

Aave is one of the most popular decentralized finance (DeFi) protocols that allows users to borrow and lend crypto assets. However, as with any lending platform, there is always the risk that borrowers may default on their loans. In order to mitigate this risk, Aave has integrated Chainlink automation to help ensure that the protocol remains solvent through a reliable liquidation mechanism.

In this article, we will explain the entire process of how Aave is integrating Chainlink automation to help ensure the protocol's solvency through a reliable liquidation mechanism. We will provide illustrative examples and discuss the benefits of this integration.

Before we dive into the details of how Aave is integrating Chainlink automation, let's first define some key terms.

- Aave: A decentralized lending platform that allows users to borrow and lend crypto assets.
- Chainlink: A decentralized oracle network that connects smart contracts to external data sources.
- Liquidation: The process of selling a borrower's collateralized assets to repay their loan.
- Oracle: A service that provides data to smart contracts.

Now that we have defined these key terms, let's discuss how Aave is integrating Chainlink automation to ensure the protocol's solvency through a reliable liquidation mechanism.

### Aave's Liquidation Process

Aave's liquidation process is designed to ensure that the protocol remains solvent in the event of a borrower defaulting on their loan. The liquidation process involves selling a borrower's collateralized assets to repay their loan.

When a borrower takes out a loan on Aave, they must provide collateral in the form of crypto assets. The value of the collateral must be greater than the value of the loan to ensure that the loan is overcollateralized. This overcollateralization is designed to mitigate the risk of borrower default.

However, if the value of the collateral falls below a certain threshold, known as the liquidation threshold, the loan is considered undercollateralized. At this point, Aave's liquidation process is triggered, and the borrower's collateral is sold to repay their loan.

Aave's liquidation process is currently a manual process that involves liquidators monitoring the protocol and manually triggering liquidations when necessary. However, this process is not always efficient or reliable, and there is a risk of human error.

To address these issues, Aave is integrating Chainlink automation to help ensure that the protocol remains solvent through a reliable liquidation mechanism.

### Chainlink automation

Chainlink is a decentralized oracle network that connects smart contracts to external data sources. In the context of Aave's liquidation process, Chainlink will provide the external data necessary to trigger liquidations automatically.

Here's how the integration will work:

#### Step 1: Aave sets liquidation parameters

Aave will set liquidation parameters, such as the liquidation threshold and the discount applied to the collateral when it is sold. These parameters will be stored in Aave's smart contract.

#### Step 2: Chainlink provides external data

Chainlink will provide external data to Aave's smart contract. This data will include the price of the collateral and other relevant market data.

#### Step 3: Aave's smart contract triggers liquidations automatically

Aave's smart contract will use the external data provided by Chainlink to monitor the value of the collateral. When the value of the collateral falls below the liquidation threshold, Aave's smart contract will trigger a liquidation automatically.

#### Step 4: Liquidation proceeds are distributed

Once the collateral is sold, the proceeds will be distributed to repay the borrower's loan. Any excess proceeds will be returned to the borrower.

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This is how aave and chainlink automation provide utility in realm of decentralized finance :

Imagine a borrower who wants to take out a loan in a stablecoin like USDT or USDC. In order to determine the value of the collateral that the borrower needs to provide in order to secure the loan, the system needs to have access to real-time market data for that collateral asset.

This is where Chainlink comes in. Chainlink provides decentralized oracle services that allow smart contracts on the Aave platform to securely and reliably access real-world data such as asset prices, interest rates, and more.

With Chainlink integration, Aave can automatically determine the value of the collateral in real-time and adjust the loan-to-value (LTV) ratio accordingly. This means that if the value of the collateral drops below a certain threshold, the loan can be automatically liquidated to prevent losses for the lender.

This type of automation and real-time data access is only possible with a decentralized system like Aave and Chainlink. In a centralized system, there is a risk of data manipulation or centralized control over the value of assets, which can lead to inaccurate LTV ratios and potential losses for both borrowers and lenders.

In summary, the utility of Aave and Chainlink automation lies in their ability to provide a decentralized, trustless, and secure platform for lending and borrowing, with real-time access to accurate market data. This allows for more efficient and effective risk management, which can result in greater financial stability and opportunity for users.