



Enjoy the mining!

Whitepaper

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Table of contents

Disclaimer	3
Terms and Definitions	3
Foreword.....	4
Introduction	4
Problem Statement	5
Solution	6
Importance for blockchain community.....	6
Mining Solutions.....	8
MSP Driver P106-100.....	9
Installation.....	10
Risks	10
Potential for further product development	10
Calculation of advantages to a small facility (1000 cards)	11
Users advantages.....	12
How to purchase a product	12
MSP Driver AMD 400/500 series	13
Calculation of advantages to a small facility (1000 cards)	14
Users advantages.....	15
Installation.....	15
Risks	15
Prospects of a product development.....	15
How to purchase a product	15
MSP One-Click Installer.....	17
How does the MSP One-Click Installer work?	17
Installation.....	17

Risks	17
Product Development Prospects	17
MSP Miner.....	18
Product Development Prospects	18
How does the MSP Miner work?	18
Mining Solutions RoadMap	19
Crowdfunding.....	21
Why Crowdfunding?	21
Advantages for the Blockchain Community	21
Mining Solutions Tokens.....	21
Mining Solutions Token Release	21
Token Sale	22
Token Price.....	23
How Do I Purchase Mining Solutions Tokens?	23
Exchanging Tokens for Mining Solutions Software	23
Token exchange for MSP Driver P106-100 and MSP Driver AMD 400/500 series	24
Token Exchange for MSP One-Click Installer.....	24
Procedure for Exchanging Tokens for Software Solutions.....	25
Mining Solutions Status Program	26
Bounty Program	27
Distribution of Proceeds.....	28
Distribution of SoftCap	28
Distribution of HardCap.....	29
Mining Solutions Team.....	30

Disclaimer

This technical paper (Mining Solutions Whitepaper) is prepared in accordance with best practices and industry standards, as they are currently understood by the authors. This technical document is not a commercial offer or offer of any other form. Nor is it an offer of securities or a call for investments in any jurisdictions. If you do not understand the contents of this document, you should consult your technical adviser, financial advisor, stockbroker, lawyer, banker, dealer or any other competent expert.

Terms and Definitions

Crowdsale	Drawing a large number of stakeholders to raise funds for the research and development of promising products, software, etc.
ETH	Cryptotoken of the Ethereum blockchain with a ticker ETH
Mining Solutions DataCenter MSDC	Data center owned by Mining Solutions, which performs mining of crypto-currencies, equipped with the necessary capacity for electricity, ventilation, software, and personnel
Mining Solutions Products MSP	Software products owned by Mining Solutions, which allow to significantly increase efficiency, convenience and success of mining
R&D	Research and development
Smart Contract	Smart contract is a computer protocol designed to facilitate, verify and enforce the terms of contracts
Token Sale	Sale of tokens with a smart contract

Foreword

A large number of mining graphics cards in the market led to the need of developing a universal software product that is easy to install and efficiently configures and controls GPU units, reducing the operating temperature and increasing the service life of units.

High-quality software products (MSP Miner, MSP Pool, MSP Next Generation) allow to make fast switching of processed tasks (crypto currency) and to solve such problems as artificial intelligence, space, the Internet of things, dispatching, video content with processing by decentralized computing resources (GPU).

Introduction

We live in an era of rapid development of information technology. It is difficult to overestimate value of this process and, as a result, we benefit from the automated processes which help mankind. During the last few decades, the companies that have made a huge contribution to IT have acquired a status of the leaders in the market and are engaged in active introduction of the latest technologies in various industries. One of such directions is the technology of blockchain.

The market based on a blockchain technology is in a phase of formation and rapid growth. Despite the quickly growing value — the general capitalization is more than 100 billion US dollars now — the market of cryptocurrency is still in a formation stage. While blockchain technology has already had significant effect on such areas as business, finance, management of information and public administration, it becomes clear that their revolutionary potential only has begun to be realized. Correspondingly, it is expected that blockchain technology will play more and more important role in many areas of modern life.

The states, banks and corporations are running pilot blockchain projects, private actors and investors are actively entering the cryptocurrencies market. At the same time, such entry point as mining still remains available only to professionals in many respects.

Multiple protocols can be used to support blockchain security. They include proof of work, proof of stake, proof of activity, proof of space, proof of band, and others. Proof of work is used most widely now — as the base of such currencies as Bitcoin, Ethereum and Ethereum Classic and Litecoin — and will likely remain

the most useful in the visible future. It is the system of the distributed consent depending on an involvement of "miners", which, by means of their work (or, more precisely, their computers' work), guarantee integrity and security of transactions on a blockchain.

