

Introducing Anzen Protocol

We are excited to introduce Anzen Protocol, a new category of infrastructure designed to optimize operator payments and safeguard economic security for AVSs on EigenLayer. After months of development in stealth, today we are sharing the Alpha V0.1 release of our [whitepaper](#), [codebase](#), [live testnet](#) and [example dashboard](#). This early research release marks the first step in our mission of helping AVSs (Actively Validated Services, i.e. middleware on EigenLayer) increase security and reduce operator payment costs. Because this is an early release, exact details of the design and implementation are still subject to change as EigenLayer evolves.

Motivation: The Economic Security Challenge

Economic security is hard, and the purpose of EigenLayer is to help AVSs bootstrap their security in a faster and more efficient manner. With EigenLayer, instead of bootstrapping a siloed network for economic security, AVSs can tap into an existing network for shared economic security with an existing and efficient marketplace for decentralized trust. By adjusting the fees paid to incentivize operators, AVSs can target a certain amount of economic security they purchase.

But how does a new AVS know how much they need to pay for economic security? How much economic security is needed to secure their protocol and prevent an economic attack? How do they ensure they are constantly meeting the minimum amount of economic security while avoiding over-paying operators? These are the challenges specific to AVSs that we aim to solve.

Introducing the Safety Factor (SF)

In order to make economic security easily understandable for AVSs, we first needed a comprehensive metric. We created the Safety Factor (SF) as a generalized standard metric to use for measuring AVS economic security, akin to health factors widely utilized throughout DeFi. The SF is based on the concepts of Cost of Corruption (CoC) and Profit from Corruption (PoC) and is defined in our whitepaper.

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When the SF is below 0, it means that a protocol is vulnerable to economic exploit (akin to health factor falling into liquidation territory).

When the SF approaches 1, it means that an AVS is overpaying for economic security.

We expect the typical SF to trend near a target buffer above 0 to avoid being too close to an economic exploit. Analogously, DeFi users typically maintain a margin above the minimum Health Factor in order to prevent being liquidated.

Protocol Overview (Alpha v0.1)

Now that we know how to measure economic security on EigenLayer, we need to make sure that we stay within our desired target range. In order to achieve this, Anzen Protocol delivers live SF data on-chain via an economic security oracle, called the SF Oracle. SF data is then consumed by a contract called the AVS Reserves Manager in order to dynamically adjust payment fees.

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The SF Oracle calculates the SF for all integrated AVSs and delivers the results on-chain. Each AVS integrated with Anzen protocol has a customized SF Oracle Module which is programmed to calculate the SF for a given AVS. The SF Oracle Module queries external data sources, performs calculations and risk management computations, and returns the resulting response to the oracle, which then broadcasts all of the results on-chain. Before an SF Oracle Module is deployed, it is recommended to conduct economic security modeling and auditing.

The AVS Reserves Manager is a contract that integrates with the EigenLayer AVS Payments manager to regulate the flow of AVS operator payments. With the SF now delivered on-chain, the AVS Reserves Manager is capable of increasing or decreasing the rate of operator payments in order to target a desired SF level. When there is a surplus of economic security, operator payments can be reduced to save money for the AVS. When there is a shortage of economic security, operator payments must be increased to safeguard the AVS.

Benefits for AVSs

The benefits of Anzen Protocol for AVSs are clear: reduced operator payment costs and increased security. Another benefit is insight: we are building a comprehensive dashboard for AVSs to monitor and understand their AVSs economic security information in simple terms and to launch new AVSs with a clear understanding of the associated costs and requirements. The importance of contract security is also paramount; in our alpha testnet, we include rate limits in the AVS Reserves Manager for maximum security.

Testnet Deployment

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<https://github.com/Hydrogen-Labs/anzen-contracts>

Example Dashboard

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Links

Learn more about Anzen Protocol by joining our [discord](#) community or following us on [X \(Twitter\)](#). Visit our [landing page](#) and read our full Whitepaper [here](#).

Anzen Protocol is built by [Hydrogen Labs](#). Core contributors include Meir Bank, David Mass, and Diyahir Campos.