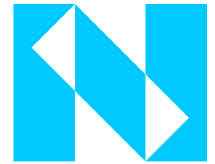


NUM Token

VERSION: RC10
DATE: NOV 16 2021



P1 OF 12

VERSION	DATE	DESCRIPTION
RC 1.0	NOV 16, 2021	Minor update in the metrics. Move the remaining private sale and marketing token allocations to public sale for Gate IEO.
BETA	OCT 13, 2021	

Overview — NUM is the native protocol token of NUMbers Protocol. It is primarily a utility token designed to incentivize users to create, archive and verify content with good integrity. The vision of Numbers Protocol is to create an ecosystem where photos (encompassing both images and videos) matter by leveraging proofs, integrity records and data provenance to increase the credibility and legitimacy of registered photos in the network.

Participants, such as verifiers and other network operators can get rewards by providing services to increase the credibility and legitimacy of registered photos. NUM tokens can also be used to pay for services running in the decentralized photo network.

The decentralized photo network — The decentralized photo network is built with Web3.0 storage and ledger technologies. In this network, every photo is one-of-a-kind as it has its own Web3.0 identity and can only be registered once. Registered photos in the network have associated integrity records capturing context, ownership and creator signature. Post-creation records, including any modification and change in ownership, will be appended to existing integrity records ensuring content provenance and the traceability and verifiability of all photos in the network.

Creators and photo asset owners participate by paying to register their photos to the network. Registered photos have their raw content archived with Web3.0 storage solutions and accompanying contextual and integrity data is stored to the blockchain. Additional contributions can come from use of network tools such as Capture App, which automatically collects metadata, generates integrity records and creator signatures. Users who chose not to create photos with network tools can digitally sign their photos with a valid Ethereum wallet. Blockchain storage ensures the immutability and transparency of the photo content. It is important to note that Numbers Protocol values users' privacy and data rights.



To that end, we take extra care to ensure that metadata that contains sensitive personal information be stored separately from non-sensitive information. Metadata which does NOT contain sensitive personal information is saved to the blockchain while the sensitive metadata is sent to decentralized storage with proper permission control.

The decentralized photo network is made up of two main parts: network operators and data library, which includes Web3.0 storage and on-chain history. There are various network operator roles. These include storage providers, individuals who contribute to the accessibility and object permanence of registered photos in the network, and verifiers who contribute to the network by performing integrity checks and providing additional context via professional and social trust to ensure the authenticity of photos. There are four key technologies used for creating the data library of the network:

— **IPFS/Filecoin for content and metadata storage.**

The content file and the metadata file are retrieved from here.

— **Integrity blockchain for saving integrity records.**

The full recorded content history is retrieved from here.

— **Non-fungible token for recording ownership.**

If any ownership transfer happens, the history can be retrieved from here.

