The ThreeFold Grid

Launching March 2018

WHITEPAPER DRAFT 0.9.12

Note: This paper is a work in progress. The active soul searching on improving our message continues. The current version can be found at https://threefoldtoken.com website. For feedback and suggestions please contact us at info@threefoldtoken.com.

Welcome
We are excited about the opportunity to share this project with you. It is very dear to our hearts because we want to create a neutral, sustainable and greener world. We are thrilled to invite you to join us on this mission to help save the planet by creating a new neutral and more green internet!

Abstract

The ThreeFold Foundation ("TFF" or the "Foundation") is promoting a new neutral and sustainable Internet, the ThreeFold Grid ("TF Grid"). In this Grid, your data is local to and controlled by you.

To create the TF Grid, the TFF is launching the ThreeFold Token ("TF Token"), a new digital currency. The TF Token is a currency with a specific commercial utility, backed by physical Internet infrastructure (compute & storage).
ThreeFold Farmers generate compute & storage capacity (internet capacity) for the TF grid. The compute and storage components in the TF Grid use up to 10 times less power.
This internet capacity is produced and allocated locally - similar to the way electricity and other utilities are purchased today. This allows any digital service or application provider to host their services and applications in proximity to the end user leading to significantly greater performance, a lower price point and better margins. This is both more cost effective and green.

TF Tokens are the payment instrument for purchasing compute and storage capacity from the TF Grid at Farmer defined prices on a blockchain-based Directory Service. TF Tokens are ERC20 compliant Tokens and can be exchanged on public digital currency exchanges for other digital and/or local currencies.

ThreeFold Farmers connect Nodes to the Internet network. Farmers then earn Tokens over a defined period by providing capacity.

The Foundation's objectives are three-fold:

❖ **Utility** - The ThreeFold Token is designed to have specific commercial utility as the designated currency for buying and selling internet capacity on the ThreeFold Grid (TF Grid) . The Foundation issues, manages and supports TF Tokens as the universal payment instrument. The Foundation's objective is to make TF Tokens the preferred medium of exchange for Internet IT infrastructure (not unlike the Petrodollar for Oil and Gas).

❖ **Green** - Our Operating System ("OS") called Zero-OS runs on a decentralized and distributed network of dedicated hyper-efficient Zero-Node/Cluster infrastructure, which enables global scalability delivered at a low carbon footprint, down to one tenth of the current norm.

❖ **Neutral** - We aim to build a digitally responsible world by connecting humanity to a neutral and green Internet. All of our technology is open-source; the TFF is a Nonprofit organization and will only exist for about 1 year after which the community needs to be self-regulated by means of the ThreeFold blockchain.

Mission Statement

Empowering the Internet of tomorrow.

Our dream is to make the Internet accessible for all people; securely, equally and seamlessly through environmentally-sustainable technology.
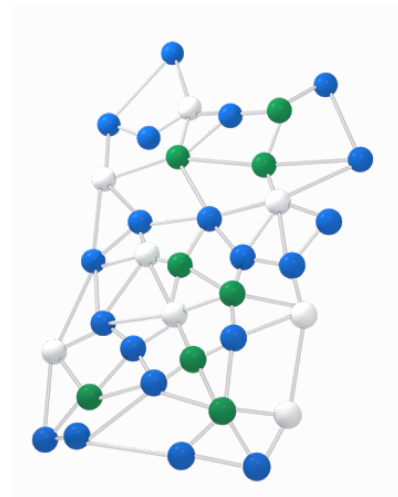
The ThreeFold Foundation brings internet capacity closer to users worldwide (also called Edge Cloud) by using a "hyper-distributed" network architecture with internet capacity Farmers running efficient computing & storage devices in a decentralized environment spread all over the world.
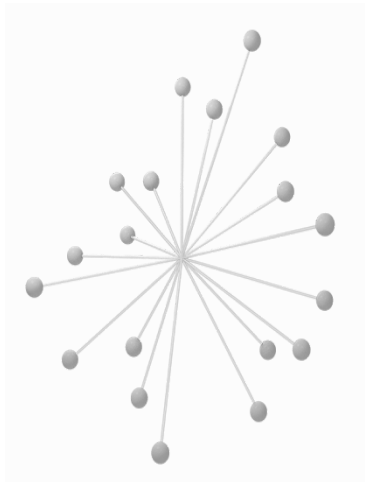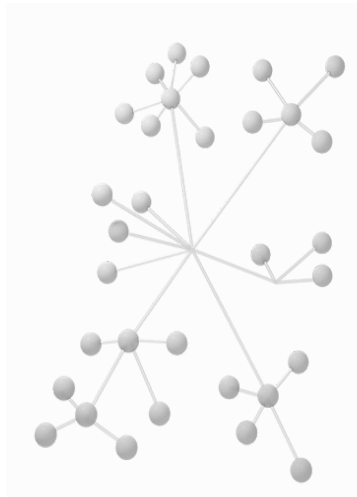
Centralized	Decentralized	Distributed TF Grid

With the advent of blockchain technology, this type of structure has only recently become commercially feasible. Employing blockchain technology substantially increases the security of the network, significantly lowers the cost of administering and paying for the network and its usage, and enhances privacy. The distributed architecture also enables delivery at a fraction of the cost and power consumption of conventional technology.

The distributed nature of the technology allows anyone to host applications (storage or compute bound) close to the end users of that application; no manual interaction with the nodes is required due to the technology's self-healing capabilities. As a result, it enables up to 10 times better power efficient IT capacity and is more secure.

