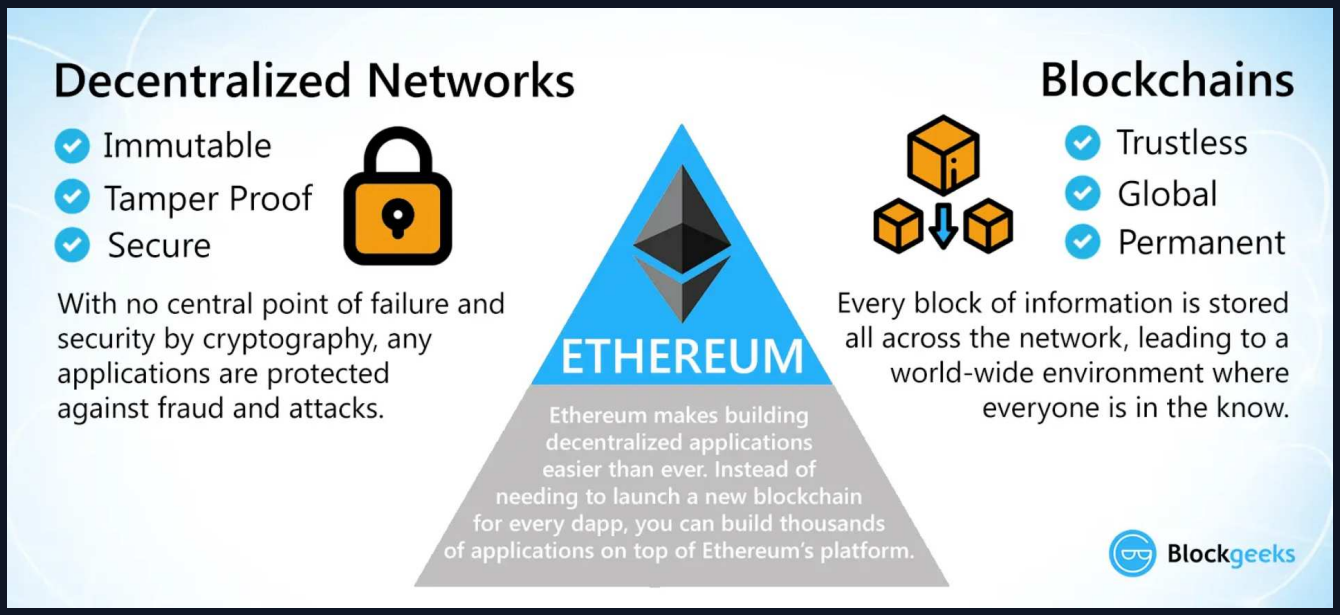
Smart contract is just a phrase used to describe a computer code that can facilitate the exchange of money, content, property, shares, or anything of value. When running on the blockchain a smart contract becomes like a self-operating computer program that automatically executes when specific conditions are met. Because smart contracts run on the blockchain, they run exactly as programmed without any possibility of censorship, downtime, fraud or third-party interference.