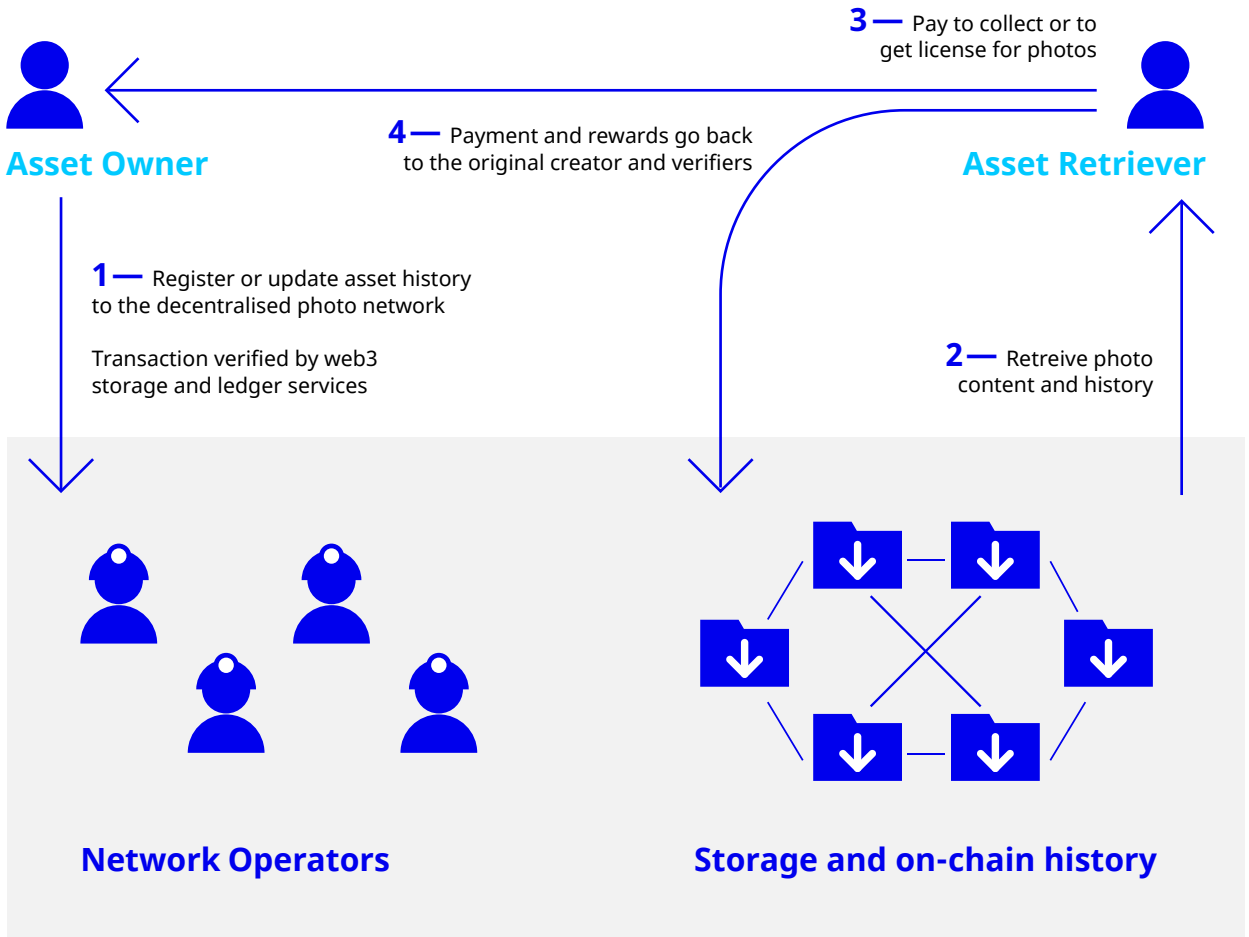
— **Coalition for Content Provenance and Authenticity**

(C2PA) for certifying the source and history of media content.

This is particularly useful when the media file was not created by the network tools but other C2PA-compliant services. In that case, the provenance can be retrieved from the injections.

Asset retrievers can retrieve photo content and its history from the network. Since all photo assets are traceable and verifiable, it is possible to retrieve the full history and different versions of the media files. Since every media file can only be registered once, this helps raise the level of transparency value and credibility of photos. If retrievers decide to pay to collect a unique copy of the photo or to get the license of it, a partial payment will be used to reward network operators and pay for the operation cost of the data library; the rest will go to the owner of the photo asset.

