

Results of the first ENS Workshop

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The first community-driven ENS Workshop was held in London, on August 11–13 2017. Attending were 27 people, representing individuals and organisations from throughout the Ethereum community that had involvement with or interest in ENS.

Over three days, the group discussed a number of important issues for the future of ENS, and came to consensus on several decisions essential to planning ENS's future development.

The entire workshop was recorded and broadcast live on YouTube; you can view the recordings [here](#).

State of the ENS

The workshop started with a report on the state of the ENS after the end of the soft launch. You can watch [here](#); the slides from the presentation can be found [here](#). A short summary:

180,822 names were registered between the start of the soft launch and the end of July. Name registration rates were relatively constant throughout and even after the soft launch, which ended June 29th, until a sharp drop on the 15th of July. Were .eth a global TLD, it would [rank 21st](#) amongst new TLDs.

In the same period, $\text{Ξ}168,595$ ether was deposited in winning bids. Since the end of the soft launch, ether deposited has dropped sharply, corresponding to a marked decrease in contention for names.

Throughout the period concerned, 35% of auctions with known names had more than one bid, while only 7.2% of unknown names had more than one bid. While the latter rate stayed more or less constant throughout the soft launch period, contention rates for known names dropped gradually throughout the launch period, reflecting a cooling off of peoples' tendency to 'pile in' on popular names.

The median price of an auction with more than one bid throughout the period was $\text{Ξ}0.05$ for a known name, and $\text{Ξ}0.02$ for an unknown name. These values varied significantly over the launch period, but both have dropped sharply since the end of the soft launch, sitting at a near constant $\text{Ξ}0.01$ (the minimum bid), since.

Throughout the period concerned, $\text{Ξ}8,553$ was lost due to failures to reveal bids. After some sharp spikes initially, this settled down to a low rate, averaging only 0.3% of the total funds bid by the end of the period.

8,556 unique accounts own at least one name. Of those, the 123 accounts (1.4%) with the most names held account for 50% of registered names; those 123 accounts paid $\text{Ξ}34,077$ (20% of the total) to register those names.

Name ownership follows a power curve, with the vast majority of accounts (over 5000 of the 8,556) owning 10 or fewer names, and a long tail of accounts owning larger numbers of names. The largest 'name whale' owns 17,507 ENS names.

Client adoption during the soft launch period was good; while Metamask, Etherscan and MyEtherWallet were the only services supporting ENS on mainnet on launch day, those have since been joined by Leth, imToken, Mist, Bittrex and Swarm, with Status, Kraken, Shapeshift, and District0x expected to add support soon.

Workshop results

Discussion amongst attendees was productive, with a number of useful conclusions being reached about the future directions and goals of ENS.

Dispute Resolution

A large part of day 1 was concerned with discussion about dispute resolution and abuse. Broad agreement was reached that the best approach for ENS is to initially develop a dispute resolution and abuse management system as a 'second layer', allowing clients and users to subscribe to one of potentially multiple registries that implement blacklists or 'darklists' for

abusive domains. Experience operating these resolution mechanisms can then be utilised to build an integrated solution, if desired.

Permanent Registrar Design

Design considerations for the permanent registrar were a persistent topic of discussion over days 2 and 3. Most present agreed that a system that required payment of fees for auctions and renewals was the best solution for ongoing operation, rather than the current deposit-based system.

The use to which any collected fees should be put was the subject of some disagreement, with proposals to continue to burn them and proposals that they should fund an organisation dedicated to the furtherance of ENS technical and governance development being put forward.

Vlad Zamfir proposed a novel mechanism for setting renewal rates and auction minimum bids by building a feedback mechanism into the registrar that adjusts those prices in response to name deregistration rates, attempting to maintain a fixed rate of deregistration. The target deregistration rate can then be adjusted in order to determine a good equilibrium price that is robust against changes in the value of Ether.

Despite the substantial drop in auction contention rates since the end of the soft launch, most present agreed that the auction mechanism should remain in place, but that means by which auctions — particularly uncontested ones — can be simplified for users should be investigated. A proposal to refactor the auction mechanism into a separate contract that can be reused by other projects was also well received.

Securing subdomains

The topic of providing secure and trustless subdomain registration attracted much discussion, with several present wishing to offer this. At present, it is difficult to offer guarantees of noninterference to users, due to the need to handle migration to a permanent registrar, and renewals, the mechanisms for which are not yet decided.

Various proposals were considered for constraints that could be placed on the eventual permanent registrar in order to facilitate trustless operation of subdomain registrars today, but none met with widespread approval.

Instead, an alternative solution was proposed, and forms the basis of a recommendation from workshop attendees. Dan Finlay has [an excellent writeup on this](#); in short, we recommend that those wishing to offer trustless subdomain registration lock up control of their deed in a contract that will only relinquish it when the current registrar is replaced. Once a replacement is announced, users can develop a migration mechanism for their current subregistrar, and transfer ownership of the deed to that mechanism in advance, providing users with ample notice to assess the process and determine how it will affect their names in advance of the migration process.

I have developed a first version of a lock-up contract for deeds [here](#).

DNS integration

Integration of ENS with the legacy DNS system was also discussed, starting with [a talk by Mark Jeftovic](#) on the impact ENS can have on legacy DNS infrastructure. Attendees supported the formation of a subgroup to determine how best to build an interface between the two systems, with goals of offering ENS native resources over DNS, as well as hosting authoritative DNS records on ENS, which can provide security equivalent to DNSSEC, but without trusted third-parties.

Attendees were supportive of the suggestion that ENS should actively pursue integration with legacy TLD registries, making it possible to add these TLDs under ENS and make them resolvable inside Ethereum-based systems.

ENS Applications

Piper Merriam gave [a talk](#) on [ethpm](#), an Ethereum package management system, and how it utilises ENS to achieve its goals. At the end of the workshop, attendees [shared their goals](#) for future projects built on top of ENS.

Jim McDonald [gave a talk](#) on securing ENS names using a second-layer solution.

Implementation Considerations for Clients

Also discussed was the issue of implementation considerations for client software that uses ENS. Client implementers were reminded that UTS46 normalisation and verification of names are required for correct resolution (as documented [here](#)). Homoglyph attacks, and ways to alert users to them were discussed at some length; client implementers are recommended to read and implement [UTS39](#) and [UTR36](#).