In other words, the more miners, the safer the network is. However, it is not simple to become a miner. First, it is necessary to acquire and assemble the required hardware, to select individual components carefully, considering their processing power, power consumption and price. Then the equipment needs to be configured properly. It can include not only determination and application of the necessary settings, but also more radical interferences, such as BIOS reset.

Thirdly, it is necessary to acquire and set the suitable mining software. It should be noted that each currency requires different software and different settings. Mining equipment has to be checked and supported continuously. It includes fine-tuning of operational parameters, installation of updates, diagnostics and fault recovery, etc.

Problem Statement

According to the analytics company Jon Peddie Research, 20 million video cards will be produced in 2017. During the first two quarters, the growth of sales was extraordinary — 31–34% compared with the previous year. This growth can be explained with demand for cards for cryptocurrencies mining. At least 5 million GPU will be bought in 2017 for the sole purpose of mining.

There are at least 1000 large farms (with a size of 1000 GPU and above) and hundreds of thousands of small and medium farms (10+ cards).

It is necessary to understand that GPU developers only began to optimize the products for miners, but the vast number of cards was created for gaming purposes. In case of mining, many parts of video cards, both hardware and software, are not utilized, while consuming energy.

At a medium-sized farm (according to our estimates, starting at about 1000 cards), the costs of the electric power and heat management begin to play a significant role.

Everyone engaged in mining understands the importance of heat management. It is especially difficult to do it in nonindustrial environment. Hardware is often utilized under extreme loads — at high temperatures of video cards, highest utilizations of coolers and power supply units. In theses conditions operating cost of farms increases and hardware lifetime is reduced. The challenges of heat dissipation reduce the number of video cards that can be installed in nonindustrial environment.

In addition to the above problems, there are other accompanying tasks, such as fast change-over of GPU capacities from one currency to another and the future possibility of re-targeting GPU capacities to other applications, if the demand for cryptocurrencies mining reduces.

Solution

Due to lack of proper drivers from the developers of the cards, Mining Solutions has developed its own solution to manage heat dissipation.

Initially we used standard means of AfterBurner to solve the problem of thermal emission at the overclocked card, but the results were unsatisfactory.

Then we decided to make detailed audit of algorithms at the level of drivers. We have decided to develop our own driver ensuring optimum hardware performance. Experiments have proven to be costly, as some cards were completely destroyed, but the results have surpassed our expectations.

Below are the main Mining Solutions Products (MSP) — our software products allowing to significantly increase mining efficiency.

Importance for blockchain community

Mining Solutions Products are specifically designed to improve integrity and stability of blockchain community, reducing entry barrier for newcomers and improving stability of mining equipment, resulting in increased stability of the system.

Mining Solutions is not only creating an environment for miners, but also working on future applications for using distributed resources (GPU) in artificial intelligence, video processing, science and space industry.

MSP Driver NVidia P106-100 is a software product that reduces working temperature by 14–16% and increases service life of video cards up to 24 months while maintaining hashrate (Hashimoto) at 24–25 MH/sec.

MSP Driver AMD 400/500 series is a software product that reduces working temperature by 5–10% and increases service life of video cards up to 24 months while maintaining hashrate (Hashimoto) at 29–30 MH/sec.

MSP One-Click Installer is a software product for automatic detection of video cards and optimization of their operation.

MSP Miner is a software product for efficient mining using video cards. Fast and simple installation and friendly interface will allow you to focus on market

monitoring and to quickly switch capacities to process more favorable tasks (cryptocurrencies).

MSP Pool is a multitask mining pool allowing optimum performance of the connected capacities.

MSP OS is a fast and easy way to start mining. Insert the USB stick and turn on the computer. Select currency, select a pool, enter a wallet and enjoy the mining. Simple and convenient control of video cards on both PC and smartphone. It is not necessary to install Windows, Linux, or Ubuntu.

MSP Next Generation is a next-generation software product for using distributed resources (GPU) in such applications as artificial intelligence, video processing, science and space industry.



Mining Solutions

With the advent of information from China on emergence of NVidia GF 1060, a new type of gaming video cards, Mining Solutions decided to purchase some cards to perform detailed testing and research the opportunities for processing operations using such algorithms as Dagger-Hashimoto. The initial information was so promising that we could hardly beat the urge to buy a huge number of cards at once; the common sense won, and we purchased only 24 units for testing.

These cards were quickly allocated in a stand and launched for tests. Right after the beginning of operation it became clear that basic settings leave much to be desired, and attempts to disperse cards available means on the Internet led to essential increase in working temperature of chips that could reduce service life of video cards strongly.

Of course, in comparison with the ASICs (ASIC — Application Specific Integrated Circuit, a special scheme for very fast calculation of certain algorithms: SHA256, Scrypt), the stand made noise much less, but the selected volume of heat and temperature increase of chips did not give up hope for operation in standard modes. Besides, to our regret, we did not find the special branded Nvidia driver for execution of the mining tasks.