Background

The spectacular growth and advances of Internet technology over the last decade were due in large part to "hyper-scale" efficiencies(i.e. centralized Internet infrastructure in large multi-billion dollar data centers.)
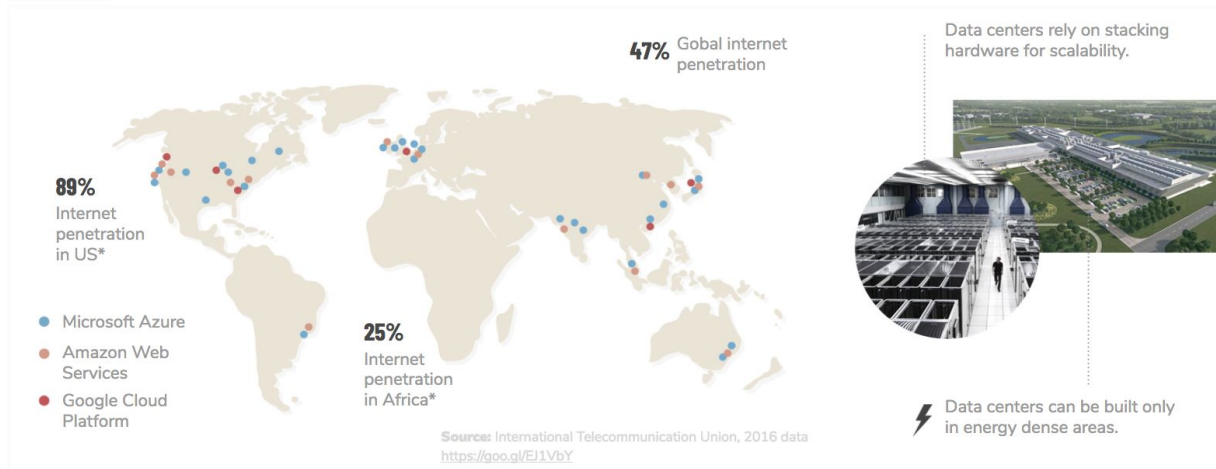
However, there is an urgent need to innovate this model. Short-term demand for internet capacity is far outpacing available supply due to new power intensive applications like Big Data and Artificial Intelligence ("AI") and an enormous volume of devices coming online like the Internet of Things ("IoT") . Current hyperscale data center architecture will not be able to support the increasing demand.

Data centers compute and store massive amounts of data. The data needs to travel back and forth, often thousands of miles, between users and data centers. As demand grows, the data centers would have to accommodate ever increasing data exchange complexity in addition to ever larger data volumes. As such, network infrastructure simply cannot grow fast enough to keep up with the growth of compute and storage demand amid already significant performance and latency issues.

Governments around the world are also becoming ever more concerned about data leaving their borders. In other words, governments prefer Internet infrastructure to be in country. Hyperscale data centers are based overseas for most countries, exposing their data to third-party intervention. The ThreeFold solution will prevent the data from being migrated unless expressly authorized.

IoT workloads require local compute capacity integrated with lots of fast storage capacity. Hyperscale data centers are physically too remote and/or too expensive to do this.

There are plenty of well publicized problems concerning security[1], outages[2] and lost data stemming from the inherently insecure nature of centralized, hyperscale architectures and failures at a single hyperscale location can cause widespread Internet outages.

Finally, data centers consume over 400 terawatt hours of electricity. This exceeds the total electricity consumption of England or about 3 percent of the global electricity supply, accounting for about 2

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1 http://www.informationisbeautiful.net/ - updated September 10, 2017 - http://www.informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/

2 Network World Brandon Butler, Senior Editor - March 2, 2017 -

https://www.networkworld.com/article/3175608/cloud-computing/read-the-full-text-of-amazons-post-mortem-from-its-s3-cloud-brownout.html

percent of total greenhouse gas emissions[3]. This data center carbon footprint is comparable to that of the global airline industry.

NOT ENOUGH SPACE	NOT ENOUGH ENERGY	TOO MUCH COST
4000	**100MW/h**	**$5 Trillion**
NEW HYPERSCALE DATA CENTERS BY 2022	ENERGY CONSUMPTION PER DATACENTER	ESTIMATED COST > $1BN PER HYPERSCALE DATACENTER
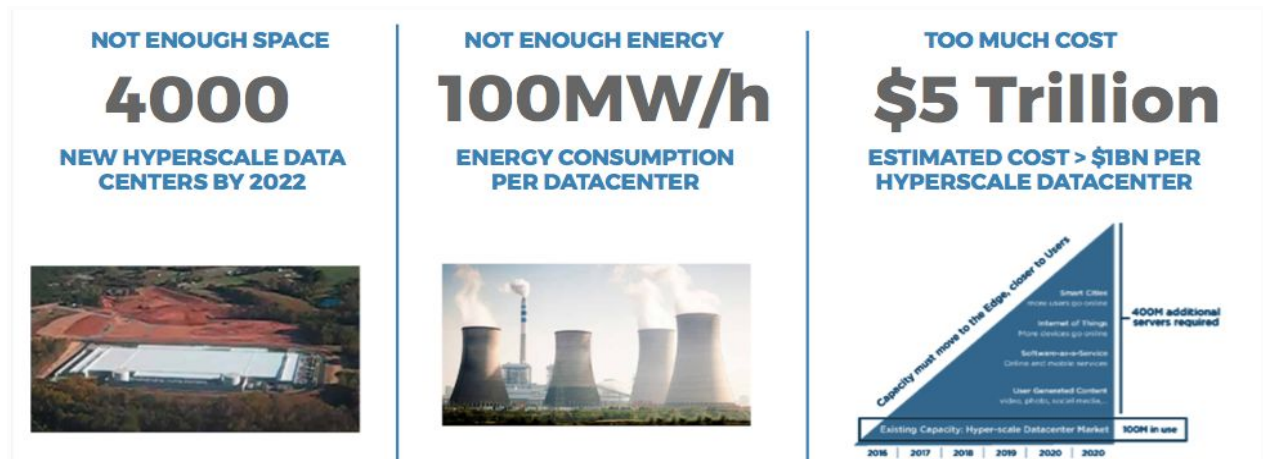
As shown above, to meet capacity demand within the next 5 years 4,000 new data centers[4] will be needed. Those would cost an estimated US$5 trillion[5] to build and consume additional 400GW/h. This is roughly an equivalent of consumption of the economy of Japan and an insurmountable strain on electricity grids worldwide. This is simply unsustainable.