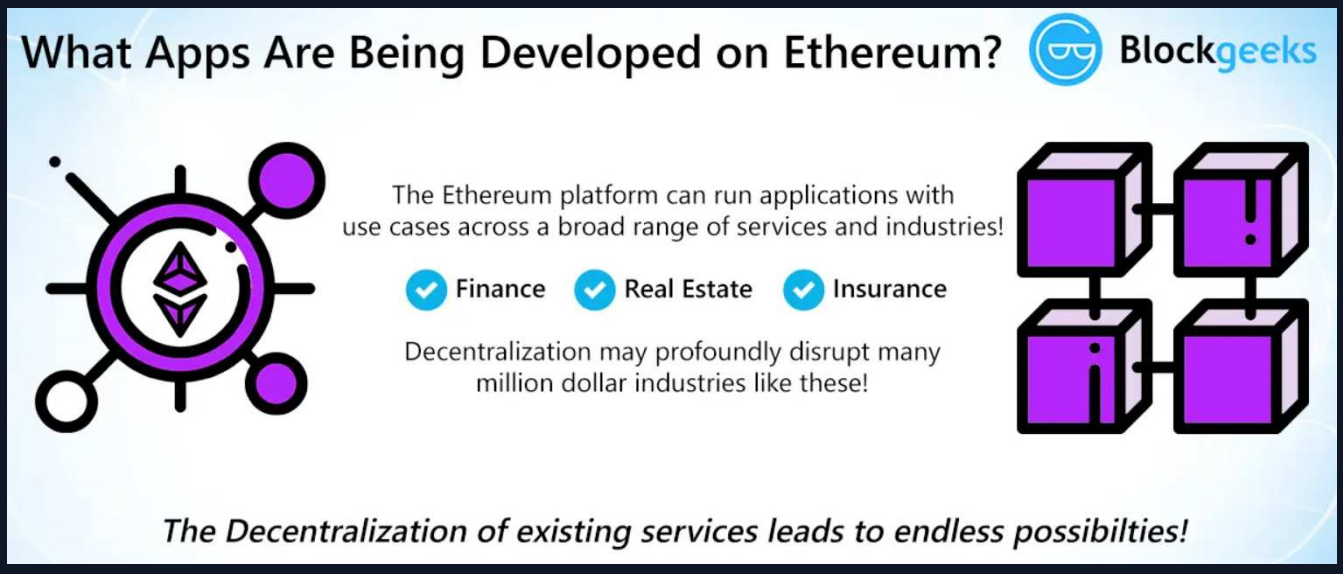


Source : Blockgeeks
https://blockgeeks.com

Why Ethereum is different ?

While all blockchains have the ability to process code, most are severely limited. ethereum is different. Rather than giving a set of limited operations, ethereum allows developers to create whatever operations they want. This means developers can build thousands of different applications that go way beyond anything we have seen before.





Source : Blockgeeks
https://blockgeeks.com

Benefits of a decentralized ethereum Platform

Immutability

A third party cannot make any changes to data.

Corruption & tamper proof

Apps are based on a network formed around the principle of consensus, making censorship impossible.

Secure

With no central point of failure and secured using cryptography, applications are well protected against hacking attacks and fraudulent activities.

Zero downtime

Apps never go down and can never be switched off.

$BFS and governance system

What is an ERC20 token ?

An ERC20 token is a blockchain-based asset with similar functionality to bitcoin, ether, and bitcoin cash: it can hold value and be sent and received.
The major difference between ERC20 tokens and other cryptocurrencies is that ERC20 tokens are created and hosted on the Ethereum blockchain, whereas bitcoin and bitcoin cash are the native currencies of their respective blockchains.
ERC20 tokens are stored and sent using ethereum addresses and transactions, and use gas to cover transaction fees.

Why ERC20 ?

ERC20 is an official protocol for proposing improvements to the Ethereum (ETH) network. ERC stands for Ethereum Request for Comment, and 20 is the proposal identifier. This is a common standard for creating tokens on the Ethereum blockchain. This token standard defines a set of rules that apply to all ERC20 tokens that allow them to interact seamlessly with one another.
Wallets and exchanges use the standard to integrate various ERC20 tokens onto their platforms and facilitate exchanges between ERC20 tokens and other cryptocurrencies. The ERC20 standard has been adopted by a large number of institutions and products.
This provides users with a variety of exchanges, wallets, and Dapps to use while handling their tokenized asset. They also have the ability to move tokens quickly, 24/7.

$BFS

$BFS was designed to be the native governance token for Block File System. $BFS will allows you to have voices to support projects and ideas or disagree with them. The more $BFS you have, the more important your vote will be.