Internal ambitious reserves of the company have been attracted to the solution of this task and experiments and researches have begun.

Standard means of Afterburner have been applied to a solution of the problem of thermal emission at the dispersed card, but the received results were unsatisfactory.

Then it has been decided to make detailed audit of algorithms at the level of drivers. At own risk we have decided to develop own driver ensuring optimum functioning of hardware. Of course, experiments have their price and led to a breakdown of some experimental cards, but the received results have surpassed our expectations.

By the time of the end of experiments, the Nvidia company put on the market the special version of mining video cards GF P106-100 series, also without having provided for them the branded driver. BUT! We already had a good experience with their predecessors and Mining Solutions decided to update GPU powers fully.

So, the miracle and against the background of a universal agiotage and absence of video cards came true, our partner in operation with China provided us a batch of cards, we allocated them in stands and received tremendous results.

MSP Driver P106-100

The software product is simple in installation, reduces working temperature and raises service life of Nvidia GF 1060 video cards while maintaining maximum speeds of a mining. This product was developed in the 2nd quarter of 2017 when this series of video cards became available. In the 3rd quarter of 2017 we held a large-scale testing of the driver and also developed an improved version. Details of technical performances are given in table 1.

Table 1. Performance metrics of the driver.

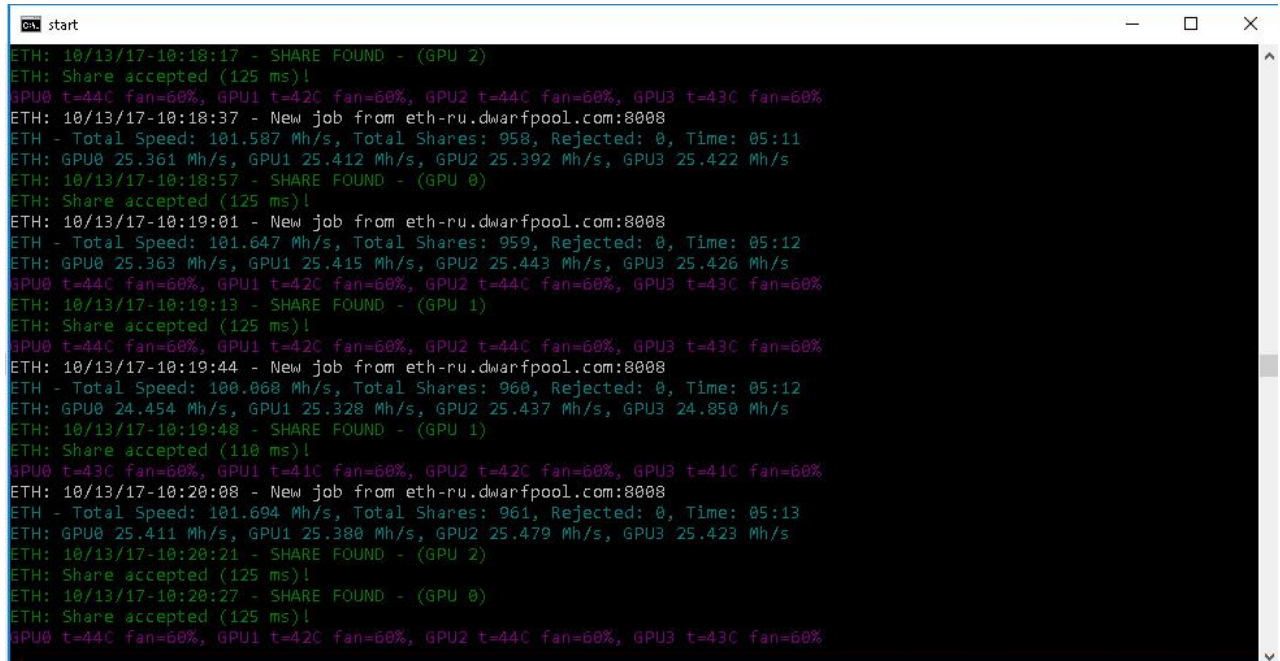
	Basic (performance of video cards with factory settings)	Afterburner (performance of video cards with manual settings)	MSP Driver v1.3 P106-100 (Rough Tune)	MSP Driver v1.6 P106-100 (Smart Tune)*
Power consumption, Watt per 1 card	100±5	110±5	83±3	72±3
Operating temperature, °C	56-62	65-72	50-55	40-45
Fan Speed, %	100	100	80	60
HashRate Dagger-Hashimoto	19,5-20,5	23,5-25	24,2-25	24,5-25,5
Service life, months	3+	?	6+**	12+**