ThreeFold provides a solution that is much more cost effective in both construction and running costs.

3 The INDEPENDENT - Tom Bawden Environment Editor - January 23, 2016 -
http://www.independent.co.uk/environment/global-warming-data-centres-to-consume-three-times-as-much-energy-in-next-decade-experts-warn-a6830086.html#commentsDiv

4 400 Million new servers needed by 2020 - Think Different or Lose - Mark Thiele - March 7, 2016 -
https://www.linkedin.com/pulse/400-million-new-servers-needed-2020-think-different-mark-thiele

5 Data Center knowledge - Nov 22, 2010 - http://www.datacenterknowledge.com/data-center-faqs/apple-data-center-faq
Wolrd's Top Data Cetners - June 2, 2014 - http://worldstopdatacenters.com/facebook-altoona-ia/ http://worldstopdatacenters.com/google-lenoir-north-carolina/
http://worldstopdatacenters.com/apple-maiden-north-carolina/

ThreeFold Farmers

ThreeFold Farmers ("TF Farmer" or "Farmer") are individuals and/or companies that purchase or manufacture and connect ThreeFold Nodes ("TF Nodes" or "Nodes") to the TF Grid. By doing so they cultivate internet capacity on the TF Grid which is sold via the TF Directory (on TF Blockchain).

There are two kinds of TF internet capacity: Managed and Unmanaged.

❖ **Managed capacity** is capacity that sits in a datacenter environment where people operate and maintain supervision of the capacity connected to the Grid and published in the TF Directory. SLA (Service Level Agreements) are provided on this capacity like uptime, guaranteed bandwidth, response times, …

❖ **Unmanaged capacity** can exist everywhere; in people's home, in mobile telephone masts, in utility cabinets, next to railways or motorways, anywhere where internet lines meet electrical outlets. This capacity is deployed to the Grid and has no people involved to manage its operations (apart from the physical aspects). Farmers have no access to the TF Nodes purchased. They can only use the capacity produced in the exact same way as any other user, i.e. through the TF Blockchain, in a secure private and neutral way, equally applicable to all. Who is responsible for maintaining the unmanaged capacity?

Tokens are only issued on the TF Blockchain when capacity gets connected to the internet. The ThreeFold blockchain software validates the capacity of the connected ThreeFold Node and issues new Tokens following the following formula:

Farming of Tokens (issuing) = New Capacity * Average Sales Price Of Capacity * 6 months

The farmer can sell 1/48 of these issued Tokens per month, if the Farmer disconnects the equipment the unissued tokens will be transferred back to the Farming Reservation Token Pool.

In addition, Farmers get Tokens as a result of selling capacity to the ThreeFold Grid, 10% of those Tokens are awarded to the ThreeFold Token Pool.

ThreeFold Token

The ThreeFold Token ("TF Token" or "Token") is a new digital currency with a specific commercial utility. TF Tokens are used as the exclusive payment instrument for purchasing compute and storage capacity from the TF Grid at defined prices on a blockchain-based Directory Service.

ThreeFold Tokens can be bought through Public Exchanges (as ERC20 token) starting March 2018. The initial price is $0.10 per Token.

It's important to note that these Tokens are not controlled or issued by the ThreeFold Foundation. The Tokens are pre-created and available on the ThreeFold Blockchain in the Genesis Pool which is used by all parties in the ThreeFold ecosystem. ThreeFold Foundation does not receive any of the proceeds of Tokens transferred and has no influence over how Tokens get distributed or issued. Tokens get issued automatically by the blockchain from out of the Genesis Pool when capacity gets connected.
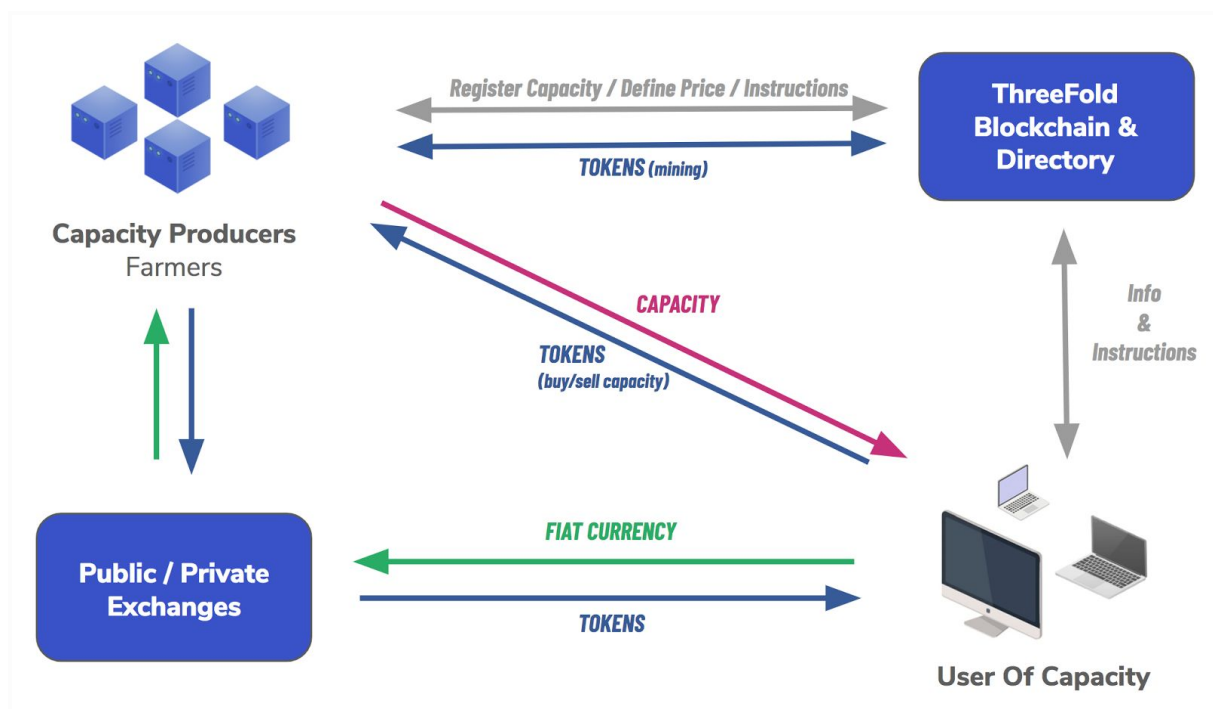
Utility-Driven
The ThreeFold Token has tangible, intrinsic value as it is backed by the internet capacity on the TF Grid.

