



Conduit Network

Rewards System Mining, Network Pools and Distribution

How the Conduit Network Rewards Parties Building Network Infrastructure

Author: Conduit Network
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Overview

The [Conduit Network](#) is a sophisticated reward system designed to incentivize independent [Parties](#) that build and utilize the [Network](#). This system relies heavily on participants, who either convert or purchase hardware to operate [Network Nodes](#), and provide other essential [Network Resources](#), such as software, power backup, telecommunications, and other infrastructure components. Additionally, the network depends on customers who pay to use, purchase, or transfer [Resources](#) within the [Network](#). Consequently, the reward mechanisms are structured to motivate both hardware operators and resource consumers.

The primary objective of the [Conduit Network](#) is to establish a secure, decentralized network that supports both Web2 and Web3, owned and operated by its creators, operators and users. To achieve this, the [Conduit Network](#) employs several reward mechanisms with mining of [Network Assets](#) being the most lucrative for early adopters of the [Network](#). The mining algorithms are meticulously designed to ensure long-term viability, allowing mining to continue for many decades. As the [Network](#) expands, additional rewards, such as transaction fees and points, will become increasingly significant.

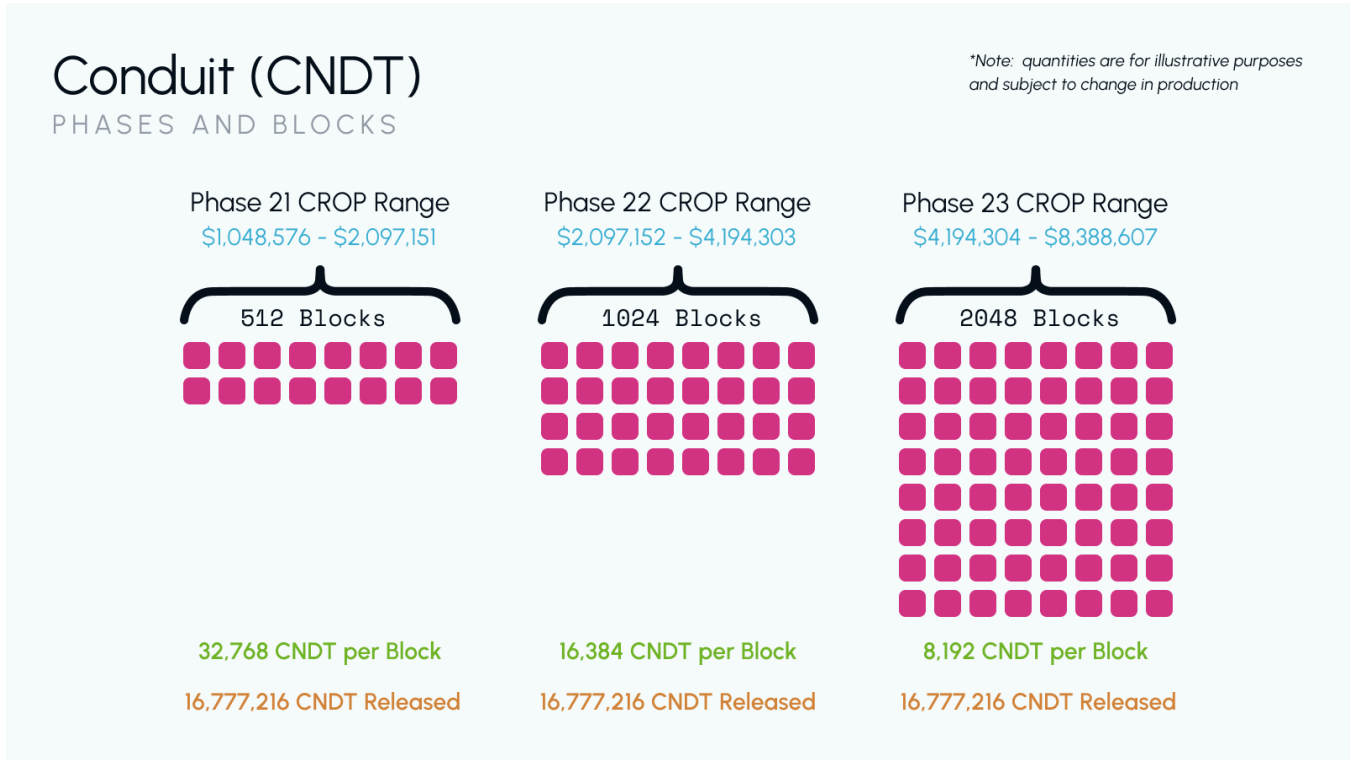
- The [Network's](#) primary token, CNDT, is used for settling all transactions within the [Network](#). Transactions, defined as any activity involving the payment for the use, sale, or transfer of a resource on the network, must be conducted using CNDT.
- [CROP](#) stands for [Cost Reduction from \(shared\) OPerations](#) representing efficiency increase in economic terms. [CROP](#) has two primary functions: it is a measuring tool and fund source. As a measuring tool it is an indicator of economic growth of a network as it is attached to every economic transaction in the network. As a fund source [CROP](#) creates a pool of resources to be used according to the Conduit Network Distribution Pools that incentivize shared operational efficiency in the network.