*) This driver will be used only with MSP One-click installer

**) Based on data from Mining Solutions Data Center

During the development of the driver the main requirement was to maintain operational abilities of the Integrated Circuits while maximizing processing power. Screenshots from PCs performing mining are given below. Also on the website

(<http://www.minso.net>) you can examine operation of the software in real time, and, possibly, to ask operator a question.



```
start
ETH: 10/13/17-10:18:17 - SHARE FOUND - (GPU 2)
ETH: Share accepted (125 ms)!
GPU0 t=44C fan=60%, GPU1 t=42C fan=60%, GPU2 t=44C fan=60%, GPU3 t=43C fan=60%
ETH: 10/13/17-10:18:37 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 101.587 Mh/s, Total Shares: 958, Rejected: 0, Time: 05:11
ETH: GPU0 25.361 Mh/s, GPU1 25.412 Mh/s, GPU2 25.392 Mh/s, GPU3 25.422 Mh/s
ETH: 10/13/17-10:18:57 - SHARE FOUND - (GPU 0)
ETH: Share accepted (125 ms)!
ETH: 10/13/17-10:19:01 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 101.647 Mh/s, Total Shares: 959, Rejected: 0, Time: 05:12
ETH: GPU0 25.363 Mh/s, GPU1 25.415 Mh/s, GPU2 25.443 Mh/s, GPU3 25.426 Mh/s
GPU0 t=44C fan=60%, GPU1 t=42C fan=60%, GPU2 t=44C fan=60%, GPU3 t=43C fan=60%
ETH: 10/13/17-10:19:13 - SHARE FOUND - (GPU 1)
ETH: Share accepted (125 ms)!
GPU0 t=44C fan=60%, GPU1 t=42C fan=60%, GPU2 t=44C fan=60%, GPU3 t=43C fan=60%
ETH: 10/13/17-10:19:44 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 100.068 Mh/s, Total Shares: 960, Rejected: 0, Time: 05:12
ETH: GPU0 24.454 Mh/s, GPU1 25.328 Mh/s, GPU2 25.437 Mh/s, GPU3 24.850 Mh/s
ETH: 10/13/17-10:19:48 - SHARE FOUND - (GPU 1)
ETH: Share accepted (110 ms)!
GPU0 t=43C fan=60%, GPU1 t=41C fan=60%, GPU2 t=42C fan=60%, GPU3 t=41C fan=60%
ETH: 10/13/17-10:20:08 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 101.694 Mh/s, Total Shares: 961, Rejected: 0, Time: 05:13
ETH: GPU0 25.411 Mh/s, GPU1 25.380 Mh/s, GPU2 25.479 Mh/s, GPU3 25.423 Mh/s
ETH: 10/13/17-10:20:21 - SHARE FOUND - (GPU 2)
ETH: Share accepted (125 ms)!
ETH: 10/13/17-10:20:27 - SHARE FOUND - (GPU 0)
ETH: Share accepted (125 ms)!
GPU0 t=44C fan=60%, GPU1 t=42C fan=60%, GPU2 t=44C fan=60%, GPU3 t=43C fan=60%
```

From the screenshot the operator can check the current period of operation of video cards, their performance and temperature.

On the picture: GPU0&GPU1 — Palit P106-100; GPU2&GPU3 — MSI P106-100

Installation

Installation of the version of the selected driver is done by standard methods in an operating system.

A trained expert should perform the installation.

Risks

Installation of a product under Windows 10 is recommended.

Potential for further product development

Development of a product of MSP Driver v.1.3 P106-100 is the first important development in the portfolio on Mining Solutions products. Further we plan to study factors influencing speed, thermal emission and durability of the equipment. Most likely, settings will be corrected, depending on the chosen mining algorithm.

MSP Driver v.1.3 P106-100 will distributed as an independent finished product and owners of tokens of MSP will be able to get access to download the distribution kit for the driver.

The next generation is the MSP Driver v.1.6 P106-100 driver which adjusts the card for specifically chosen algorithm of calculations (cryptocurrency). As the

chosen settings depend on calculation algorithms, this product will be used only with MSP One-Click Installer.

Calculation of advantages to a small facility (1000 cards)

Below we provide an example of a farm of a size of about 1000:

	Factory settings	MSP Driver P106-100
1002 cards 167 PC* 800 Watt	134 kW	100 kW
Cooling system	45 kW	35 kW
Hashrate (dagger-hashimoto) 1002 cards * 20 MH/sec	20 GH/sec	25 GH/sec
Operating temperature, °C	55-60	40-45

All measurements (factory and optimized) have been performed in Mining Solutions Data Center.