"Utility" means that the TF Tokens can be used to buy and sell the internet capacity and/or products and services on the TF Grid. In this way, the Token's value is supported by the intrinsic value of the TF Grid.

The community will have access to all metrics of the TF Grid, needed to determine the economic value of the Grid.

Values

Respect The World

Today the world is driven by fear and ego. The opposite of fear and ego is love and respect. We want the ThreeFold Foundation and ThreeFold Ecosystem to be run by love and respect, to be 100% transparent and empower all individuals globally.

We believe everyone should have access to education and to the internet capacity that allows them to be an integral part of the new digital economy.

This new digital economy will allow all people to work together across country borders, without being a part or a product of a large corporation.

Respect Human Effort

The current IT industry is based on complexity of technology. Business models have been invented and built around complexity which is ever increasing and growing, creating requirements for trained engineers to administer and operate infrastructure and software. This is expensive, not green and error prone.

We want to create easy-to-use, simple "IT As Energy" solution, where IT can be used just like electricity, i.e. available everywhere at low cost.

Respect Ethical Design
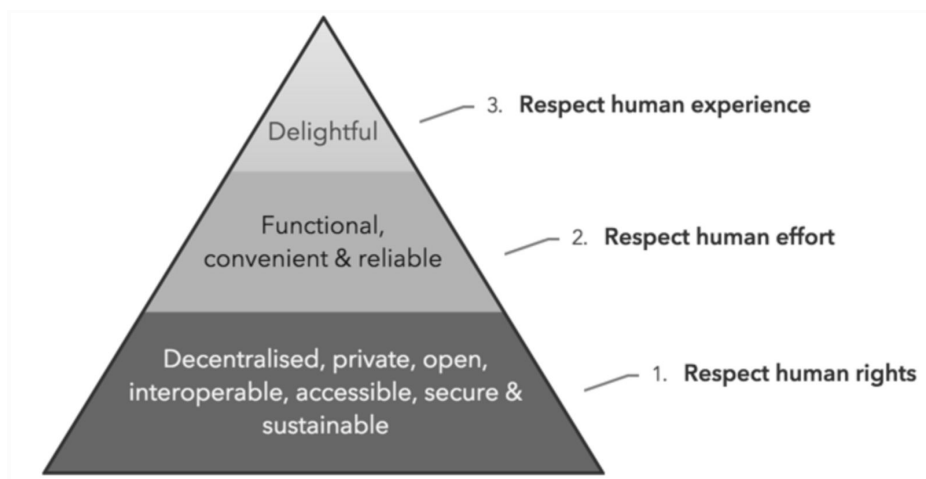
We want the Foundation and its product to reflect these values, and as such, we underwrite a concept called Ethical Design.

To read more about this please visit our wiki based extranet which has plentiful content on these topics: http://tiny.cc/values_extranet

Token Economy

Tokens Grow In Value By Design

A still to be defined amount of TF Tokens are reserved in the Genesis Pool (registered in the blockchain). Tokens are only issued (transferred out of the Genesis Pool) when Farmers connect capacity to the TF Grid. No other organization including the Foundation can ever create TF Tokens.

To motivate people to become farmers supplying capacity on the TF Grid we grant new Farmers 6 months of 100% utilisation revenue of their Farmed capacity as incentive.

When connecting capacity to the grid Farmers will receive the following total amount of Tokens over 48 months:

$$T_{for\ connecting} = \frac{[(CU \times ACP) + (SU \times ASP)] \times P}{TP}$$

T = number of Tokens
CU = Compute Units deployed
SU = Storage Units deployed
ACP = Average Compute Unit price
ASP = Average Storage Unit price
P = Period (6 months)
TP = Token price at initial connectivity

When selling capacity to the Grid Farmers would receive the 90% of the revenues generated in Tokens:

$$T_{total\ from\ capacity\ sales\ 48\ months} = \frac{[(CU \times CP) + (SU \times SP)] \times 90\% \times U}{ATP} \times 48mths$$
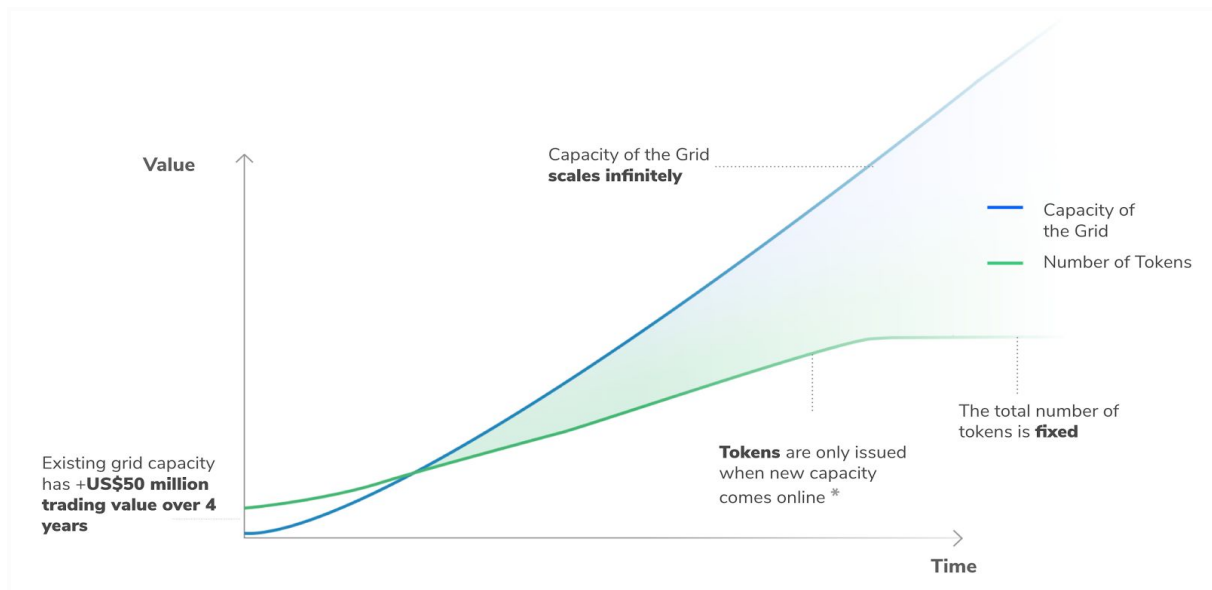
CU = Compute Units deployed
SU = Storage Units deployed
CP = Average Compute Unit price over 48 month
SP = Average Storage Unit price over 48 month
U = Average Utilisation over 48 months (assumption = 60%)
ATP = Average Token price over 48 month

