

Golem is a peer-to-peer decentralized computation network creating a marketplace for computing power.

The network aggregates global computing power and allows users to access these resources with the Golem Network Token (GNT) to complete tasks requiring any amount of computation time and capacity. The network aims to take on centralized cloud service providers with a lower price point and open-source community of application developers.

## Project Overview

Name	Golem
Issuer	Golem Factory
Category	Utility token
Sector	Distributed computation
Sale Start	11/11/2016
Sale End	12/02/2016

## Token Overview

Name	Golem Network Token
Symbol	GNT
Type	ERC20
Initial Distribution	820,000,000
Current Supply	839,242,000
Max Supply	1,000,000,000
Emission Type	Fixed

## Resource Links

- [Website](#)
- [GitHub](#)
- [Twitter](#)
- [Medium](#)
- [Reddit](#)
- [Whitepaper](#)

## Project Background

Golem aims to build a decentralized network which allows users to share and aggregate computing resources to create a global supercomputer. The team is focused on tasks that require a large amount of resources such as computer-generated imagery (CGI), machine learning, and scientific computing. By creating a network to share resources Golem hopes to supply software developers with an alternative to traditional centralized cloud service providers like Amazon, Google, Microsoft, and IBM.

The network functions as a peer-to-peer marketplace for excess computing power. Users can rent out their hardware in exchange for compensation in Golem tokens (GNT). Those that require resources to complete intensive tasks, like CGI rendering, can pay for this excess capacity through a decentralized marketplace. Golem aggregates multiple resources when completing compute tasks enabling almost anyone, from a single PC to a full data center, to contribute to the network. The team plans to integrate an application registry that will allow developers to create applications on top of Golem.

Golem Factory was founded in Switzerland in 2016 by Julian Zawistowski and Andrzej Regulski. Golem released the Brass Golem implementation in April 2018, allowing Providers to earn GNT by contributing computer power and requestors to spend GNT on available compute power. The first target use case is for CGI rendering, allowing requestors to distribute processing of any Blender or LuxRender scene over the Golem Network.

## Technology

Golem utilizes an Ethereum based payment system and the Golem token (GNT) to facilitate transactions between users. The Golem ecosystem is comprised of three main groups; requestors, providers, and software developers. The team believes the network will be more price competitive than traditional cloud compute services, incentivizing users to choose Golem.

Requestors are users who want to access the shared compute power in the network in exchange for GNT. Requestors can run specific tasks through the Golem app which aggregates the available compute power in the network. Golem provides a native application in which users can run their tasks and track various metrics.

Providers are users who contribute their hardware to add compute power to the network supercomputer. Because Golem aggregates computing power across providers, these users can provide hardware ranging from individual PCs to full data centers. Providers can choose what fraction of contributed hardware they want to add to the network as well as the price to use their compute power. Requestors pay providers in GNT.

Processes are run in a sandbox to prevent a requestor from gaining access to other services on a providers system while also protecting the files of requestors. In the future, the team envisions a community of software developers who create and develop their own applications for the ecosystem. Currently, Golem is creating the necessary developer tools to onboard prospective software developers, including an application registry where developers can publish their applications and requestors can easily search and find the specific applications and tools they need. The community will leverage the application registry to maintain quality control through a decentralized rewards and reputation system.

## Distribution

Golem Factory completed a token sale in Nov. 2016 raising approximately \$8.6 million. The project reached their maximum sales goal by the selling 820 million GNT tokens to the public at a price of 1,000 GNT for one ether (ETH).

A total of one billion GNT was created as an Ethereum based ERC20 token. Of the total supply, 82% (820 million GNT) was distributed through the token sale.

The remaining 18% of supply (180 million GNT) was split between two groups. Golem Factory retained 12% of total supply (120 million GNT) for team incentives and project development. The remaining 6% of supply (60 million GNT) was allocated to early contributors and team members. Both of these token allocations were subject to a six month lock up period.

## Roadmap

The Golem Factory team outlined a roadmap for the network in their final white paper dated Nov. 2016. The white paper includes estimated timing for each milestone, but the team did acknowledge the milestones are highly dependent on factors outside of their control.

**Brass Golem:** The Golem network was officially launched April 2018 with the announcement of Brass Golem. The white paper outlined Brass Golem would launch in May 2017, however the actual launch was about 11 months behind schedule, in April 2018. Brass Golem is the proof of concept version focused on CGI rendering in Blender and LuxRender. In addition, Brass Golem introduces the first version of the Ethereum-based application registry.

**Clay Golem:** The second phase of the network is called Clay Golem with an expected delivery of 6 - 15 months post token sale. That timeline has already passed and no new timeline has been scheduled. Clay Golem aims to allow developers to integrate with the Golem network through the Task API. Clay Golem will be implemented at the expense of security, so the new version is meant for early-adopter developers to experiment.

**Stone Golem:** The white paper suggested Stone Golem will be implemented 24 months from the token sale, or Nov. 2018. Stone Golem aims to build on top of Clay Golem and add more security and reliability. The goal is to add an advanced version of the Task API and allow developers to begin posting apps to the Application Registry.

**Iron Golem:** The final white paper roadmap milestone is Iron Golem, with a delivery date of 48 months from the token sale, or Nov. 2020. The major goals of Iron Golem are to provide developers with a robust, stable and scalable network to build applications. To achieve these goals, Iron Golem aims to build out developer tools such as, the Golem Standard Library.

## Team

### Julian Zawistowski

CEO

- Chairman of the Foundation Council, Institute for Structural Research (IBS).
- Previously co-founded imapp

### Andrzej Regulski

COO

- Previously an evaluation programme director at IBS
- Previously co-founded imapp

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## Additional Resources

- [YouTube: The Golem Project](#)
- [CoinDesk: Golem Arrives](#)
- [Download Golem Rendering](#)

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