Main advantages of the Driver:

- decrease in power consumption by 35-45 kW
- increase in speed of calculations by 5 GH/sec.
- decrease of operating temperature by 15-20 °C

It is obvious that such optimization not only increases economic value of the project, but also allows to establish quickly and reliably required settings for the best mining performance.

Users advantages



- Fast installation of the required settings of video cards with the Nvidia P106-100 chipset with the minimum probability of misconfiguration
- Increase in service life resulting from lower operating temperature
- Lowering of power consumption up to 20% resulting from optimum thermal mode and lowering the load on fans
- Maximizing speed of calculations (15-20% higher than base)

How to purchase a product

This product is already developed and has been validated in several GPU data centers and will be available to exchange for tokens after their listing at the exchanges. Detailed information about exchange and date of listing is in appropriate sections Exchange of tokens for software solutions of Mining Solutions.

Also tokens can be exchanged for status programs which offer essential discounts for perspective products. More detailed description is provided in the section: Status Mining Solutions program.

To be aware of the latest events and to be Whitelisted for Presale please register on the website <http://www.minso.net>

MSP Driver AMD 400/500 series

The next type of video cards which became available to us were cards with AMD chips of 400/500 type, specifically RX 470. Our experts performed testing of the cards, applying standard methods of acceleration (AfterBurner) and, within legal ranges, changing the BIOS settings. It is necessary to note that changing BIOS settings, requires caution. Nevertheless, results were not impressive. Then we decided to apply our experience with Nvidia cards and achieved superior performance, provided in the table 2 below:

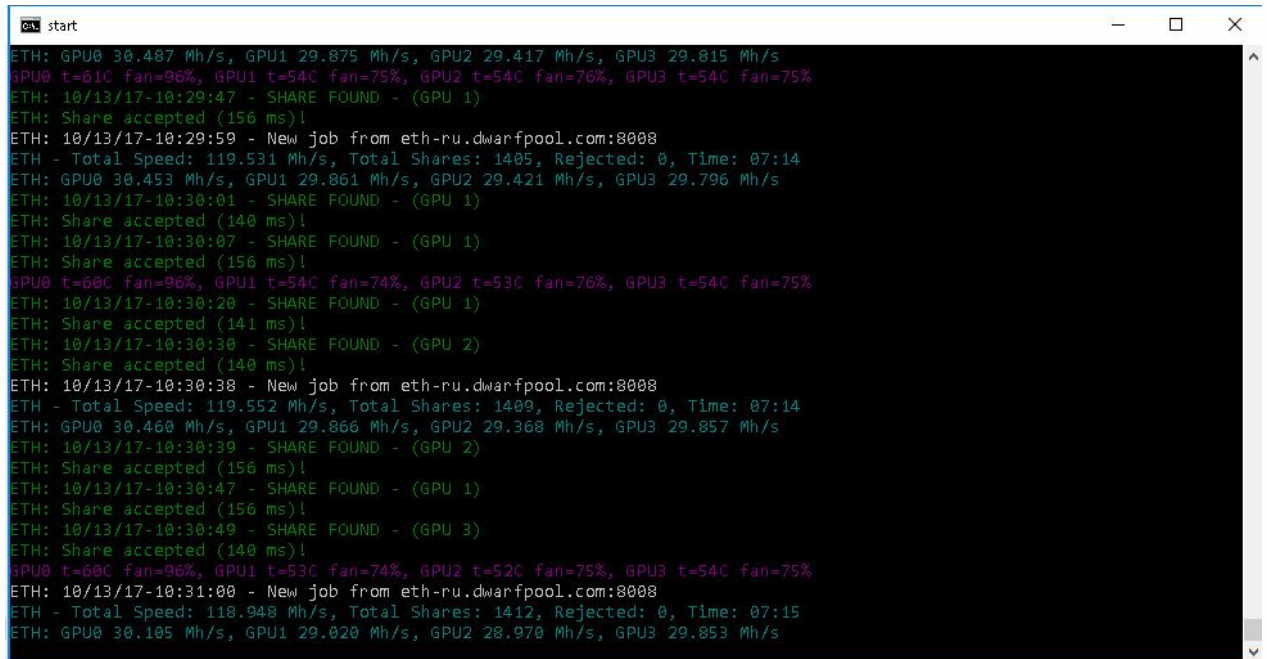
Table 2. Performance metrics of the driver.