This mechanism guarantees that Tokens are always backed by real internet capacity.
The lifetime of capacity is typically 5 years (we have used 4 years in our simulations to be conservative) which means the Tokens are issued at an undervalued price. This is the right thing to do because capacity being deployed generates returns of up to 10x depending on average utilization.

Example:

Given Parameters:
- The investment for this capacity is about US $220,000
- The Farmer deploys 1,000 Compute Units (CU) & 2,500 Storage Units (SU)
- The average price defined on the TF Directory is US $10 for CU & SU
- The Token price at initial connectivity is US $0.20

Tokens - When Capacity Connected
- The number of Tokens farmed by connecting capacity to the grid :

$$1,050,000 \ TFT = \frac{[(1000CU \times US\ \$10) + (2500SU \times US\ \$10)] \times 6}{US\ \$0.2}$$

The Farmer will receive 21,875 Tokens (1,050,000/48) each month for 48 months.

Tokens - Capacity Sold:
The capacity is listed on the TF Grid and will attract consumers using it. For this example we assume that an average of 50% of the capacity is sold to user over the period of 48 months. The average pricing for a compute and storage unit is US $8. The average token price for the period is assumed to be US $0.8. The capacity sales tokens at the end of the period are:

$$756,000 \ TFT \ = \ \frac{[(1000CU \times US\$8\ ) + (2500SU \times US\ \$8)\ ] \times 90\% \times 50\%}{US\ \$0.8} \times 48mths$$

Token Distribution

- **ThreeFold Farmers - (99%)**
  Tokens are issued to Farmers when they connect capacity to the ThreeFold Grid. The Farmer can sell 1/48 of these Tokens per month. This means by design each Token available to market is backed by capacity.

- **Foundation = Promotion / Marketing - (0.5%)**
  A small percentage of the Genesis Pool can be used by the ThreeFold Foundation for marketing and promotion of the ThreeFold Ecosystem.
    - At a point in time in the future, The Foundation will cease operations. because its role to bootstrap the ecosystem will have been fulfilled.
    - After this period, the remaining Tokens owned by the Foundation go to Token pool.
    - After this period, the remaining cash goes to good projects.

- **Technology Creators (GIG.tech) & Founders - (0.5%)**
  Small percentage of the total is reserved for the technology creators & TF Founders. A maximum of 20% can be sold per month of total amount of transactions.

No additional TF Tokens can ever be generated. Tokens are tradable on a digital currency exchange (as ERC20 token), subject to applicable regulations by citizenship and/or country of residence. Token holders are able to buy, sell, and trade Tokens freely.

ThreeFold Foundation Capacity Index

Unlike most digital assets which are designed to work as a medium of exchange, the ThreeFold Token is supported by internet capacity. This means that the TF Grid has real intrinsic value and is not built on a promise of future potential but is currently working and delivering internet capacity today.

The value of the TF Grid can be more accurately calculated using the ThreeFold Foundation Capacity Index ("TFCI"). This is a transparent index, free of market volatility and emotions and measures the TF Grid's network value.

As with any business venture, there is risk and we cannot make guarantees. However, the standard and most typical method of calculating value is to take the market cap of the circulating supply and multiply that by the value of the Token. This method however is market and emotionally driven and fails to capture the true value of the TF Grid. The TFCI reflects the value of the commercial capacity from all Farmers available within the network over a 48 month period.

Using storage only as an example:
- Available capacity on the TF Grid (C) = 1.000,000 terabytes.
- Average price used by TF Green Farmers (P) = US $20/terabyte.
- Period in months (M) = 48 months

$$TFCI = (C \times P \times M) = 1,000,000 \times 20 \times 48 = US\ \$960,000,000$$

In the example above, TFCI and the value of the TF Grid would equal US $960,000,000. Dividing it by the number of TF Tokens outstanding gives the intrinsic value of the Token (i.e. the share of its value of the internet capacity on the TF Grid). If there were 1,000,000,000 Tokens in existence, the value represented by one Token following this Capacity Index would be US $0.96.

How Can You Help?

ThreeFold Foundation is promoting this new Internet, and we need a lot of people who want to help to make this dream a reality. Our ambitious aim is to have more than USD $1 Billion invested in Farming activities within 1 year.

Farmers

We are looking for people who want to farm new IT Capacity for this new Internet.

See the section below about Green Farmers Business model to see how this would work. Farmers need to be technical and be willing to operate a new business.

Investors In Farming Cooperatives

If you like the model of Farming but do not want to run a Farm you can invest in a Farming Cooperative. These Cooperatives are independent companies which collect money from investors and use that money to Farm in specific regions.

There are already 3 Farming Cooperatives in the process of being created. Please contact us for more information.

By investing in a Farming Cooperative, you will get ThreeFold Tokens (directly) as well as shares in the Farming Cooperative.

Token Buyers

Of course the easiest way to help is to buy tokens.

