JEXoS: A peer to peer Electronic Advertising Protocol

Abstract: A pure peer to peer electronic advertising protocol that utilizes a unique Blockchain protocol called "JEXoS Block Claim Protocol" to provide the much-needed transparency and to solve all inefficiencies that exists in the current form of Digital Ad Industry. The $230 Billion Ad Industry loses over $300 Million annually to fraud. The JEXoS Block Claim protocol eliminates all forms of fraud. Nodes are added to the block only after the validity of the ads are proved, the receiver and sender are validated, and all smart contract requirements are met. One of the main objectives of JEXoS is to completely eliminate the middle man and allow serving and buying of the ads directly from the seller without any centralized third party to count, manipulate, or influence the process hence forming a truly decentralized, pure, transparent protocol that can be trusted by all industry participants.

1. Introduction

Online advertising at its current form has become so untrustworthy with so much fraud taking place that most advertisers, ad networks, and ad agencies currently choose to go with the top two publicly traded companies that are in this space; Google and Facebook. They believe these two top firms with their unlimited resources have a better chance to fight the fraud with their reporting and analysis tools along with some of metrics they use in their systems. However, this is far from the truth. Since serving even non-qualified or fraud ads help them with their bottom-line revenues, they have not much incentive to really solve or prevent these additional income-generating faulty ads. While ad fraud hurts the Ad Industry incredibly, it creates a duopoly (Google & Facebook) since all advertisers, with no other choice available, flunks into these two power houses. We all hear news about how some fake Facebook pages were created just to make revenues from ads with wall full of phones were used somewhere in China displaying these pages refreshing them every second and generating fake ad revenues to the owner of these fake Facebook pages. This is only one example to fraud in advertising. There are many other forms that exists. The right Blockchain protocol will solve all these issues. It will literally clean up the entire Ad Industry. Blockchain has many advantages to use in this Industry. It ensures transparency, it eliminates the middlemen, it takes care of instantaneous payment process, and it blocks or prevent fraud. Only the right Blockchain Protocol that serves for the good of all will be the standardized Ad Industry Protocol. JEXoS, with its JEXoS Block Claim Protocol, is all about the decentralizing of ad buying, ad serving, and the instantaneous payment distribution of ad funds through its protocol which is based on proof-of-authentication.

2. Block Claim Protocol

JEXOS is building a specific protocol to get rid of all kinds of fraud that exist in today's Ad Industry while providing the transparency that is badly needed. JEXOS Block Claim Protocol offers a method to check and validate each ad served as well as the intended recipient's authenticity through his/her digital DNA and by tracking the ad's digital footsteps through Proof-of-Authenticity. A new node is added to the Block only when all requirements are met, and the authentication process is passed. Only then, the portion of the transaction is released to the payee where it is accumulated in payee's account where it will be released after a pre-determined date or at the end of the campaign. The transaction takes place immediately as everything is verified real time. The advertiser does not have to worry about discrepancy as through the JEXOS Block Claim protocol, only the qualified ads (nodes) are added to the chain and is eligible for payment as they pass all the requirements.

3. Digital DNA

Each ad gets a UAID (Unique Ad ID) assigned to it. JEXOS Block Claim protocol uses this Digital DNA to discover where this specific ad has landed for the first time, whether or not this specific ad was tampered with or manipulated, and that it was indeed landed on the intended location or according to its pre-assigned criteria such as geo-targeting, day par, or any other targeting metrics it was assigned to.

4. Metadata

In JEXOS Block Claim Protocol, multiple forms of metadata are used such as Structural Metadata, Administrative Metadata, and Statistical Metadata.

In Structural Metadata, JEXOS stores data in data containers that represents all requirements that a third party may require to make a successful node to add to the block (eg. All requirements of an Ad Agency, or an Ad Campaign). It describes all the characteristics or metrics of the requirements.

Administrative data provides information on what type of file or ad it is, when it was created/submitted, who is the intended target is, and other technical information.

Statistical data, which is also called Process Data is used to describe processes that collect, process or produce statistical data.

Data virtualization has emerged in the 2000s as the new software technology to complete the virtualization "stack" in the enterprise. Metadata is used in data virtualization servers which are enterprise infrastructure components, alongside database and application servers. Metadata, in these servers, is saved as persistent repository and describes business objects in various

enterprise systems and applications. Structural metadata commonality is also important to support data virtualization.

5. Daisy Chain

One of the great use case of JEXOS Block Claim Protocol is its ability to limit the number of ad servers (intermediaries) to a predetermined number that was accepted by both the buyer and seller of the advertising, or to completely eliminate the middleman thus preventing fraud by ensuring the viewability of the ad on the intended target location.