	Basic (performance of video cards with factory settings)	Afterburner (performance of video cards with manual settings)	MSP Driver v2.3 AMD RX 400/500 (Rough Tune)	MSP Driver v2.6 AMD RX 400/500 (Smart Tune)*
Power, Watt per 1 card	120-130	130-150	105-110	96-102
Operating temperature, °C	62-66	67-72	62-66	56-61
Fan Speed, %	100	100	80	70
HashRate Dagger-Hashimoto, MH/sec	19,5-20,5	29-31	29-31	29,5-31,5
Service life, months	3-12 garantee	?	6+**	12+**

*) This driver will be used only with MSP One-click installer

**) Based on data from Mining Solutions Data Center

By development of the driver the main requirement was to save operational abilities of chips with the maximum frequency of calculations. Screenshots of operating PCs are given below, also on the website (<http://www.minso.net>) you can examine operation of a software in real time, and, perhaps, to ask questions to the operator.



```

start
ETH: GPU0 30.487 Mh/s, GPU1 29.875 Mh/s, GPU2 29.417 Mh/s, GPU3 29.815 Mh/s
GPU0 t=61C fan=96%, GPU1 t=54C fan=75%, GPU2 t=54C fan=76%, GPU3 t=54C fan=75%
ETH: 10/13/17-10:29:47 - SHARE FOUND - (GPU 1)
ETH: Share accepted (156 ms)!
ETH: 10/13/17-10:29:59 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 119.531 Mh/s, Total Shares: 1405, Rejected: 0, Time: 07:14
ETH: GPU0 30.453 Mh/s, GPU1 29.861 Mh/s, GPU2 29.421 Mh/s, GPU3 29.796 Mh/s
ETH: 10/13/17-10:30:01 - SHARE FOUND - (GPU 1)
ETH: Share accepted (140 ms)!
ETH: 10/13/17-10:30:07 - SHARE FOUND - (GPU 1)
ETH: Share accepted (156 ms)!
GPU0 t=60C fan=96%, GPU1 t=54C fan=74%, GPU2 t=53C fan=76%, GPU3 t=54C fan=75%
ETH: 10/13/17-10:30:20 - SHARE FOUND - (GPU 1)
ETH: Share accepted (141 ms)!
ETH: 10/13/17-10:30:30 - SHARE FOUND - (GPU 2)
ETH: Share accepted (140 ms)!
ETH: 10/13/17-10:30:38 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 119.552 Mh/s, Total Shares: 1409, Rejected: 0, Time: 07:14
ETH: GPU0 30.460 Mh/s, GPU1 29.866 Mh/s, GPU2 29.368 Mh/s, GPU3 29.857 Mh/s
ETH: 10/13/17-10:30:39 - SHARE FOUND - (GPU 2)
ETH: Share accepted (156 ms)!
ETH: 10/13/17-10:30:47 - SHARE FOUND - (GPU 1)
ETH: Share accepted (156 ms)!
ETH: 10/13/17-10:30:49 - SHARE FOUND - (GPU 3)
ETH: Share accepted (140 ms)!
GPU0 t=60C fan=96%, GPU1 t=53C fan=74%, GPU2 t=52C fan=75%, GPU3 t=54C fan=75%
ETH: 10/13/17-10:31:00 - New job from eth-ru.dwarfpool.com:8008
ETH - Total Speed: 118.948 Mh/s, Total Shares: 1412, Rejected: 0, Time: 07:15
ETH: GPU0 30.105 Mh/s, GPU1 29.020 Mh/s, GPU2 28.970 Mh/s, GPU3 29.853 Mh/s
  
```

On a screenshot experts can check the current period of operation of video cards and also their productivity and temperature. On the picture: GPU0 – MSI RX-580, GPU1 — Powercolour RX-570, GPU2 — Gigabyte RX-480, GPU3 — Powercolour RX-470

Calculation of advantages to a small facility (1000 cards)

Further we will give an example of a farm at which about 1000 cards work:

	Base tunes	MSP 400/500 series	Driver RX
1002 cards 167 PC* 1000 Watt	167 kW		134 kW
Cooling system	56 kW		44 kW
Hashrate (dagger-hashimoto) 1002 cards * 20 MH/sec	20 GH/sec		30 GH/sec
Operating temperature, °C	62-66		56-60

All technical characteristics (basic and optimized) have been received on the basis of the Mining Solutions Data Center.

Main advantages:

- operational decrease in power consumption by 40-45 kW
- increase in speed of calculations on 10 GH/sec.

- decrease in operational temperature by 5-10 °C

It is obvious that such optimization not only increases economic appeal of the project, but also allows to establish quickly and reliably required settings for the best mining.

Users advantages



- Fast installation of the required settings of video cards with the RX 400/500 AMD chipset with the minimum probability of misconfiguration



- Increase in service life resulting from lower operating temperature



- Lowering of power consumption up to 20% resulting from optimum thermal mode and lowering the load on fans
- Maximizing speed of calculations (25-50% higher than base)

Installation

Installation of the version of the driver selected by you is made by standard methods in an operating system.

Specially trained expert shall make installation.