Tokens are ERC20 compatible and can be bought through public exchanges starting in March 2018. If you would like to buy them sooner, please contact us.

Tokens represent internet capacity and as such each Token is backed by real, physical internet capacity.

Farmed tokens only represent 6 months of revenue while of course the real capacity is 4 or 5 years. As such, each token when issued is by design undervalued in relation to the revenue potential.

Ambassadors

We need people helping us promote our message and help us to build our ecosystem, people who share our values and who want to make the world a better place.

Farmers Business Model

Farmers - Purchase or Manufacture ThreeFold Nodes and add Capacity to the ThreeFold Grid. Once this capacity has been validated by the TF Blockchain, the Farmer will be awarded Tokens following the formula defined below.

Farming of Tokens (issuing) = New Capacity * Average Sales Price Of Capacity * 6 months

Estimated costs and revenue associated with operating an environment is laid out below:

Unmanaged Capacity (emerging market)

Cost	Small	Cluster	Container
Cost of Container (refurbished Mobo/Mem/CPU)	$950	$9,299	$694,520
Shipping / Installation Costs	$100	$800	included
Power/Rackspace Cost over 48 month	$104	$6,600	$181,000
Total Cost over 48 months	**$1,154**	**$16,699**	**$875,520**

Mining (at point of connection)

	Small	Cluster	Container
Token Price At Point Of Connection	$0.2	$0.2	$0.2
Capacity in Compute Units	3	81	4262
Capacity in Storage Units	10	200	10017
Avg Price Compute Units	$10	$10	$10
Avg Price Storage Units	$10	$10	$10
Tokens Farmed (Farmer can only sell 1/48 per month)	3,900	84,300	4,283,700

	Small	Cluster	Container
% of capacity sold over 48 months	50%	50%	50%
Avg Price Compute Units over 48 months	$8	$8	$8
Avg Price Storage Units	$8	$8	$8
% transfer to TF TokenPool	10%	10%	10%
Income from IT Capacity	$2,246	$48,557	$2,467,411

Income	Small	Cluster	Big
Token Price average over 4 years (48 months)	$0.8	$0.8	$0.8
TF Tokens Proceeds from initial Farmed Tokens	$3,120	$67,440	$3,426,960
TF Token Proceeds from selling IT capacity*	$2,246	$48,557	$2,467,411
Total Income over 48 months	**$5,367**	**$115,998**	**$5,894,372**

The ThreeFold Token Pool is a centralized pool which will receive 10% of all TF Token proceeds. These proceeds will be used to fund the mechanics of the TF Ecosystem as well as other good projects. - see ThreeFold EcoSystem

Technology

ThreeFold Foundation creates, promotes & uses open-source technology. Our sister company GIG Technology NV (www.gig.tech) has been actively developing components of the core technology of the ThreeFold Grid for the past 10 years which are all open-source.

There are three building blocks of our technology:

Zero-OS is a stateless operating system which enables distributed hardware to form the TF Grid which generates IT storage and compute capacity.

Zero-Robot is a self-healing Intelligence system which controls and operates the TF Grid without the help of people and reserves, procures and executes workloads on the grid using our Jumpscale and At Your Service automation platform.

Zero-Chain is our blockchain framework which along with our identity management platform, ItsYou.online (https://itsyou.online/) enables user authentication, access control, provisions secure workloads and provides better security.
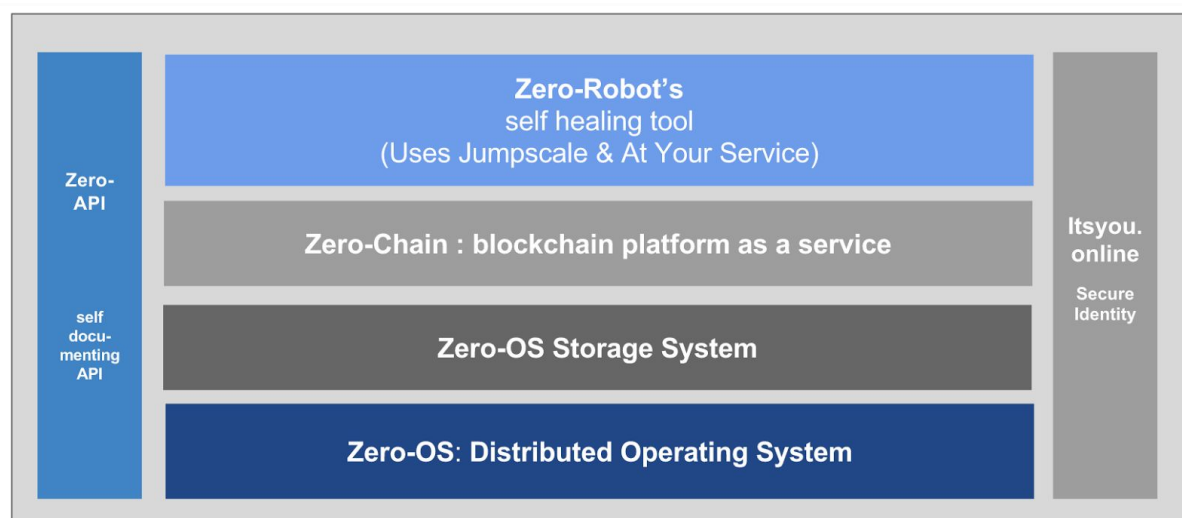
Please click here for details.

Zero-OS = Stateless Operating System

The global TF Grid is composed of thousands (eventually millions) of nodes (called Zero-Nodes) distributed geographically running our operating system called Zero-OS.

To manage this complexity a stateless operating system is a requirement, such a system avoids upgrades, has no local filesystem or many of the other complex layers you would find in a standard operating system like linux. This OS has no human user interface components like UI or Shell Console, only API's which are used by the Zero-Robots.