CNDT

As opposed to Bitcoin's Proof-of-work, or other traditional blockchain consensus mechanisms, [CNDT](#) is mined using a different approach. Although it also still has a limited supply, [CNDT](#) employs an energy-efficient method called Proof of Economic Activity (PoEA). This method measures the amount of [CROP](#) a party contributes to the [Network](#). Unlike Bitcoin mining, where all miners compete to win the next block, [CNDT](#) mining involves no competition. Instead, blocks are mined individually by each party without a [Network](#)-wide reset after a block is mined. This approach eliminates the need for competing to win the next block, focusing instead on completing the mining phase before the next halving occurs. During halving, the required [CROP](#) to mine the same number of [CNDT](#) doubles.

This system functions without a single common chain; instead, each party maintains its own Distributed Ledger Technology (DLT) interconnected through counterparties' DLTs in all transactions. These DLTs can be distributed across as many [Core Security Nodes](#) as a party desires and can migrate between nodes based on usage. The [Network](#) itself acts as a party with its own DLT, which must validate that a party has mined a block. Upon validation, the [Network](#) mines the appropriate amount of [CNDT](#) based on the current mining phase and block number.

[CNDT](#) is mined when a party's purchase of [CROP](#) reaches the threshold required to mine the next block. This decentralized and individualized mining process ensures a fair and efficient system for all participants.



Bitcoin to CNDT Comparison

Both the [Bitcoin Network](#) and the [CNDT](#) use the principle of mining, but many of their similarities stop here.

Area	Bitcoin Mining	CNDT Mining
Chain	One common replicated chain	A graph network of replicated DLTs
Mining algorithm	Proof of Work	Proof of Economic Activity
Mining algorithm's goal	Mining is based on the first mine to reach a mathematical goal of a hash that fits a pattern	Mining based on the next time a Party reaches an economic goal of having purchased a certain amount of rewards for all Network Participants
Race between	All mines (only one wins)	Each Party mines on its own
Block verified	After majority of nodes verify	After registry nodes issue CNDT
Speed to confirm block	Approximately 10 minutes	Approximately 1 second
Max block size	1 Megabyte	N/A

Energy need per token	At least 143,000 kWh	Average of 78 kWh (1,833 times less energy)
Halving Phases	6	60
Time of each phase	~4 years	Takes longer and longer
New phase based on	Block count	Doubling of the economic activity
Tokens at genesis block	50	16,777,216
Blocks per phase	210,000 per phase	1 per phase, then doubles each phase (starting at phase 12)
Distribution of mined tokens	Only one mine owner wins	33.34% goes to mine owner, the rest goes to network pools (see distribution table for detail)
Max tokens	21M Bitcoin	1B Conduit (1,006,632,960)
Time to mine all tokens	2.5 decades	A century or more
Economic activity	Transfer of value using bitcoin	Use, sale or transfer of cloud-based Resources (assets, IP, goods and services)
Use	Transferring value	Running decentralized cloud for web 2 & 3
Max transaction speed	7 per second for network	Theoretically limited only by number of Nodes . 6 per second per Quad Core Security Node (Network speed is based on how many Core Security Node verify a transaction and geo diversity, network speed scales linearly to Core Security Nodes count)
Economics based on	Only one winner	All active contributors win, plus the miner gets a bonus.
Economics incentivize	Centralization of faster mines	Decentralization of all mines into the hands of people
Mine owners	Can be anyone	Only KYC'd individuals or pools of individuals

CNDT Network Pools and Distribution

Unlike Bitcoin where only the owner of the miner that wins the next block benefits from mining, the entire [Conduit Network](#) participates in a set of pools in addition to the block winner. The [Network](#) employs a series of [Network](#)-wide mining pools to collect and distribute the [CNDT](#) that is mined.

