

This topic is an attempt to canonicalize a collective list of outstanding ART topic proposals, as discussed internally at Anoma Hacker House Q2 2024.

Notes on definitions:

- By “publish”, I mean “publish on Zenodo & art.anoma.net”

ART proposals

Already in progress

Controllers

led by [@isheff](#)

Status:

- Awaiting external peer review
- Can be published whenever we want

Resource Machine v2

led by [@vveiln](#)

Status:

- Finalize internal peer review then publish

Anoma Network Architecture led by [@tg-x](#)

Status:

- Still WIP

Anoma P2P Trust Architecture led by [@nzarin](#)

Status:

- Still WIP

Dependencies:

- Mathematical Foundations of P2P Trust Architecture

Heterogeneous Protocols in Typhon led by [@graphomath](#)

Status:

- Awaiting external notification, then can be published

HPaxos 2: The Specs led by [@karbyshev](#)

Status:

- Needs internal peer review

HPaxos 2: The Implementation led by [@karbyshev](#)

Status:

- Needs internal peer review

Dependencies:

- HPaxos 2: The Specs

Slow Game led by [@degregat](#)

Status:

- Needs internal peer review, then publish

Proposals previously discussed

Anoma Level led by [@mariari](#)

Anoma Execution Engine led by [@isheff](#)

Anoma State Architecture led by [@isheff](#)

Dependencies:

- Controllers
- RMv2

Proof-of-stake + governance led by [@cwgoes](#)

Decisions:

- For now, fold this into the RM Applications ART

Kudos led by [@jonathan](#) [@degreat](#)

Decisions:

- For now, fold this into the RM Applications ART

Compositional Identity in Anoma led by [@graphomath](#) [@AHart](#)

Proposals not previously discussed

GEB Language Definition led by [@terence](#)

Dependencies:

- Idris code

Notes:

- Is this a new version of the ART that we already have?

Private solving 2 (name TBD) led by [@burcuuy](#)

Intra-domain protocols in the Anoma Network Architecture led by [@tg-x](#)

Dependencies:

- Anoma Network Architecture

Inter-domain protocols in the Anoma Network Architecture led by [@tg-x](#)

Dependencies:

- Anoma Network Architecture

What is a solver? led by [@apriori](#) [@AHart](#)

Theory of MEV led by [@degreat](#) [@nikete](#) [@cwgoes](#) [@graphomath](#)

Mempool Design for Distributed Frequent Batch Auctions led by [@graphomath](#) [@apriori](#) [@degreat](#)

Full First Order Logic Arithmetization in a zkVM led by [@AHart](#) [@Jamie](#)

Mathematical Foundations of Anoma's P2P Trust Architecture led by [@Jamie](#) [@nzarin](#) [@degreat](#)

Heterogeneous Perigee led by [@nzarin](#) [@Jamie](#)

Dependencies:

- P2P Architecture incl. Mathematical Foundations

Mathematical Foundations of Learner Graphs led by [@isheff](#) [@Jamie](#)

A lattice-based zkVM led by [@alberto](#)

Isogeny path problem for supersingular elliptic curves + apps led by [@alberto](#)

Formal modeling of engines in Anoma led by [@graphomath](#) [@AHart](#) [@jonathan](#)

Resource Machine v3 led by [@vveiln](#) [@cwgoes](#)

Dependencies:

- RMv2

Resource Machine Applications led by [@jonathan](#) [@Michael](#) [@degreat](#)

Dependencies:

- RMv2

Soft dependencies:

- anoma node + juvix anoma stdlib

Scope & Goals of the Anoma Protocol led by [@cwgoes](#) [@isheff](#) [@Jamie](#)

Taiga: A Concrete Instantiation of the ARM led by [@vveiln](#) [@xuyang](#) [@camofu](#)

Juvix Compiler Pipeline v2 led by [@jonathan](#) [@jan](#) [@Lukasz](#) [@paulcadman](#)

Next steps