The Baseline
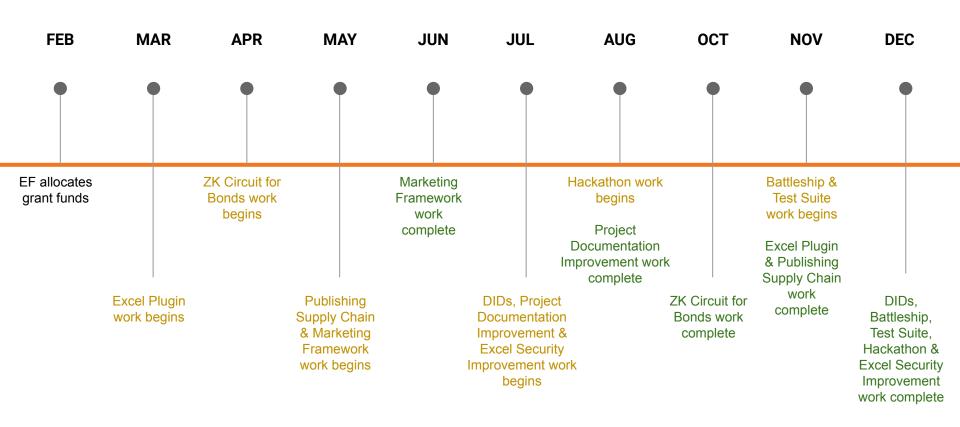# Protocol

2021 Grants Retrospective

baseline

Context

The purpose of this document is to highlight the outcomes from the Ethereum Foundation's $100,000 grant donation to the Baseline Protocol.

This includes a timeline, high level results, and detailed information on each grant project (including links to code, deliverables, and demos).

2021 Baseline Grant Timeline

FEB	MAR	APR	MAY	JUN	JUL	AUG	OCT	NOV	DEC

EF allocates grant funds

ZK Circuit for Bonds work begins

Marketing Framework work complete

Hackathon work begins

Project Documentation Improvement work complete

Battleship & Test Suite work begins

Excel Plugin & Publishing Supply Chain work complete

Excel Plugin work begins

Publishing Supply Chain & Marketing Framework work begins

DIDs, Project Documentation Improvement & Excel Security Improvement work begins

ZK Circuit for Bonds work complete

DIDs, Battleship, Test Suite, Hackathon & Excel Security Improvement work complete

High Level Results

Grant Funding **$100k | $100k | $7.2k** Allocated | Spent | Admin Fees	Sources of Funding **EF**	Complete Projects **10**	Grant Recipients **32**
Project Stats ● Avg time- 4.2 months ● Longest time - 8 months ● Shortest time - 2 months ● 40% of allocation went to 1 project (DIDs work)		**Community Impact** ● Various deliverables including code commitments, research & documentation ● Development of additions and enhancements to Baseline Protocol ● Greatly increased interest and activity of Baseline Community	

DIDs Work (Integrating Sidetree DID to BRI-1 & Update Element to v1.0 of the Sidetree Protocol)

Participants: Spruce Systems & Transmute Industries

Funds: $40,000 total ($20,000 to each company)

Timeline: July 2021 - December 2021

Description: In order to facilitate easier adoption of DIDs in the Baseline Protocol, grant recipients developed an integration of an Ethereum based Sidetree DID method in Baseline Reference Implementation 1 (BRI-1)

Links:
- Grant RFP

Deliverable(s):
- Spruce Systems Update Tracker
- Transmute Industries Update Tracker
- Demo @ End of Year General Assembly

Impact: Ensures secure and verifiable of identities in a privacy preserving manner but also of BPI state objects including zero-knowledge proofs and documents, and doing so at scale leveraging Ethereum as its trust anchor.

Remaining Steps:
- Remaining Bug and Hotfixes

EthAtl Baseline Hackathon

Participants: 14 hackathon participants

Funds: $11,000

Timeline: August 2021 - December 2021

Description: Grant recipients put the baseline protocol to practical work in a quick and straightforward way

Links:
- Grant Proposal

Deliverable(s):
- GH Links to each project - Battleline Front End, Token Flex, Entropy Beacon, Sig Verify, Donor Baseline
- Demo @ 10/6/21 Baseline Show

Impact: Added over 30 new active developers to the baseline contributor community, which led to continued growth in active developers through the end of 2021. This includes more than one minority-owned development team.