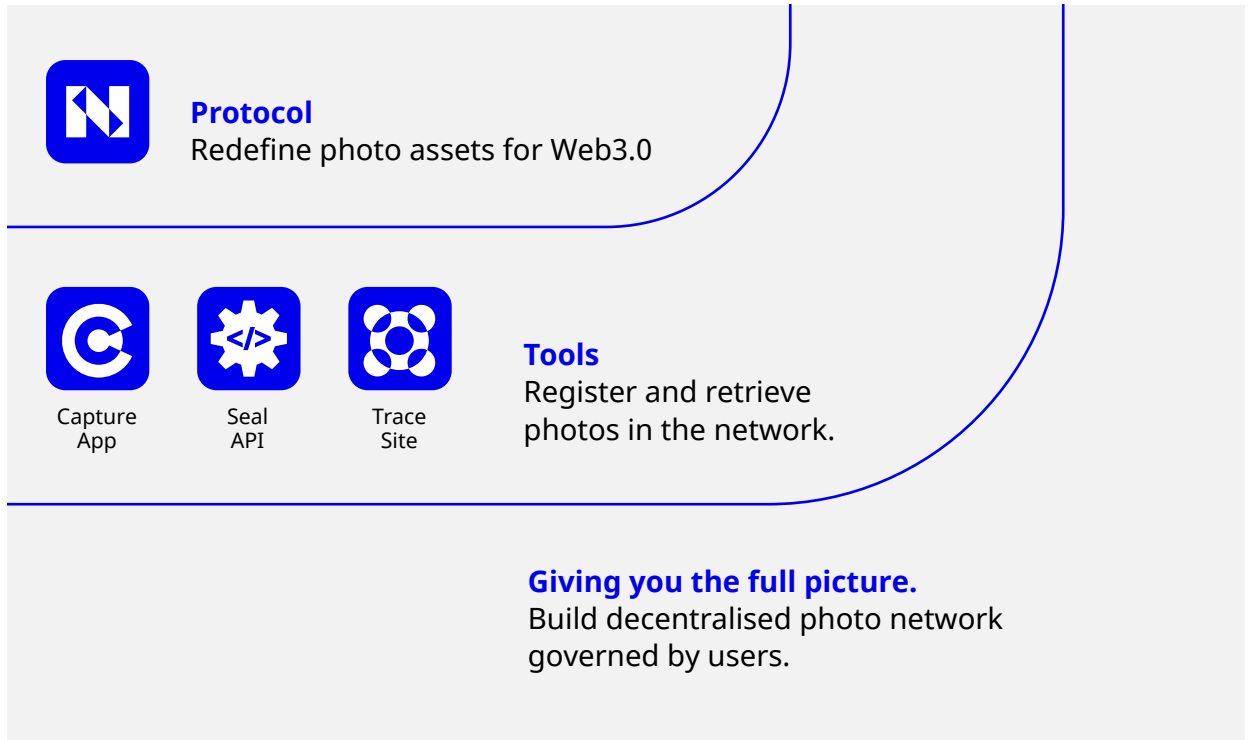
Figure 1. — Register and retrieve a photo file:





Network Tools —

Figure 2. — Protocol and network tools:



Capture, Seal, Trace are the three pillars that enable Numbers to grow stronger. Capture App is the world’s first blockchain camera built for Web3.0, the first NFT camera, and also the first wallet for photo assets. With Capture App, users can establish ownership and context at the moment of creation.


Seal API provides developer tools to help advanced users to use Numbers Protocol easily to create, register and retrieve assets in the network. It has a rich API set with a friendly interface for developers to create ecosystem applications.

Trace is a website for reading photo injection and on-chain history. It provides a basic chronicle view of photos so that readers can easily access the birth information of photos such as who and when it was created. For images and videos with proper creator signatures, Trace Site also helps users claim copyright of photos they create.



NUM Token — NUM token is the native protocol token of NUMbers Protocol. It is primarily a utility token designed to incentivize users to archive/verify content with good integrity. The vision of Numbers Protocol is to create an ecosystem where photos (encompassing both images and videos) matter by leveraging proofs, integrity records and data provenance to increase the credibility and legitimacy of registered photos in the network. NUM tokens, as the native tokens of Numbers Protocol, can be used to pay for services running in the decentralized photo network.

Table 1. — Token specification:

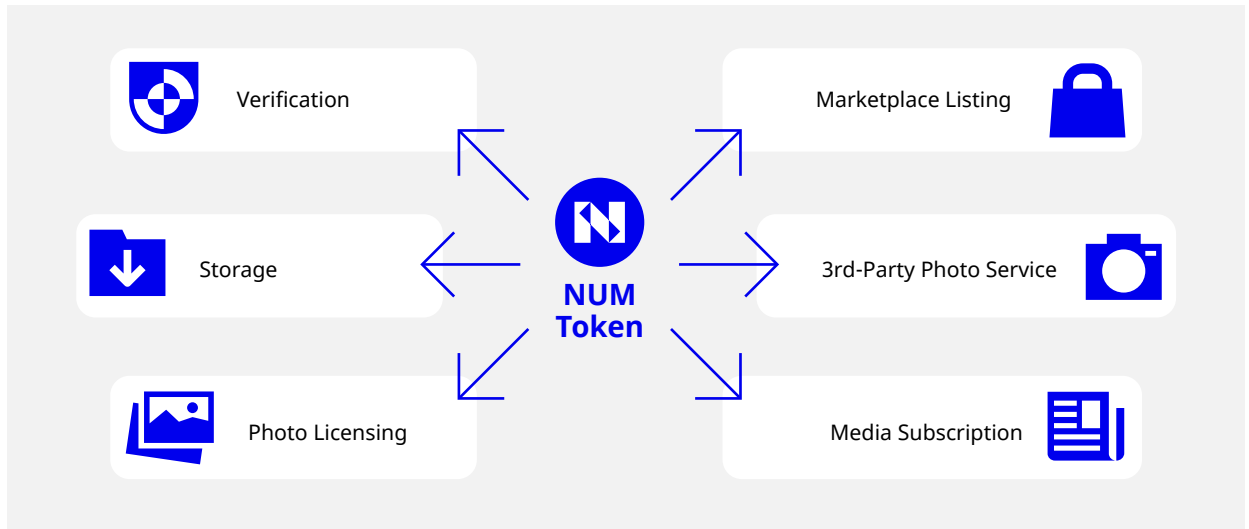
Token Name:	Num Token
Token Ticker	NUM 
Token Type	ERC20 compatible and can be bridged to BEP20
Token Supply	1,000,000,000

Network Apps — Unlike photos uploaded to Instagram or other social media platforms, it is straightforward to find the creator signature, ownership, transfer history and provenance information of a photo registered via Numbers Protocol. This opens a new way for 3rd-party services to provide photo services and help users better use their photo assets, or even monetize these photo assets. These 3rd-party services are called Network Apps which include (but are not limited to) NFT marketplace, Web3.0 storage, social media platforms and stock image/video services. Here are some sample scenarios:

- **Scenario A:** User creates a photo asset using Capture App and pays to mint a NFT for this asset and list it in one of the marketplace listed as Numbers Protocol Network Apps.
- **Scenario B:** User creates a photo asset using Capture App and pays to archive the asset to Filecoin using the Filecoin Network App.

Since photos now become verifiable, News Media can also collaborate with local respondents and leverage verified user-generated content with relatively low costs. All Network Apps can be accessed from the Capture App and paid with NUM tokens for a better user experience.

Figure 3. — NUM token and Network Apps



User Rewards —

Integrity reward — In the decentralized photo network powered by Numbers Protocol, it is important that content should be traceable and verifiable so that users may trust the content and consume it. Although there is no hard limitation on creating content without good integrity, users who create content with good integrity, such as creating content with immutable birth information, or consume content with good integrity will be rewarded with NUM tokens.

Verification reward — Integrity can only assure the traceability of the content, but good integrity still cannot assure that the content is trustworthy. Therefore, the trust of the content is built two ways:

- **Professional Trust:** if a professional who has accumulated good reputations in the related fields backed the content.
- **Social Trust:** if a majority of users agree the content is trustworthy

In such, users who create mostly cited content or users who back the content authenticity are rewarded with NUM tokens.

Staking reward — Interests will be distributed to the participants of the staking programs. Users can also use the staked tokens to participate in the governance of the network. More details of the staking program will be announced in Q4 2021.