Benefits:

- **Performance:**
  Lightweight Operating System ("OS") without overhead for running bare-metal machines. This means there are no complex install procedures required, just a thin efficient software layer on top of hardware.
- **Private:**
  No data left behind when workloads move from one node to another.
- **Distributed:**
  Capacity is generated without the need for data centers at The Edge (which means as close as possible to where end users use the internet capacity)
- **Highly-available:**
  Any of the Zero-Nodes running the Zero-OS can go down without impact of the applications running on top of the TF-Grid.
- **Portability:**
  Moving software from one node to another within the Grid is easy.
- **Secure:**
  Much less layers & open-source software deliver better security.
- **Green:**
  Advanced algorithms and less overhead (less layers) result in very low node power consumption (upto 10x benefit).
- **Integrated storage system:**
  Block & Object based storage systems which selfheal, autoscale & are fast enough for any scale out workload.

This technology is available today and can be found on our open-source repositories on github.

Zero-Robot = Self-Healing Technology

Zero-Robots are intelligent virtual (no humans involved) system administrators which guarantee the uptime, security and performance of the TF-Grid.

The purpose of the Zero-Robots:

- **Self-Healing:** Zero-Robots are smart enough to deal with all kinds of expected issues like broken hardware, sites being disconnected from the internet, resource overload situations (e.g. overload of CPU or hard disks almost full), and will rebalance the workloads without causing downtime.
- **Data-driven decisions:** Zero-Robots capture information from the Grid and make data-driven decisions (measurements leads to knowledge).
- **Lifecycle Management**: the status of the infrastructure and the running applications is checked and recorded throughout their lifecycle
- **Autoscaling:** The platform automatically scales to meet application and infrastructure performance requirements

Today our Zero-Robot technology can recover large majority of issues, some manual interventions are still required. By End 2018 we aim to be 100% self-healing and Zero People will be required to manage the TF Grid.
This technology is available today and can be found on our open-source repositories on github.
Jumpscale is a framework we have been working on for more than 10 years.

Zero-Chain = Our Blockchain Framework

Our Zero-Chain is a set of blockchain technologies which are today used inside our TF Grid and invisible for the user at this point.

Purpose of The Zero-Chain:

- Secures the communication between users of the TF-Grid and the Zero-Robots.
- Not based on proof of work makes it green.
- Scalable new algorithms for distributed databases as well as smart contracts.
- Can work on record level which leads to faster transaction times & more clear structure which leads to more simplicity & security.
- Secure Execution Environments will allow developers to develop blockchain workloads which can be written in many programming languages.

All our work is open-source and can be found on github.

Foundation Structure

The ThreeFold Foundation ("TF Foundation" or "Foundation") a Non-Profit organization run by a professional management team but without shareholders or beneficiaries. It acts as a bootstrap marketing organization for the ThreeFold Ecosystem ("TF Ecosystem" or "Ecosystem") which is building a new neutral and sustainable Internet .

The Foundation is made up of ThreeFold Founders, ThreeFold Evangelists, ThreeFold Ambassadors (Promoters).

Registered as a Dutch Antilles Stichting (Foundation) its goal is to aid in the promotion of the TF Ecosystem and after one year the ThreeFold Foundation will cease to exist.

ThreeFold Foundation Objective

For the Foundation to reach a new neutral and sustainable Internet, the Foundation's objectives are threefold:

❖ **Utility** - The ThreeFold Token ("TF Token" or "Token") is designed to have specific commercial utility as the designated currency for buying and selling internet capacity on the TF Grid. The Foundation issues, manages and supports TF Tokens as the universal payment instrument. The Foundation's objective is to make TF Tokens the preferred medium of exchange of the Internet IT infrastructure.

❖ **Green** - The Zero Operating System ("OS") runs on a decentralized and distributed network of dedicated hyper-efficient TF-Node/Cluster infrastructure, which enables global scalability delivered at a low carbon footprint, down to one tenth of the current norm.

❖ **Neutral** - We aim to build a neutral and digitally responsible world by connecting humanity to a neutral and green Internet. All of our technology is open-source; the TF Foundation is a Non-Profit organization; and all users and TF Nodes are registered on a blockchain-based identity management platform to create a secure and private environment for trading.cy. The Foundation does not have any shareholders, issues no dividends, is not owned or controlled by any individual or company.

The Foundation's long term objective is to migrate The ThreeFold Token firmly into the mainstream as a currency to be used to purchase IT and other services.

ThreeFold Make-Up

The Foundation is structured around four different Parties: The Founders, Ambassadors, Evangelists.

The Founders

The Founders are entrusted with day-to-day running of the Foundation. They are tasked to guide the marketing efforts and communication with the general public and prepare regular updates for the Ambassadors and Community at large.

Ambassadors

Ambassadors are the public figures of our global movement and have broad experience in many fields and industries. Ambassadors are passionate about the Foundation's values and vision.

Ambassadors serve as TF Foundation role models by promoting the Foundation to their vast influential network.

Evangelists

Evangelists are passionate individuals who share our values and promote the Foundation to the community at large. They serve an important role in spreading awareness of the ThreeFold Foundation to all corners of the globe.

Marketing Effort

- ❖ **Community engagement** - Since all of the software we use is open-source, feedback and contribution from the developer community plays a crucial role in subsequent development. Architects increase stability, trust and understanding of this technology by engaging the community.
- ❖ **Developer programs** - Stimulate proliferation of applications running on the TF Grid, e.g. developers worldwide would be able to apply for free capacity.
- ❖ **Strategic partnerships** - Partner up with educational institutions to propagate new conceptual thinking in the IT community.
- ❖ **Engineering meetups and roadshows** - spread knowledge about the TF Technology and its capabilities.
- ❖ Development of more components for the TF Software stack.
- ❖ Quality assurance (security, code quality, performance) of the software stack.

Who are we

See our team on our website.

Kristof De Spiegeleer

Kristof is a humanist & motivated entrepreneur, passionate to help make the world a better place. He knows a thing or two about cloud computing and IT too!
(LinkedIn)

LinkedIn

Owen Kemp

In all walks of life, Owen looks for an equitable exchange of value and believes in doing everything in a socially responsible way.