Daisy Chain Illustration
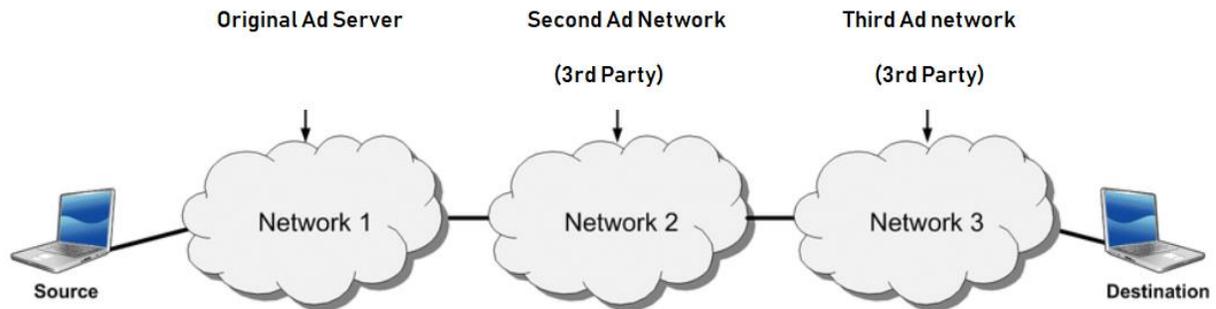
Currently, ad networks, in order to generate even more revenues, sell clients' ads to other networks which in turn sell them to more networks. That creates an undesired daisy chain. Through these daisy chains, most ads have to travel through 3, 4 or even more ad networks' servers to reach to the destination site, and in most cases the viewer has already finished viewing the site before the ad even had a chance to load on that site due to daisy chaining. This costs Ad industry millions of dollars annually. This is only one of the frauds that effect the industry more than 300 million dollars a year. JEXOS Block Claim protocol with its PoA (Proof-of-Authentication) gets rid of this fraud saving the Industry millions of dollars annually.

6. Reporting

Reporting is one of the most important aspect of online advertising. Advertiser's reports have to match with the Publisher's or Ad Network's reports. However, with the current state of Advertising Industry, this is never the case. JEXOS Block Claim protocol solves this. Since the

node is only added to a Block upon all requirements of the smart contract are met, which both parties previously agreed on. This way, there is no discrepancy any longer.

7. Timestamp

Every ad served, and every transaction has a date and timestamp. Additionally, the time stamp server works by taking a hash of a block to be timestamped and displaying it on reports proving it existed at certain time and date. Timestamps are vital to JEXOS for Proof-Of-Authentication. Timestamps are also used in blocking nodes for blocks as they also help JEXOS figure out any tampering or unnecessary middlemen's involvement during the whole advertising process.

8. Viewability

Viewability of an ad is vital to advertisers. Viewability is a measure of whether an ad has been seen by a given user. Viewability measurement is achieved by using a programming script such as JavaScript embedded within each creative, which is then called for each individual ad impression. The script launches automatically as the page loads and immediately starts measuring if and when the creative is viewable based on a variety of measures. These may include whether a web or browser tab is in focus, whether a particular ad is in view of a user based on where on the page the user has scrolled to, how long an ad was visible based on these metrics, and other factors. With some of the metrics embedded in JEXOS Block Claim Protocol, we can verify and validate the ad's viewability as well as the receiver's authenticity.

9. Proof-of-Authentication

We provide certain IDs to the JEXOS users to add to their creative ads. We have ways to authenticate ads displayed or shown on sites using these ad specific IDs. JEXOS, not only, validates these ads, but also makes sure the receivers where these ads land are indeed the intended receivers. Only the nodes with validated ads that made it through the Proof-of-Authentication are added to the block. Proof-of-Authentication also rewards the receiver of ads if they did not participate in any fraud, and that they did according to all requirements in the smart contract. Theirs can now be added to the block. They are incentivized and they are also white listed.

Management

**Giorgio Talegon
Founder & CEO**

Results-driven entrepreneur with a huge appetite for innovation and leadership. Prefer to lead by example, and by structuring and maintaining a great business culture within the firm enabling happy and more productive teams. Experienced in product development, process, and customer service improvements while forming strategic partnerships. Mr. Talegon has strong knowledge of international business protocols with a unique approach to international sales and relationship building across the globe. He is an expert problem solver, new channel developer, client ambassador that listens to clients in order to bring better products and solutions to clients. He previously founded Hyperbidder, a Global Ad Exchange, with Co-Founder Kishor Patil.

**Kishor Patil
Co-Founder & CTO**

Mr. Patil has extensive experience in design and development of diverse web-based enterprise applications. He served as the Senior Technology Architect at Digite, a leading Project and Portfolio management provider, and throughout his career he successfully implemented various web based Project Management and integration solutions on the JEE platform at large enterprises like Deutsche Telekom (T-Mobile group) and Magneti Marelli (FIAT Group, Italy) to name a few.

**Roger Walter
COO**

Mr. Walter has a proven track record of Senior Leadership and strong Management capabilities with a wide range of experiences in the area of performance management, finance & management accounting, regulations, M&A/ restructuring, performance improvement, business and operating model transformation as well as IT development/ implementation in the Retail/ Private Banking, Asset Management and Investment Banking sector.

Mr. Walter was previously a Director at Deloitte, an Executive Director at Ernst & Young, and a Senior Manager at Accenture.

Advisors

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Investment Advisor

Juergen Kopp
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