Token details

Ticker : $BFS

Token type : ERC20

Decimals : 18

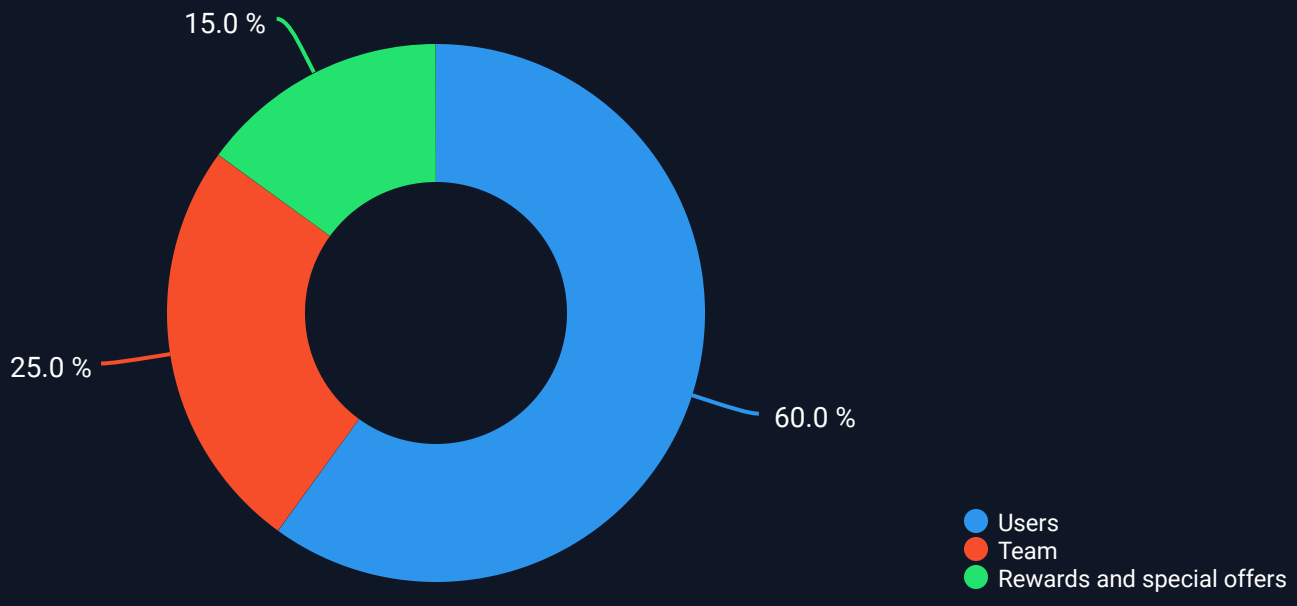
Total supply : 777,777,777,777

Circulating supply : 777,777,777,777

Max supply : --

etherscan :
https://etherscan.io/token/0x23a4944b937101aa06430ff6f60b1f5996c12309

Token distribution



Governance system

There is no centralized team or an existing community behind BFS-Access . The Block File System project was created out of nothing. Everyone, anywhere in the world, can be part of this project.You can come up with new ideas, improvements or just make your voice heard to support projects or disagree with them. Every $BFS holders will be able to vote for the implementation of a proposal. The more $BFS you have, the more important your vote will be.

You can find below how the distributed token-based voting app will work.

To make a proposal an address must have a balance greater than 0.1% of the total $BFS supply. This requirement is used to filter requests and prevent from submitting proposals that are useless or have for only purpose of harming the project. This only concerns the voting system. You are totally free to go to the Block File System discord for example and talk about your ideas. The power of a community-run project comes from diversity and when we work together in harmony.

All proposals will be listened to and analyzed. If your proposal will make the platform better for everyone, $BFS holders will be able to vote for its implementation.

During the voting period, anyone with $BFS will be able to vote. To do so, you must send the number of tokens corresponding to the number of votes. For example, if you have 1000 $BFS and want to send 900 votes to support a proposal or disagree with it you will need to send 900 tokens. You will then have 100 tokens left that you can keep in your wallet, use later on the same proposal or for another one.

You will be able to collect $BFS for free on the Block File System platform every day. In addition, special offers will also allow you to get more for free.