This approach ensures that rewards are distributed more equitably while maintaining [Network](#) security and driving growth, promoting a diversified and decentralized [Network](#). In many networks, there exists an 80/20 problem, wherein 20% of the network's coverage produces 80% of [Network](#) revenue or transactions.¹ This imbalance means that some mining server locations are more advantageous than

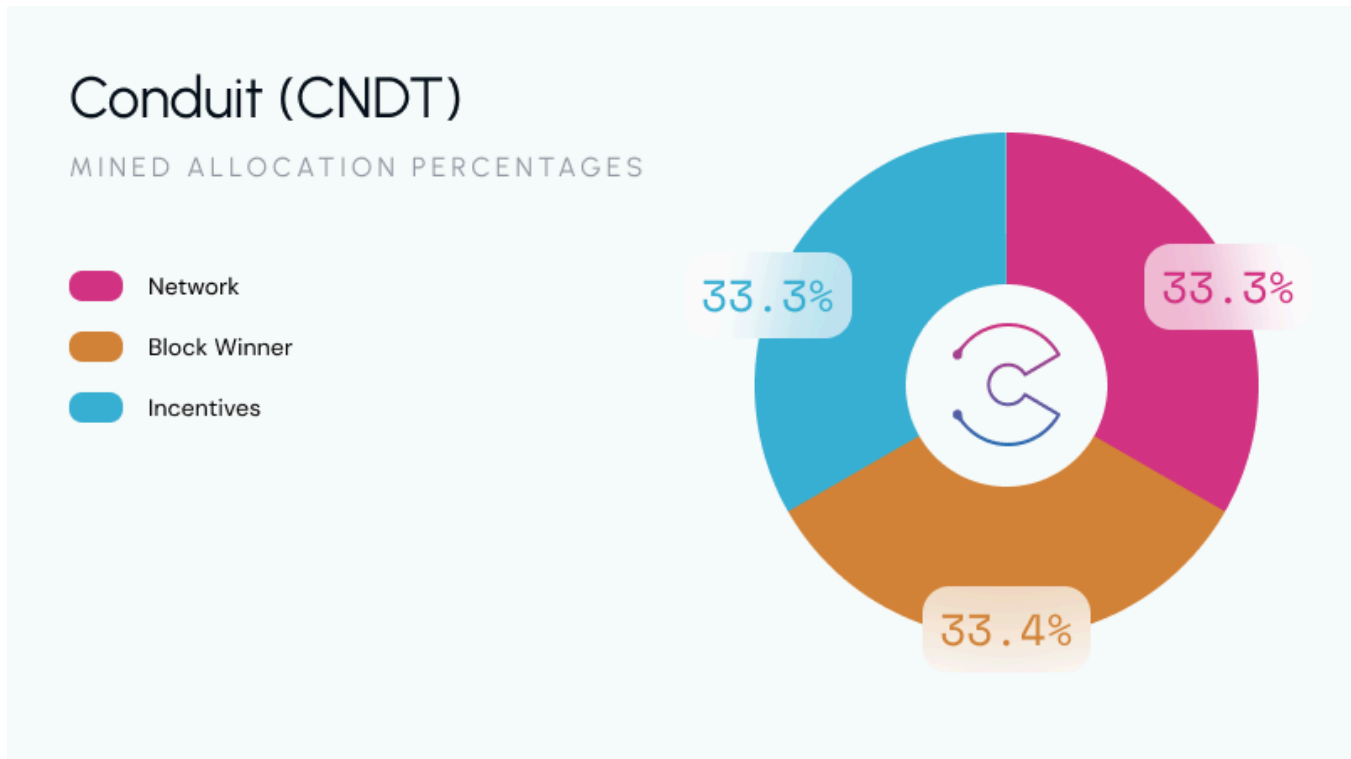
¹ <https://www.investopedia.com/terms/1/80-20-rule.asp>

others. However, the [Network](#) requires high-quality coverage across all regions to meet the needs of a global population.

To support continuous growth and development, the [Network](#) must incentivize [Parties](#) to invest in activities that drive adoption like marketing, ecosystem development, [Conduit Labs](#), and education. Additionally, the [Network](#) supports humanitarian efforts by providing subsidies to help the world's poorest citizens benefit alongside those with more resources.

The [CNDT](#) mining reward pools are designed to create a truly decentralized internet, aligning with the vision of its early creators and adopters. This philosophy is evident in the open-source community, which often grapples with monetization challenges. The [Conduit Network](#) aims to offer a general monetization method for qualifying open-source projects. It is the founder's intent to enable talented individuals in large tech companies to work independently, sharing their skills for the benefit of all humanity rather than just corporate shareholders. Over time, this may enable the acquisition of additional intellectual property from corporations, transforming it into a common good instead of an exclusive corporate asset.