Risks

As the version of this product is intermediate, installation of a product under Windows 10 is recommended.

Prospects of a product development

Two versions of a product MSP Driver v2.2 BIOS AMD 400/500 and MSP Driver v2.7 BIOS AMD 400/500 are developed.

As well as the previous MSP Driver v2.2 BIOS AMD 400/500 driver will extend as the independent finished product and owners of tokens of MSP will be able to get access to downloading of a distribution kit of the driver.

The MSP Driver v2.7 BIOS AMD 400/500 driver adjusts the card under directly chosen algorithm of calculations (cryptocurrency) and this product will be used only with MSP One-Click Installer.

How to purchase a product

This product is already developed and has been validated in several GPU data centers and will be available to exchange for tokens after their listing at the exchanges. Detailed information about exchange and date of listing is in appropriate sections Exchange of tokens for software solutions of Mining Solutions.

Also tokens can be exchanged for status programs which offer essential discounts for perspective products. More detailed description is provided in the section: [Status Mining Solutions program.](#)

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MSP One-Click Installer

A software product for fast and simple optimization of GPU capacities. The software automatically defines system configuration and uses the latest carefully tested Mining Solutions drivers.

The idea to develop an automatic driver installer arose almost immediately as it became clear that even video cards of the same vendor with identical settings work a little bit differently. This is why MSP One-Click Installer is a next-level product. It defines PC configuration and type (vendor) of video cards and installs a driver for card.

How does the MSP One-Click Installer work?

1. Install an OS.
2. From the command line or using a mouse, run the MSPOneClickDriverInstaller executable file.
 - a. The installer will define the type of video cards, select the appropriate driver and install it.
3. In the PC Hardware Windows section, make sure that all cards are detected and are working normally.
4. Enjoy the mining!

Installation

The selected version of the driver is installed using standard methods of your operating system.

A specially trained expert shall perform the installation. The supplier provides a detailed installation manual and remote technical support.

Risks

As the version of this product is intermediate, we recommend installing it on Windows 10.

Product Development Prospects

Since MSP One-Click Installer is basically an installer, the development of this product comes down to detecting other types of cards and creating the appropriate tools for MSP One-Click Installer to use. The driver is also being tested on various operating systems. Completion of development is planned for March 2018.

MSP Miner

Software product for effective mining on video cards and fast switching of the mined cryptocurrencies.

Simple and fast installation, coupled with a friendly interface, will allow you to focus on monitoring the market and to quickly redirect capacities towards processing more profitable computing tasks.

To launch MSP Miner, you only need to know the wallet number, pool address and the mined coin. Optimization and configuration of the system is performed automatically. Unlike Claymore's miner, our miner does not charge operation fees.

The idea to develop our own miner came at congresses and conferences from miners who complained about an extremely tedious procedure of switching from one cryptocurrency to another. Furthermore, our experts discovered that cards with the same name and vendor may have different internal configuration; therefore, individual preferences for each calculation algorithm are required. The tests confirmed our assumptions. Today our specialists test various types of video cards and optimize drivers under different algorithms.

When a new priority calculation algorithm is selected, the MSP Miner performs reinstallation of drivers (or re-setup of video cards) in order to make your mining even more effective

Product Development Prospects

Development of this product is directed towards unification and development of opportunities of centralized control and management of miners from a single personal computer or smartphone.

How does the MSP Miner work?

1. Install an OS.
2. From the command line or using a mouse, run the MSP_Miner executable file.
3. Setup the miner following tips from the installer:
 - a. Choose a mining algorithm from the list.
 - b. Enter the number of the wallet where bonuses for using your GPU capacities will be paid.
 - c. Choose a pool you want to join (either from the list, or manually).
4. Press Start and enjoy the mining!