Token allocation —
Figure 4. — Token allocation chart

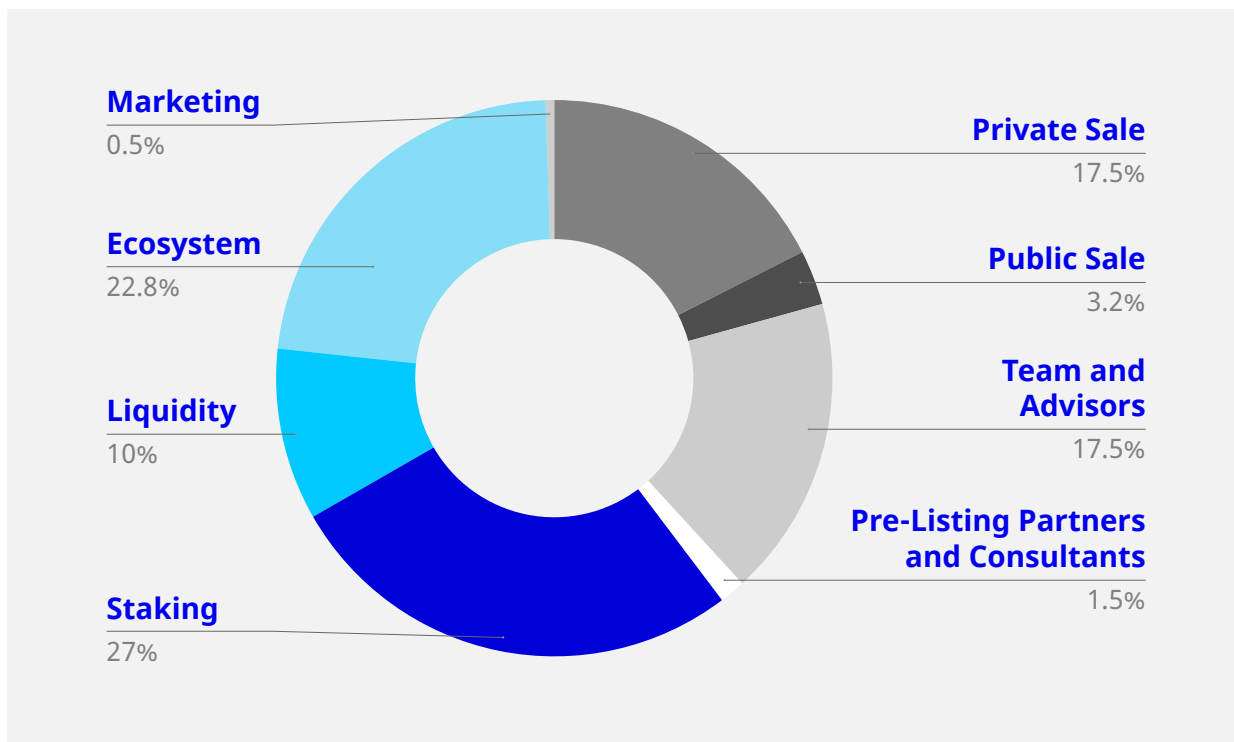


Table 2. — Token allocation:

Lot	Percentage	Tokens	Raise
Private Sale	17.51%	175,125,000	\$5,253,750
Public Sale	3.19%	31,875,000	\$1,275,000
Team and Advisors	17.50%	175,000,000	
Pre-Listing Partners and Consultants	1.50%	15,000,000	\$150,000
User Reward and Staking	27.00%	270,000,000	
Liquidity	10.00%	100,000,000	
Ecosystem	22.80%	228,000,000	
Marketing	0.50%	5,000,000	\$300,000



Integrity reward —

- Investors who invested at the early stage of the project or join the strategic round of the token sale and commit to the long-term contribution of the network as technical, business, marketing partners or the network ambassador.
- Vesting: 10% on TGE, 3-month lock, 4.29% monthly over 21 months

Public Sale —

Note: Details of the public and bootstrap pool will be updated after the events complete.

- Contributors who participate in the community round of the token sale.
- Vesting: 20% on TGE, 3-month lock, then 20% quarterly

Teams & Advisors —

- Team helps build Numbers Protocol, advisors, and developers who participate in building the initial version of the decentralized photo network.
- Tokens are vested with a cliff period.
- Vesting: 1-year cliff after TGE or 3-month cliff after network launch (the shorter), then 2.78% monthly

Pre-Listing Partners & Consultants —

- Pre-listing partners and consultants who participate in the listing process and make sure the listing process of NUM tokens runs smoothly.
- Vesting: 10% on TGE, 6-month lock, 22.5% on month 7, 13, 16, 19

User Reward and Staking —

Benefit network users who participate in the decentralized photo network ecosystem.

The distribution of user rewards starts after network launch.

Vesting: 1% monthly for the first year, 2% monthly starting from the second year until all tokens are distributed.



Liquidity —

- For creating a liquidity pool of AMM and market making for creating a healthy trading environment.
- Vesting: 10% on TGE, 3% monthly for the first year and 5.2% monthly for the second year.