Unlike the Bitcoin network, which incurs significant capital and power costs for miners, the [Conduit Network](#) uses 1,833 times less energy to mine a block. This substantial reduction in energy consumption allows the [Network](#) to provide extensive cloud services while maintaining lower operational costs. Consequently, the [Network](#) can reward multiple parties when tokens are mined, offering an attractive return on investment for those who purchase hardware and pay for power.



The [Network](#) divides each block into three major pools:

- One-third (1/3) of mining rewards goes to those [Parties](#) that own the [Nodes](#) that mined the block. Like Bitcoin, this is the owner of the block reward winner.
- One-third (1/3) of mining rewards goes to reward the [Parties](#) that help build the [Network](#) by buying or providing [Network](#) connected [Resources](#) and those that operate their [Nodes](#) within a required level of service needed to make the [Network](#) stable.
- One-third (1/3) of all mining rewards go to support the development of the [Network](#) by increasing the number of users and the number of use cases for using [Network Resources](#).

The distribution table below shows how newly mined [CNDT](#) are distributed:

Mining Distribution	Percentage
Block Winner	33.34%
Performance Incentive	10.00%
ROI Pool	23.33%
Open Source	10.00%
Network	23.33%
Total Mined	100.00%

Block Winner

Thirty-three and three-fourths percent (33.34%) of all [CNDT](#) mined is allocated to the [Party](#) that owns the [Resource](#) which reached the block threshold and won a new block. This reward is immediately distributed to the [Party's Accounting Entity](#) of the [Party](#) that owns the [Resource](#) and is reflected in its [CNDT Mining Account](#) within their [Network](#) wallet. This incentive structure is designed to reward those who make the most significant economic contribution to the [Network](#).

If a miner ceases to operate a [Node](#) or provide access to a resource, they will stop receiving these rewards, as they will no longer be participating in the mining process.

Service Level Bonding

All [Resources](#) within the [Conduit Network](#) must adhere to specific service level requirements to participate in mining. These requirements are categorized, with higher categories demanding elevated service levels, such as improved uptime and bandwidth, and consequently offering higher fees. [Resources](#), such as [Nodes](#) that have at least 2 months of operating at a higher level of service, are eligible to be upgraded to a higher level of service to receive higher fees. When an operator declares a service level category above the minimum, they must post a [Service Level Bond](#) equivalent to the last month's mining revenue from their resource, calculated based on the average of the previous 12 months. If an operator fails to meet the declared service level requirements, they forfeit their bond and are automatically downgraded to the category corresponding to their actual service performance.

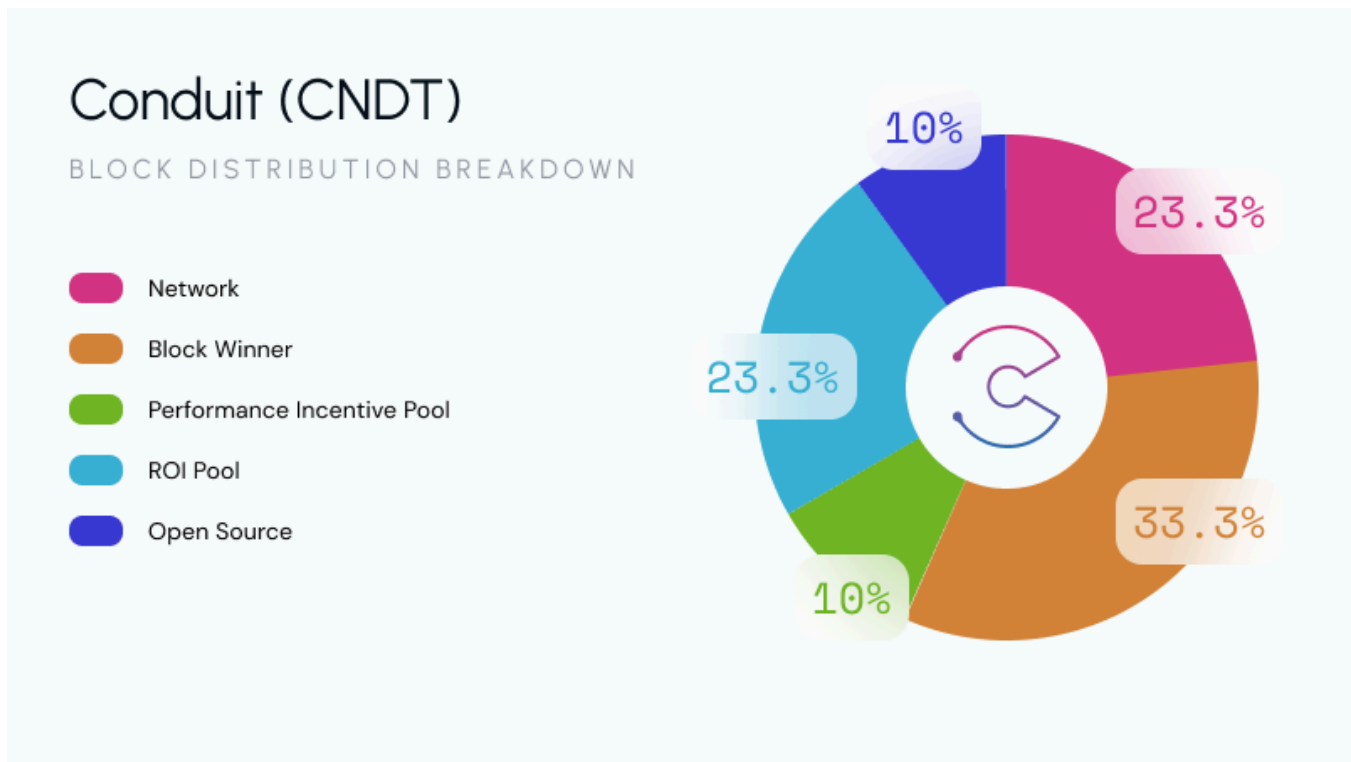
To regain a higher service level category, the operator must maintain the higher level of service for at least two consecutive months and post a new bond. This policy incentivizes operators to underrate their

