XGA: Enabling Preconfirmations without Restaking or ePBS

XGA or eXtensible Gas Auctions is a platform developed jointly by Manifold Finance and 20

[1]

Manifold Finance has operated the only original non-censoring Relay since the Merge and 20sq has done mechanism design and review using their open source “Open Games”[2]

engine for projects like Flashbots regarding PBS (see https://github.com/20squares/pbs-auctions/tree/master/pbs-og) and more. They have additionally written extensively on the topics of Blockspace (see https://blog.20squares.xyz/correctly-pricing-txs-parallel/) and MEV (see https://blog.20squares.xyz/mev-cui-bono/).

The documentation for XGA is live at docs.xga.com & source via GitHub

Preconfirmations using a Forward Contract Market

The XGA platform revolutionizes the way block space is allocated to builders and searchers, making it more dynamic and accessible. The auction is implemented on a L2 Rollup based off the OP Stack with minimal changes. The Auction is currently deployed and live on main net[3]

ethereum.

Validators simply need to connect to our new relay implementation, and run an updated Vouch or MEV Boost client. That is all the onboarding process really involves. There is no restaking, no risk to capital for the validators. This proposal would necessitate the adding of the new relay to the Relay must include the list for Lido validators. The onboarding process and current status is discussed more in the #roadmap

section.

Call Market mechanics

XGA facilitates the allocation of blockspace by dividing each block into two parts instead of selling it as a single monolithic entity. One part is designated for high-priority, time-sensitive transactions (α-blockspace), while the other is reserved for less urgent transactions (β-blockspace). This segmentation allows users to select the most cost-effective and suitable space for their needs, enhancing transaction efficiency and user value.

MEV Boost compatibility

The second change includes the timing of sales. The first part of the block is sold through mev-boost

as is common now for most blocks. The second part of the block is sold as a form of preconfirmation. That is, if a block gets minted at time t

, the bottom part is sold in a pre-defined period before. This part is sold in a multi-unit way meaning that several bidders can win blockspace for this part.

Winners of the beta

part of block b

can then submit their bundles before the block gets actually minted. In effect, winners of the auction get an inclusion guarantee beforehand.

Winners simply “burn” their position on the L2 and submit their L1 transaction.

In version 1.0, the final merging of alpha and beta portions of the block are handled by our specially designed relay. This relay is live on mainnet at https://mainnet-auction.securerpc.com. Version 2.0 eliminates this privileged service requirement.

Validator Participation without Slashing or Loss Risk

On the validator side, to participate, a validator must be permissioned to register with this service (the relay). Practically, the validator places the relay as a privileged service

. This means that it will ignore bids from other relays during a defined time window, and if it fails to receive a valid response from our relay, it will then consider other bids from other relays. If the validator does not get a valid proposal from our relay,

it then will pick the highest submitted block it has got from all other relays. Therefore, there is very little remunerative risk from the validator perspective. Any additional risk is covered by our “Captive Insurance” program, in which we cover any costs that are incurred due to assurance violations.

This logic is to ensure against potential service disruptions causing losses for validators. It also provides an enforcement mechanism for the forward contracts to begin with without resorting to slashing. This is why validators must also be approved to register with the relay to participate for version 1.0.

Captive Risk Retention protects Validator Revenue and Capital

Captive Risk Retention (or “Captive Insurance”) is our risk management protocol, which the primary purpose is to insure the risk related to the relay and auction. It provides a direct relationship between the insured and insurer, and is incentive aligned. The aim is to protect validator stake, earnings and market participants against service outages or other exogenous disruptions , ensuring continuity of potential profits and explicit protections for participating parties.

2.5% gross is taken from the ß-auction into the backstop fund. This amount can be adjusted. Should claims exceed the backstop fund, a pro rata charge is applied to the protocol vault of staked assets and liquidated into ETH to cover the shortfall.

Coverage Scope

Service Downtime

Provides compensation for any periods when the relay service is either inoperable or inaccessible.

Incorrect or Malicious Proposals

Offers protection against losses arising from incorrect or malicious block proposals made by the relay.

Performance Degradation

Ensures coverage in cases where the relay’s performance deteriorates significantly, affecting validator operations.

The insurance protocol seeks to provide coverage against a validator not having access to both MEV Boost Auction and the XGA Auction. The MEV Boost auction is protected by failover capacity of 3rd party relays (as described earlier). So long as this mechanism is correctly working, this greatly limits the liability in terms of potential losses that XGA could end up being on the hook for.

Additional MEV Improvements and Integrations

Builder/Searcher Separation

Searchers no longer need to vertically integrate with builders to enhance their inclusion rate. This is an important development in the market structure as it will lead to more truthful bidding (i.e. higher bidding). Searchers can now focus on their strategies without having to develop relationships with existing builder incumbents. Thus the barrier to entry is reduced, increasing competition overall and leading to higher validator MEV reward share.

Contract Bidding Strategies

By utilizing smart contracts for bidding and introducing a novel tie-breaking rule that emphasizes competitive pressure over simple high bids, the platform encourages fairer pricing and maximizes the value obtained from each auction. This has the added benefit of providing a way for smaller participants to avoid the latency game of request-response based bidding (i.e. API based).

Blockscout support for Preconfirmations

We are working with the Blockscout team to provide first class support for preconfirmations visualization and tracking for users out of the box. We are currently using Blockscout for the L2 rollup explorer.

Eligible Node Operators

The following Node Operators are eligible to participant in the first cohort. They are listed below in no particular order. Eligibility is determined using rated.network’s information regarding CL client usage. Due to the way that Prysm and Nimbus clients have implemented the Builder API v3 they would require changes to the CL client which we prefer not to do.

As a Node Operator, you only have to run a slightly modified MEV Boost client or a modified Vouch client. This modification

is to ensure that the failover capability is handled by the node operator, and not a centralized load balancer.

Node Operator

CryptoManufaktur

Allnodes

Kukis Global

Attestant

Chainsafe

Klin

ChainLayer

Stakely

Chorus One

Figment

Sigma Prime

A41

Stakin

StakeFish

Staking Facilities

Legal Risks

XGA has retained the council of Michael Frisch[4]

, Mike’s experience with cryptocurrency began at the Commodity Futures Trading Commission (CFTC), where he brought one of the CFTC’s first enforcement actions involving cryptocurrency — CFTC v. Bitfinex — and was part of the team responsible for the CFTC’s action against Tether in 2021. While at the CFTC, Mike was part of the litigation team in CFTC v. Monex, a landmark case concerning the applicability of Section 2(c)(2)(D) of the CEA, and contributed to the CFTC’s Final Interpretive Guidance on Actual Delivery for Digital Assets.

Roadmap

XGA is live on mainnet Ethereum, today. We have already signed Frax as our initial launch partner for main net and they have been testing with us for the last 6 weeks on Holesky. We expect by late next week to begin adding their validator set to the relay.

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XGA LST Chart May 25_1

1872×2736 562 KB

](https://europe1.discourse-cdn.com/business20/uploads/lido/original/2X/7/7fff8f049b3ecbff67943affbfe2c08c3e2c917a.png)

Contact

We maintain a community telegram channel that is active and participatory, joint.me/manifoldfinance or our forums.manifoldfinance.com

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Footnotes

1. 20squares or 20

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1. GitHub - CyberCat-Institute/open-game-engine: Haskell implementation of open games↩
2. see https://mainnet-auction.securerpc.com ↩
3. see https://crokefairchild.com/team/michael-frisch ↩