Once described as an "optimist and anarchist" – he has humour and enjoys doing things in an unconventional way.
(LinkedIn)

LinkedIn

Willem Hendrickx

Willem has over 20 years of experience in roles at global ICT firms and a magician of sales and marketing.
(LinkedIn)

LinkedIn

Baker Yanicelli

Baker has worked with companies in the cybersecurity, fintech, telecoms and trade finance sectors including a Google-backed satellite access startup where he led a $1 billion+ capital raise. Prior to ThreeFold Baker spent 15 years with major investment banks working on IPOs, financings and mergers and acquisitions.
(LinkedIn)

LinkedIn

Andreas Hartl

Andreas has been building new brands and successful teams for more than 15 years. Of course our German guru also supports the most successful German football team - Bayern Munich.
([LinkedIn](#))

Georges Georgiou

Enjoys empowering people to succeed in work and in life.
Georges has over 20 years of experience in the area of Accounts and Finance and in multiple business fields. Soccer Coach and soccer crazy.
([LinkedIn](#))

Adnan Fatayerji

Adnan is a true believer of the power each of us hold within to make a difference in this world. He is a Vegan, health "nut" and Spartan Dubai legend.
([LinkedIn](#))

Sophie De Maesschalck

Sophie has over 10 years of experience in technology incubation, international financing and mergers and acquisitions. She is currently the CFO of GIG Technology and GIG Holding.
([LinkedIn](#))

Geert Audenaert

Geert is head of Engineering at ThreeFold Foundation and GIG Technology.

He is a programming and open-source enthusiast and leads our software development labs in Gent, Cairo and Dubai. ([LinkedIn](#))

[LinkedIn](#)

Jan De Landtsheer

Jan is our CTO platforms at ThreeFold Foundation and GIG Technology. He was CTO at Incubaid as for the past decade.

Incubaid was a disruptor in the tech scene after having successfully exited a portfolio of 6 high-value exits. He hacks open-source software and Linux operating systems to simply make them different and better. ([LinkedIn](#))

[LinkedIn](#)

Pierre Van Hoorebeke

Pierre is group legal counsel at ThreeFold Foundation and GIG Technology.

Pierre has over 15 years of experience as a corporate and IT lawyer, assisting founders, investors and private companies on corporate, commercial and IP matters. He is specialized in venture capital and private equity transactions, mergers & acquisitions, corporate restructurings and license deals. ([LinkedIn](#))

[LinkedIn](#)

Nickolay Babenko

Nickolay is an engineer, crypto-entrepreneur and investor and bhakti-yogi. Having 11 years of experience in the IT industry and 4 years specifically in blockchain industry, Nickolay is eager for new opportunities to make people happier in general and with the help of technology in particular. Previously to joining Threefold he co-founded one of the first bitcoin payment processors and multi-currency wallets. ([LinkedIn](#))

[LinkedIn](#)

Virgil Illian

Virgil is a researcher and innovator who is always looking to improve the world around him both on a macro and micro scale. For the past 11 years he has been working with new technologies, helping organizations integrate them into their existing services and create their new products.

He holds a PhD in autonomous robotics, artificial intelligence and reliability. Virgil also lectures at a technical university and an academy. ([LinkedIn](#))

[LinkedIn](#)

Frank Vuijsters

Frank loves to innovate and let people grow; he has over 30 years of experience in Strategy, Finance and Analysis within the telecom industry. Enjoys helping start-ups to improve and increase the growth and enjoyment of their work. He has an own company, Bfrank-Analytics, which incorporates the very same values of Threefold. His background is Econometrics.
[(LinkedIn)](#)

[LinkedIn](#)

Weynand

Weynand is a rocket scientist that loves slingshotting new technologies into orbit. He has been working with teams at the start of the internet in Europe and therefore spent the millennium celebration in a data center. First follower, team player and very passionate about bringing equal opportunities to young talent around the world.
([LinkedIn](#))

[LinkedIn](#)

Elena Anfimova

Elena has over 20 years of work experience in finance and business development. She is a co-founder and CEO of Crelia Capital, an alternative funding platform for Emerging Markets. Elena is an avid social dancer, her most recent favorite is Kizomba, an Angolan tango.
([LinkedIn](#))

[LinkedIn](#)

January, 2018

Stela Suils Cuesta

Stela is a firm believer that it's possible to do business from the heart. She is a passionate team builder and thrives in challenging situations. She has over a decade of organizational experience and hands on project execution.

She is a very active member of the community and organises TEDx events as well as Lean In Circles, and mentorships programs.
([LinkedIn](#))

[LinkedIn](#)

Lucien Lecarme

Lucien is a writer, tango dancer and passionate freedom adventurer. He left his life in Holland working as a fundraiser and arts-manager when he fell in love with Ibiza. Here he is on a mission to empower people through his retreats, coaching and love of hiking.
([LinkedIn](#))

[LinkedIn](#)

Roel van Sabben

Roel is an advertising art director turned marketeer with a knack for knowing what makes people tick. From concept to the metric dashboards and anything in between is what he loves doing. He's a work hard, but mostly work smart type of guy taking from his passion Brazilian Jiu Jitsu the lesson on how to use energy in the most effective way.
([Linkedin](#))

[LinkedIn](#)

Sabrina Sadik

Sabrina is the first one to crack a joke and keep everyone's spirit up, but she's also a bit of a control freak when it comes to work (she's the same at home but doesn't like admitting that). Keeping the administration on point and making people smile is what she's all about.
([LinkedIn](#))

[LinkedIn](#)

Thank You

Thank you for reading our White Paper.

We hope that we were able to give you a sense of how we intend to realize our mission of a better, safer and greener world for all. Please join us in this opportunity to change the world. Together, we can make a huge difference for ourselves and billions of others and help save the planet in doing so. It is all about optimally enabling easy access to technology for all citizens of the world. We believe the time for change is now!!

Should you have any further questions, please kindly refer to our Frequently Asked Questions at https://threefoldtoken.com/faq/ or feel free to contact us through chat on our website which is available at https://ThreeFoldToken.com