[Nodes](#) and other resources rather than overrate them if they cannot sustain the higher service level. Conversely, the service level incentives and the substantial fees for operating at higher service levels reward those who consistently provide superior service, creating a balanced and fair system for all [Network](#) participants.

Incentives

There are two types of [CNDT](#) mining incentives in the [Network](#):

- Performance Incentives, and
- ROI Pool Incentives.



[Worker Nodes](#) are equipped with [Smart Meters](#) that measure and monitor various [Resources](#), each with different service capacities. Given that the [Network](#) operates within a dynamic supply and demand market, it is essential that supply aligns with demand at the promised service levels.

It is also crucial for individuals and businesses investing in the network's infrastructure to receive rapid returns on their investments as operators, thereby attracting further infrastructure development. A key lesson from Bitcoin is that a reliable and appealing reward system can drive significant investment into network infrastructure.

To this end, the [Conduit Network](#) employs incentives to promote behaviors that ensure high-quality service and targeted investment. [Performance Incentives](#) reward [Operators](#) for maintaining and

exceeding service levels, while [ROI Pool Incentives](#) provide attractive returns, encouraging ongoing investment and participation in the [Network's](#) growth.

Performance Incentive

[Performance Incentives](#) reward [Operators](#) who ensure their [Nodes](#) meet [Network](#) service levels or strategically place [Nodes](#) in locations where the [Network](#) lacks sufficient capacity. These incentives apply only while the [Node](#) or [Resource](#) is within its [Network](#)-rated useful life. Once a [Node](#) surpasses its useful life it is no longer eligible for [Performance Incentives](#).

These [Performance Incentives](#) are categorized into three categories:

- **Service Levels** – [Node Operators](#) must provide stable power and communications connectivity for [Nodes](#) to operate. This includes proper backup systems and sufficient bandwidth or redundancy. In homes, businesses and data center-based [Nodes](#) need to operate in clusters to provide adequate backup and failover to meet the specification of tier 1-4 data centers or their edge cloud equivalent. Achieving redundancy, such as N+1 redundancy for tier 3 or 2N+1 for tier 4 data centers requires pooling resources across several locations with sufficient power and communication capabilities. Running at higher service levels can be challenging and can reduce the profit until scale and experience is achieved even though users pay more when selecting these higher tiers of service. Therefore, [Service Level Incentives](#) are provided to [Operators](#) which maintain the uptime and communications bandwidth for their self-proclaimed classification of [Node](#) pools operating in a cluster. This is measured via periodic heartbeats and communications bandwidth checks.
- **Location** – The placement of [Nodes](#) significantly impacts user experience and the decentralization of the [Network](#). [Operators](#) receive location incentives when they deploy [Nodes](#) in locations where specific node types and trust levels are needed, or where the [Resource Class](#) metered by the [Node](#) is required. The [Network](#) tracks customer demand to determine where [Nodes](#) and [Resources](#) are needed. [Operators](#) placing [Nodes](#) in these locations continue to qualify for location incentives until the [Node's](#) or [Resource's](#) useful life ends. However, location incentives are awarded only to [Operators](#) who meet their service levels for their declared cloud or data center tier.
- **Node Type, Trust Level and Resource Class** – The [Network](#) supports 2 types of [Nodes](#); [Core Security Node](#) and [Worker Nodes](#). There are 4 [Trust Levels](#) of [Worker Nodes](#); [High Trust](#), [Enhanced Trust](#), [Normal Trust](#) and [Low Trust](#). There are a vast number of possible [Resource Classes](#), ranging from assets to warehouses. The market demand for various types of [Nodes](#) needs to be matched to supply of those [Nodes](#) and the [Resource Classes](#) they monitor.

