



**Stream41**

**Technical Whitepaper**

# Stream41:

## A decentralized live-video-streaming platform built on the Ethereum blockchain.

A protocol for enabling smart, social currency for publishers and content businesses across the internet.

**VERSION 1.0**

**AUTHOR:**

Andy Chaudhuri

**Designer and Developer:**

White Code Labs

**Date:**

January 2018

## Technical WhitePaper

In this Technical Whitepaper, we will outline key details and specifications of our technology and protocol. Stream41 is being built in response to market demands for a censorship-proof video streaming platform that puts control into the hands of creators and viewers.

### The Stream41: Utility Tokens

Stream 41 tokens are valuable because of their utility on the Stream 41 platform. Tokens will be used to exchange value and pay for fees. When a fiat value is initiated and the tokens are put on cryptocurrency exchanges it can be exchanged just like any other token. The price of its value will be based on supply and demand on the exchange market in conjunction with the initial offering price.

#### ERC-20 standard

Will allow for an exchange with other compatible ERC-20 standard tokens.

#### Stream 41 Platform Currency

Can be utilized as platform currency to be spent (and earned) through the video and media monetization mechanisms built into the Stream41 platform.

### The Stream41 Tokens: [Scarcity]

Our network and protocol specify that all number of tokens will be distributed with time. The total number of Stream41, (STRM41) tokens that exist and will be distributed are **450 ml.**

These tokens will be distributed during its Pre-ICO, and ICO rounds, to investors, and to content producers and viewers when they sign-in and log-in, the platform.

---

## **Stream41 Media-Server**

The technology stack for broadcasting live-video has evolved over many years and with many layers.

Existing broadcasting decentralized development stack contains solutions for some of the layers required for a live video platform, like file transfer and payments, but currently, there are no solutions for the capture and interface, transcoding and processing, and serving layers of live video.

Stream41 introduces Stream41 Media Server — an open source implementation of a media server which provides all of the live video specific functionality necessary for dApp engineering and existing content producers to build live functionality into their applications.

## **Stream41 Node**

The Stream41 node connects other nodes on the Stream41 network and speaks directly to the Stream41 protocol. It comes with the existing command line interface.

## **Stream41 Protocol**

Stream41 protocol builds an ecosystem where content producers and viewers participate in a live streaming platform. Users will experience video content in a secure and economically rational way.

Most critically, the protocol needs to solve how the distribution of video works. Live video needs to be streamed from content creators to large numbers of consumers in a scalable way. Technically, we are solving this challenge. Included in the solutions are incentives for encouraging participation of all users within the network.

Our protocol is designed to:

Allow any node to send a live video into Stream41 network. Different parts of the world have varying speeds of internet connection. To make a truly global network, the Stream41 protocol will allow live video to be transcoded into other formats and bitrates.

- Allow any node request to be approved from the network.
- Allow participants to contribute their processing power and bandwidth in service of transcoding and distribution of video, accordingly.

### Challenges

In a decentralized network, participants will be rewarded for the amount and quality of work that will be contributed by them. Some areas that need to be addressed to ensure security are:

- Is there a way for verification that the content and the nodes were correctly done?
- Are the nodes being awarded for original content or fake and re-distributed content in an attempt to gain STRM41 tokens unfairly?

Our protocol is designed to address both the verification of content and the prevention of fake content, while also offering solutions for scalability, reliability, and robustness of the network and in governance for our protocol.

### Developing Stream41 Network

Key areas of our network include:

- Video-based dApps.
- Infrastructure tools and services for broadcasters and live-streamers.
- Stream41 player and platform.

Areas where our attention will be spent on:

- Protocol Implementation – (Smart Contract)
- Stream41 Node – (Distributed System and Networking)
- Stream41 Video and Media Server – (Video Engineering)