Ecosystem —

- Network operators, tech or business partners and community developers who contribute to the decentralized photo network ecosystem.
- As the network transitions to community governance, distribution of ecosystem rewards will be decided by the network community.
- This fund may also be used for the extreme case. In the case that the network is attacked and not functional, this fund may be depleted based on the governance vote result.
- Vesting: 1.5% on TGE, 2% monthly until all tokens are distributed.

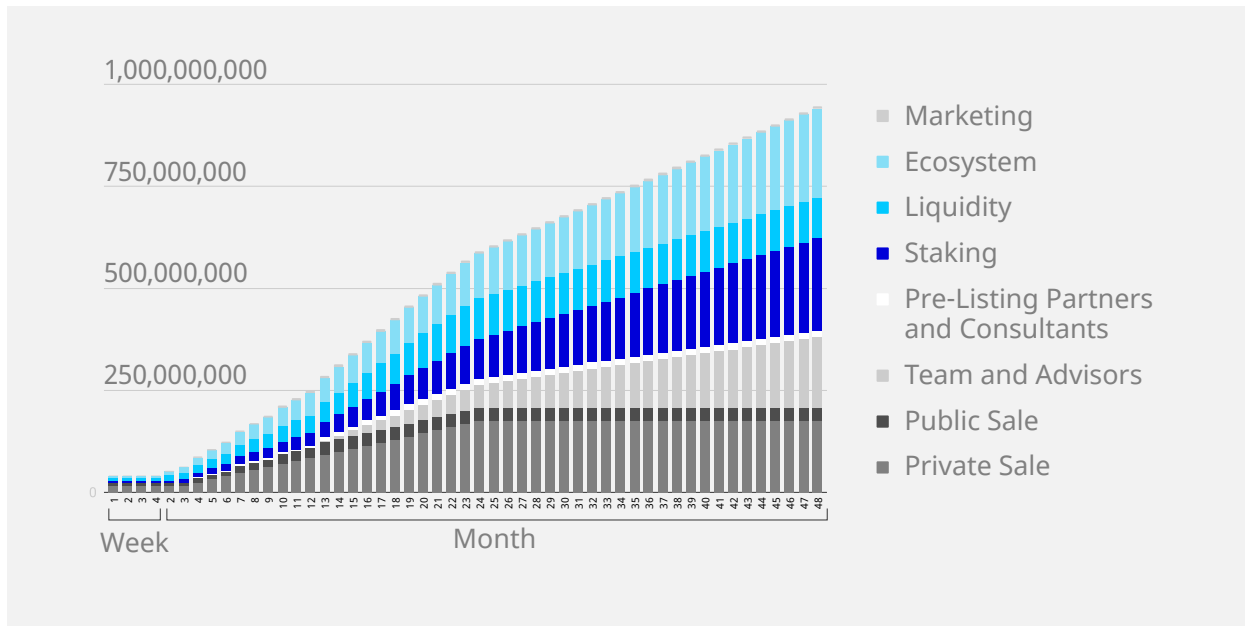
Marketing —

- Marketing tokens to incentive KOLs to participate and broadcast the project to the community
- Vesting: 17.5% on TGE, then 7.5% monthly



Token unlock schedule — This chart was created based on the schedule that Network Launch should happen 6 months after the token generation event (TGE). If the Network Launch happens earlier than 12 months after TGE, the distribution of team tokens and user rewards may happen earlier.