[Operators](#) that buy and place [Nodes](#) in locations where there is greater demand than the targeted supply for specific [Node Types](#) or [Trust Levels](#) earn incentives until the useful life of the [Node](#) or [Resource](#) has ended. This is also true for [Resource Classes](#) for use, sale or transfer via [Nodes](#) which have insufficient supply in a geographic location.



Performance incentives simultaneously go to [Operators](#) that fill needs in all categories of performance. They do not go simply to [Parties](#) that meet one or two of these categories at the same time. For example, it doesn't help the [Network](#) to have [Nodes](#) that meet the service level requirements but are only concentrated in large centralized data centers, nor having [Nodes](#) in a needed location, but cannot meet the performance requirements due to poor connectivity.

Performance incentives are divided equally among all [Nodes](#) that continue to meet the performance requirements based on their [Active Investment](#) in [Network Resources](#) acquired through a [Network Infrastructure](#) ecosystem via licensed distributors. [Active Investment](#) is based on the amount spent on [Resources](#) that are currently active and operating within their useful life.

ROI Pool

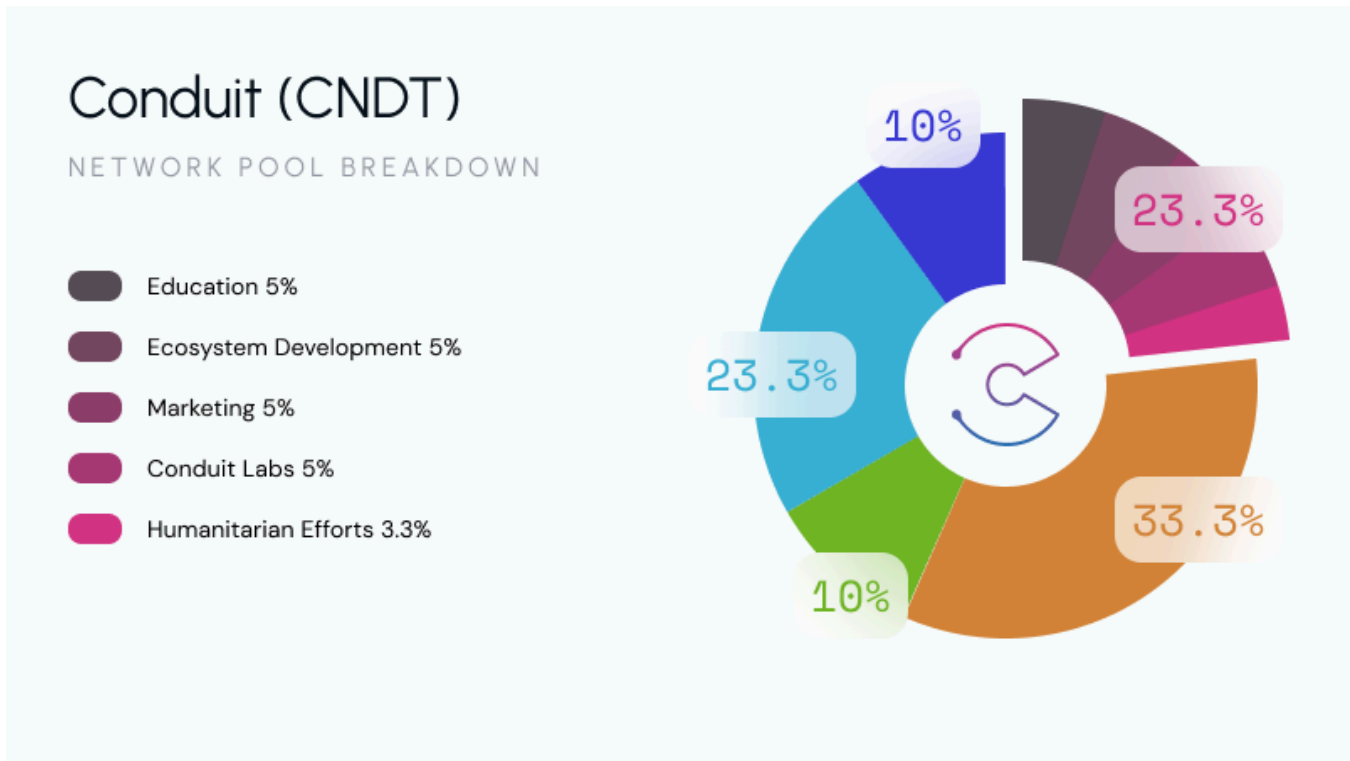
A major focus of the [Network](#) is building out the infrastructure for a new decentralized and secure internet. Therefore, security and privacy are core tenants of the [Network](#), requiring the deployment of new hardware and software at scale. To facilitate rapid returns on investment for [Parties](#) purchasing [Resources](#) from licensed [Parties](#) within the [Network](#) ecosystem, the [Network](#) allocates 23.33% of all [CNDT](#) blocks mined to reward these [Parties](#) who make a capital investment until they have received a 100% return on their investment through the [CNDT](#) distributed by the ROI Pool. This is in addition to any return they receive from operating a [Resource](#) such as [Performance Incentives](#) or being a [Block Winner](#).