ZK Circuits for Bonds

Participants: Boris Breslav, Amal Amchtal & Luiz Soares

Funds: $9,600

Timeline: April 2021 - October 2021

Description: Grant recipients developed a method for using Baseline to verify validity of corporate bonds from multiple counterparties, keep the accepted quote confidential, and enforce appropriate corporate business constraints/rules via ZKP Circuit using gnark

Links:
- Grant Proposal

Deliverable(s):
- Code Pull Request
- Demo @ End of Year General Assembly

Impact: One of the most essential parts of baselining is providing libraries of zk circuits that enable practical uses. The bond circuit library is a great foundation for building upon.

Baseline Battleship

Participants: 5 Baseline Core Devs - Stefan Kostic, Manik Jain, Jackson Proudfoot, Daven Jones & Ryan Fisch

Funds: $9,500

Timeline: November 2021 - December 2021

Description: Grant recipients developed Battleship Baseline

Links:
- Grant Proposal

Deliverable(s):
- Code Pull Request
- Demo @ End of Year General Assembly

Impact: The Battleship example promises to be the "hello world" of baselining. A way for developers to experience how and why baselining works in a simple model that can be extended and applied to real-world scenarios.

Test Suite For A Standard-Based Baseline Protocol Implementation

Participants: 4 Baseline Core Devs - Ognjen Kurtic, Balint Sallay, Dewi Tim Davies & Keith Salzman

Funds: $6,400

Timeline: November 2021 - December 2021

Description: Grant recipients developed a monolithic, dependency-free Baseline Protocol Implementation based on the standards documents, using a TDD approach

Links:
- Grant Proposal
- BLIP-6 Tracking

Deliverable(s):
- Demo @ End of Year General Assembly
- Code Pull Request

Impact: The baseline standard cannot ultimately be ratified until it can be shown demonstrably that a set of practitioners can read the specification, implement it, and demonstrate that the implementation followed the spec. The test suite project accomplished two things in one: a) showing that a team can read and implement the standard; b) providing the first test harness for proving an implementation is compliant.

Project Documentation - Improvement

Participants: Anais Ofranc, Consianimis

Funds: $6,000

Timeline: July 2021 - August 2021

Description: Grant recipients improved the Baseline Protocol project documentation and kick started the project roadmap

Links:
- Grant Proposal
- Update Tracker

Deliverable(s):
- Deliverable 1: Content for https://docs.baseline-protocol.org (30%)
- Deliverable 2: V.1 Roadmap Development kick-start (70%)

Impact: The v1.0 standard and reference implementation could not have been published without extensive improvements to the documentation, which this project accomplished.

Security Improvements for Excel

Participants: Biswashree Dey

Funds: $7,500

Timeline: July 2021 - December 2021

Description: Grant recipient developed security improvements for the Excel integration

Links:
- [Grant Proposal](#)

Deliverable(s):
- [Code Pull Request](#)
- [BRI-1 Code Folder](#)

Impact: The work completed necessary security improvements for the Excel Plugin work completed, which further strengthens the relationship between Baseline and Microsoft products

Baseline Excel Plugin (BRI-1)

Participants: Biswashree Dey

Funds: $2,500

Timeline: March 2021 - November 2021

Description: Grant recipient developed Excel plugin

Links:
- Grant Proposal

Deliverable(s):
- BRI-1 Code Folder
- Demo @ End of Year General Assembly

Impact: The work tied Baseline to the Microsoft brand and developer network, and is accompanied with several blog posts and upcoming announcements

Baseline Marketing Framework

Participants: Tom Lyons

Funds: $5,000

Timeline: May 2021 - June 2021

Description: Grant recipient created a leadership framework and 12-month content plan based on input from the project, through interviews with stakeholders and assessing existing resources.

Links:
- Grant Proposal

Deliverable(s):
- Baseline Content Framework Proposal and Briefings
- Demo @ End of Year General Assembly

Impact: The work serves as a guideline for developing communications, marketing, thought leadership and related types of non-technical content.

Publishing Supply Chain

Participants: Michael Cairns

Funds: $2,500

Timeline: May 2021 - November 2021

Description: Grant recipient interviewed professionals in the supply chain space and captured findings.

Links:
- [Grant Proposal](#)

Deliverable(s):
- [Publishing Supply Chain, Phase 1 Work](#)
- [Demo @ November General Assembly](#)

Impact: The Phase 1 work of this initiative provided insights from the supply chain space.

Retrospective: Insights Gained

What worked
- Project management methods (sprints)
- Live pair programming sessions
- Weekly or bi-weekly reporting of project status (ideally on BL show)
- Tying grant work to Baseline Improvement Proposals (BLIPs)
- Excel tracking document shared between required parties

What didn't work
- Using GitHub for project tracking (was hard to tell the status/progress)

What can go better
- Increasing speed of TSC votes (for proposals and work completion)

Future projects
- Quantitative and qualitative research for growth of multi-party verified workflows for industries
- BLIPs

Thank you!