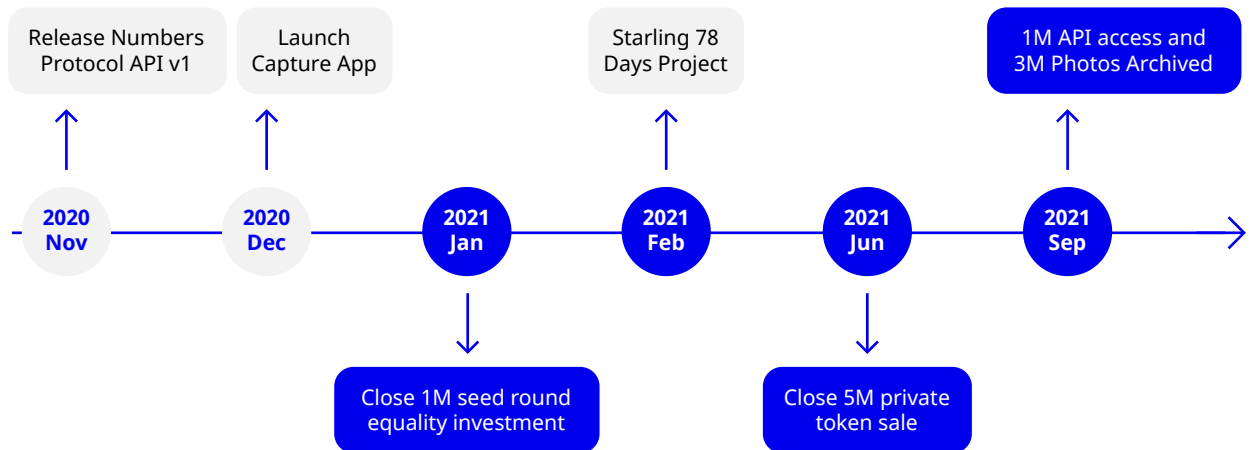
Figure 5. — Token unlock schedule





Milestones —

Figure 6. — Milestones achieved

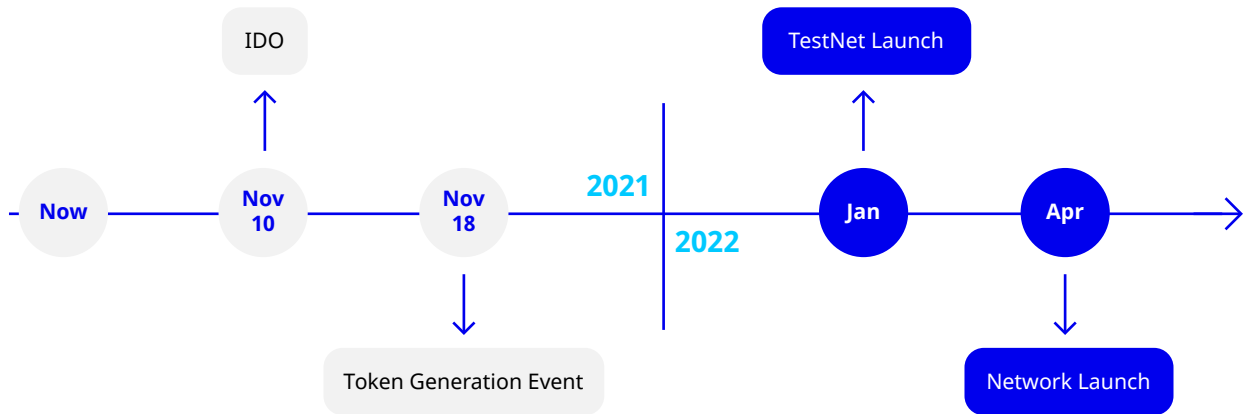


The v1 API was released in November 2020 followed by the launching of Capture App in December 2020. Capture App is the first blockchain camera that preserves the integrity of photos taken by it. This App supports both Android and iOS platforms and is used by users from over 90 countries. Nine months after API was released, it had exceeded 1M API access with more than 3M images and videos archived in the decentralized web. Numbers Protocol was also a key technology partner working with Starling Lab and Reuters for the 78 Days project announced in February 2021.

Besides the achievements in technology and user acquisition, the project fundraising is also impressive. The equity fundraising was closed in January 2021, the investors include but not limited to Phil Chen (General Partner of Race Capital and Chief Decentralized Officer of HTC), Binance, Steve Chen (co-founder of YouTube), Kevin Lin (co-founder and former COO of Twitch) and National Development Fund.



Network Timeline —
Figure 7. — Network timeline



The Community/Public Sale will open in November in which individuals can buy a limited amount of the NUM token with a relatively low price. At this point, only white-listed individuals who complete the KYC process can purchase. After the bootstrapping completes, tokens are listed in the exchange and free to be traded. Once NUM is listed in the exchange, the price of NUM token will be driven by the market demand and the inflation caused by the release of the reward tokens.