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Emergency alerting system

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Summary:

In order to better prepare for handling unforeseen events related to the dYdX Chain, the dYdX Ops subDAO suggests implementing an alerting system utilizing cryptographically signed emails, sent to a high-voting-power subset of the active validators.

We envision that, at least initially, the alerts will aim at drawing the validators' operators attention to the emergency-related discussion on Slack channels.

This request for feedback puts forward for discussion the initial set of parameters and tooling for achieving this alerting system.

Introduction:

Inspired by Axelar's Messaging Scheme we found the necessity of building and open-sourcing a tool that could notify a subset of Validators via PGP-signed emails (a.k.a. the Signotifier - details below).

The dYdX Ops subDAO has been relentless in its efforts to clarify the importance of the dYdX v4 Software Terms of Use to anyone who operates the software. This initiative is aligned with those efforts. The alerting system is unable to send alerts to validators who have yet to explicitly accept the Terms of Use. Therefore, we cannot add validators to the list of alert recipients in a permissionless manner.

Specification:

Validator Application Process:

We intend to adopt the procedure currently used for registering with Slack Connect and create a unified Google Form. This form will enable dYdX Chain Validators to:

1. (Mandatory) Accept the dYdX v4 Terms of Use, providing the Entity Name, Location of Entity, and the Name of the individual confirming acceptance.
2. (Optional) Provide up to three emails to be invited to the Discussion and Updates Slack Connect channels.
3. (Optional) Specify an email to receive emergency alerts from Signotifier.

Tooling:

Signotifier is an innovative AWS Lambda function designed to sign and send encrypted messages via email, ensuring critical alerts are securely communicated.

We invite the community to engage with Signotifier, explore its functionalities, and consider its application beyond validator notifications. Your insights and suggestions are invaluable as we strive to enhance communication and security within the dYdX ecosystem. Feedback on implementing numbers, potential additional uses for the tool, and general thoughts are highly appreciated.

Specifications:

- Signatures are based on RSA 4096.
- Invocation is done via a JSON API.
- Signed messages are broadcast via email.
- Deployment is done via Terraform.
- For higher accessibility, verification instructions are automatically attached to each message.

Next Steps:

1. Collect feedback from the dYdX Community on the approach and tooling - until Apr 6, 2024
2. Publish the form for collecting emails designated for alert notifications - on Apr 8, 2024
3. Fine-tune the setup with test alerts - from Apr 15, 2024

toApr 19, 2024

1. Move to live mode (and hopefully never need to use the alerting system) - Apr 22, 2024

Resources:

- GitHub Repository: Signotifier on GitHub
- Detailed Setup and Usage Instructions: AWS Setup Guide, Lambda Invocation