By ensuring the swift return of capital invested in network-licensed [Resources](#), the [Network](#) encourages reinvestment. This also attracts other [Parties](#) to participate, seeking the same rapid capital recovery. As the [Network](#) scales, this will foster the creation of mining pools that will own and operate [Resources](#), placing them where they are most needed.

The [Network](#) aims to enable as many [Members](#) of the [Network](#) infrastructure ecosystem as possible to provide [Resources](#) to [Network Participants](#). These [Members](#), who act as Original Equipment Manufacturers (OEMs) for the [Network](#) infrastructure, must create devices that meet or exceed network specifications, pass network audits, and operate a certified supply chain with full provenance for each device.

Network Growth

One-third of all [CNDT](#) mined goes to support [Network](#) growth via subsidizing of open source projects, education and marketing, training and ecosystem development.



Open Source

Ten percent (10%) of all [CNDT](#) mined goes to open-source projects that commit to create and maintain versions of their software designed to work on the [Network](#). A goal of the [Network](#) is to fund as many open-source projects that create new use cases for mining on the [Network](#) as possible. The more projects on the [Network](#), more valuable use cases will exist for [Network Resources](#).

Network

As the [Network](#) grows all [Network](#) participants benefit. The faster it grows the more likely its [CNDT](#) token will become valuable quickly because it will have so many more uses. Therefore, the [Network](#) gives 23.33% of the tokens mined in the [Network Pool](#) to five foundation syndicates (similar to a DAO). The following represents the distribution between these syndicates:

- **Five Percent (5%) to Education** – The education syndicate is responsible for providing teaching and training materials on [Network](#); tools, business models, [Ecosystems](#), [Syndicates](#), etc.
- **Five Percent (5%) to Ecosystem Development** – The [Ecosystem](#) development syndicate provides consulting, [Ecosystem](#) incubation or development assistance to form or scale [Ecosystems](#) on the [Network](#).
- **Five Percent (5%) to Marketing** – The marketing syndicate is responsible for market and events that showcase case studies, help market [Network Resources](#), [Ecosystems](#) and their [Syndicates](#).



- **Five Percent (5%) to Conduit Labs** – Provides incubation services and developer assistance for parties to build [Apps or Service](#), [Trust Bridges](#), [Gateways](#), or [Smart Meters](#) on the [Network](#).
- **Three and one third Percent (3.33%) to Humanitarian Impact** – The marketing syndicate is responsible for supporting humanitarian uses of the [Network](#) and provides grants to non-profit who want to use the [Network](#)

Glossary of Terms

Accounting Entity: Accounting Entities collect all accounting related information for Parties. This includes each Party's Wallet which is stored on their own DLT within multiple Core Security Nodes. Wallets are made up of accounts for a specific, fungible asset;s balance and the correlated transactions – similar to a bank account or investment account.

Block Winner: The party that reached a CROP threshold and mined a block that released CNDT into the distribution pools.

CNDT: The native token of the Conduit Network, used for settling all transactions within the network. Transactions, defined as any activity involving the payment for the use, sale, or transfer of a resource on the network, must be conducted using CNDT.

Conduit Network (Network): Conduit Network is a computer network designed with decentralized opinions and an economic system implemented as a robust rewards program. Conduit Network provides a rich set of semantics and protocols designed to facilitate and foster economic activity in which all parties involved experience mutual benefit. The design of Conduit Network is based on three key tenants:

- Cost Reduction
- Mutual Benefit
- Decentralization

Core Security Node: A computer that meets the High Trust hardware specification and runs the Conduit Secure Core Services.