Because everyone’s voice deserves to be heard Block File System wants to allow everyone to make their voice heard for free.

BFS-Access

What is ERC-721 standard?

Like the ERC-20 token, ERC-721 defines a different set of standards which value of a token is defined and differentiated. Unlike ERC-20, ERC-721 tokens are non-fungible; meaning that each and every ERC-721 token has it's own unique value and is to be treated individually.

Why using ERC-721 ?

To be able to create an authentication method, the following criteria must be fulfilled.

- It has to be secure. Only the user should be able to connect to his profile
- It must contain the informations to identify the service and the user.
- It must be unique. You cannot have two identical users accessing the same profile.

NFTs and the ERC721 standard meet these criteria.

Each profile can be identified with their uniqueness. You cannot declare yourself as the owner of an NFT in place of someone else. You can bind information to each NFT. By building NFTs that meet these criteria we can create an efficient and secure authentication method.

How BFS-Access work ?

BFS-Access use an "AccessId" to identify the service you want to use. This AccessId is integrated in the token URI.

A BFS-Access can be created on the Block File System platform or directly from websites or applications that offer this connection method. To create a BFS-Access you just need to click on a mint button and validate the transaction. It's as simple as that.

The AccessId must be unique. The BFS-Access UI allows only an Ethereum address, an URL or an UUID type 4. For flexibility purpose, developers who want to add the possibility of creating a BFS -Access directly from their website do not have this constraint. However, it is strongly recommended to use a unique AccessId even if it is different from those imposed on the BFS-Access UI.

You can only have one BFS-Access per AccessId on your wallet. If you want to create another BFS-access with the same AccessId you must do it from a different Ethereum address.

If a website allow you to login with BFS-Access you will have two options to create one.

1) The website provide the AccessId.
You must copy and past it on the Block File System platform to create your BFS-Access.

2) The website add a "Mint" button to create the BFS-Access directly with their AccessId.
In this case you just have to click on the button to create your own.

How to use BFS-Access ?

To use a BFS-Access, you just have to connect your wallet to metamask.

The website will be able to verify that the Ethereum address is the owner of a BFS-Access containing its AccessId and identify which profile it is by using the Token id.

Having the BFS-Access in your wallet is all you need to access the content of the linked account.

Your BFS-Access can be sold or transfered like any other NFT. If you want to sell it or transfer it to someone else the new owner will just have to connect the wallet which contains the BFS-Access to display the content of the account and use it.

Technical details

You can find below the list of BFS-Access smart contract methods. More details on how to use those methods and some pieces of code to retrieve user's content or customize your Access Id can be find on http://www.blockfilesystem.com/developers/

- function uriOfOwnerByIndex(address _owner, uint256 _index) public view returns (string memory)

This function return the access id at a given index in the BFS-Access list of _owner

- function accessIdFromOwner(string memory _accessId, address _ownerAddress) public view returns (bool)

Return true if _ownerAddress own a BFS-Access with _accessId. This function can be use if you don't have to fetch a specific content for every users owning a BFS-Access with _accessId.

- function getBfsIdFromAccessId(string memory _accessId, address _ownerAddress) public view returns (uint256)

Return the token id if _ownerAddress own a BFS-Access with _accessId. You will probably want to use this function if you need to fetch a specific content for every user owning a BFS-Access with _accessId or create a new profile if this is their first connexion.

- function bfsIdFromTokenId(uint256 _tokenId, address _ownerAddress) public view returns (bool)

Return true if _ownerAddress own the _tokenId BFS-Access.

- function listBfsIdsFromAccessId(string memory _accessId) public view returns (uint256[] memory)

Return the list of all BFS-Access created with _accessId

- function mint(string memory _accessId) public

Mint a new BFS-Access with _accessId in the user's Ethereum wallet. This function can be used to add a "Mint BFS-Access" button on your website or application. It is highly recommended to use a unique access id easily identifiable by the users. For example the URL of your website or the smart contract address of your DApp.

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