Ecosystems: A mutual company, trade association or co-operative operated for the mutual benefit of its participants that uses the Conduit Network.

Enhanced Trust (Trust Level): Enhanced Trust Nodes represent a compromise between Standard Trust and High Trust that attempts to find the sweet spot between cost and the friction of use versus the skill or economic cost of breaching security or violating trust. Enhanced Trust Nodes are only available from a list of qualifying hardware device manufacturers from third-parties that have been vetted. Enhanced Trust Nodes can be purchased directly from their suppliers and can be configured to operate within the Network or purchased pre-configured through the Conduit infrastructure Ecosystem.



High Trust (Trust Level): Nodes that are appropriate for use in the most demanding trustless security environments including critical banking, nation state and utilities infrastructure. These Nodes can only be purchased through licensed Syndicates (a Network version of a DAO) within the infrastructure Ecosystem. These Syndicates must demonstrate that they maintain a fully audited supply chain that can provide full provenance for all components. All components that are deemed to pose a quantifiable risk must also come from Members of licensed Syndicates within the infrastructure Ecosystem. All hardware, OS and software for High Trust Nodes are designed by Conduit and only manufactured by licensed Parties who use approved suppliers for components. Software components can only be created and modified by licensed Parties and must be audited by licensed Parties. All hardware for High Trust Nodes that run Secure Core Services must be NIST rated to comply with the FIPS 140-2 (level 3) standards.

The entire supply chain for High Trust Nodes must ensure provenance and auditable history of each component. Any party who wishes to participate in building components for High Trust Nodes must go through a rigorous training process, risk assessment and submit to regular audit processes as well as agreeing to join a Syndicate that places the right to all IP used within a Network trust. Therefore, High Trust Nodes for use in the Network are only available through the Conduit infrastructure Ecosystem and must be purchased through Network websites or Apps.

Low Trust (Trust Level): Nodes that are appropriate only when there is virtually no value to compromising the device or gaining access to information it contains or produces. Shared public information is a good example. Any hardware system can be considered a Low Trust Node. In fact, all non-verified Nodes in the Network are considered Low Trust Nodes until proven differently. This means that any device already owned or in use by anyone can be considered and used as a Low Trust Node. The Conduit infrastructure Ecosystem websites and apps do not offer any pre-configured Low Trust Nodes as their use is not encouraged by the Network. However, every hardware connected to the internet today and every cloud computing environment unless certified to a higher standard are considered Low Trust.

LP Entity: LP Entity is an authorized term given to a Participant that is licensed to conduct business activities and trade in the Conduit Network.

Network Assets: Resources available on the Conduit via a Smart Meter

Nodes: A Node is a compute resource that is connected to and resides on the Conduit Network. Nodes can have different functions, operate in different capacities, and have differing Trust Levels.

Operator(s): The party that owns and is responsible for operating a node on the Conduit Network

Participant: A Participant is any person or legal person taking action on or in the Conduit Network.

Party (Parties): A Party is a Participant or LP Entity



Resources: A Resource is anything in the Network that has economic value.

Smart Meter(s): Smart Meters perform two functions:

- 1) The creation of Predicate Proofs upon a Predicate dictating a significant event
- 2) Provide Billing information for use, sale or transfer of a Resource that Smart Meter monitors or measures to a Security Module to calculate the charge and do the Billing and Settlement.

Standard Trust (Trust Level): Nodes that are appropriate for use where there is low value to someone gaining unauthorized access or for use where there may be economic loss but which would not be significant in either individual cases or the aggregate. Standard Trust Nodes may be able to be considered Enhanced Nodes when they exist in environments that have high physical and connectivity protection. For example, secure data centers or in private networks not connected to the internet. Standard Nodes can be supplied by many commodity hardware providers. Even legacy hardware that new Network Participants already own may qualify for use as a Standard Node. Standard Nodes can be purchased directly from their suppliers and can be configured to operate within the Network by installing the Worker Node OS. Also, a limited list of pre-configured Standard Nodes are available for purchase via the Conduit infrastructure Ecosystem websites and apps. These come with the Worker Node OS preinstalled.

Syndicate(s): Syndicates are DAOs inside of an Ecosystem which means they function like a subcontractor in an Ecosystem. They are not legal entities themselves, rather a consortium governed by the Syndicate Governance under the Ecosystem Governance.

Trust Levels (Hardware): A hierarchy of states describing risk and levels of security.

Worker Node(s): Any device that is used to measure the existence of or use or purchase of something of economic value, a resource.