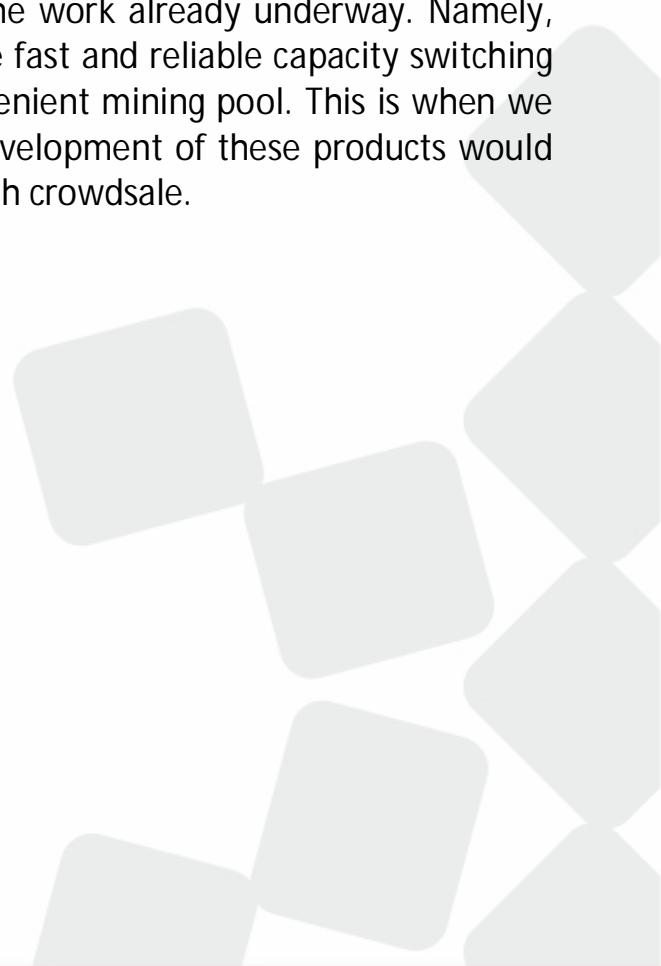
Mining Solutions RoadMap

The history of Mining Solutions began at a small data center for mining cryptocurrencies. From the very beginning, our experts had been discussing what a perfect data center setup should look like: ASICs, video cards, or something else. Finally, they decided to install several ASICs and GF 1060 or RX 470 video cards (the most efficient ones at the time).

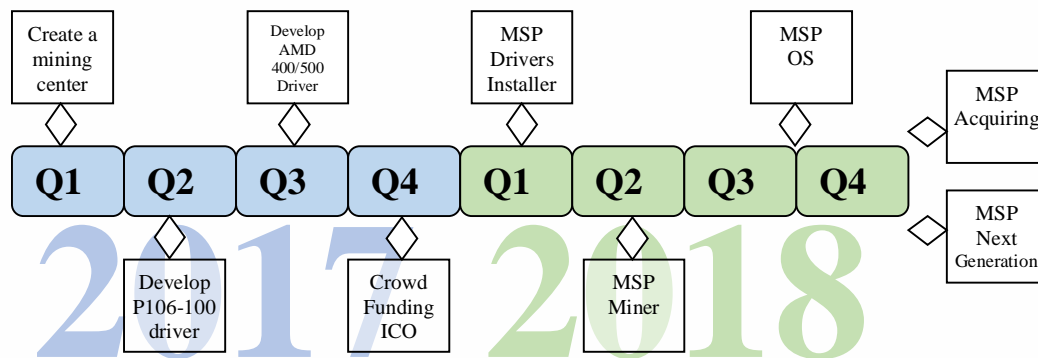
We spent Q2 and Q3 2017 closely studying the principles of video card operation, purchasing and testing cards from various vendors, trying to understand why the same settings may give excellent performance or have no effect at all. At about the same time, we began to actively cooperate with other players in the mining community. It turned out that nearly all of those who work with video cards face similar problems. We then decided to package our knowledge and experience into a single product that would make it easy to setup video cards on farms for mining cryptocurrencies.

This is why our first drivers were intended for GF 1060 and RX 470 video cards. Work on the automated MSP One-Click Installer began. The main task of this software is to automatically determine the type of video card and its accessories and to select the appropriate driver. Work on this software is at the final stage.

Interaction with miners revealed other tasks calling for urgent solutions, which will be the natural improvement of the work already underway. Namely, we need mining software that would provide fast and reliable capacity switching to mine the required algorithms, and a convenient mining pool. This is when we realized that with our own resources, the development of these products would take too long. This is why we decided to launch crowdsale.



Development and Production Roadmap



Q1
2017

Create a Mining Solutions mining center
Start the first stage for BTC mining

Q3
2017

Develop NVIDIA P106-100 and AMD Radeon RX 400/500 series drivers

Q4
2017

Start sale of tokens, release drivers for public use, launch a multi-currency pool

2018 +

Update Mining Solutions Products and create a single environment
MSP One-Click Miner development, MSP One-Click Installer development, MSP OS development, MSP Acquiring, etc.

2019 +

Research priority tasks for development of MSP Next Generation

Crowdfunding

Why Crowdfunding?

Mining Solutions plans to actively develop an environment for effective application of GPU capacities. Things change quickly in the digital world, and new quality products are required even quicker. This is why we have decided to launch a public crowdsale to help us fund a faster development of products for the mining community and other useful applications.

Advantages for the Blockchain Community

In general, our products have several important advantages for blockchain technology.

1. They significantly increase the number of people involved in mining and increase decentralization thanks to easier farm installation and management.
2. They create a single environment for miners and related industries in the future.
3. They secure the future. We create tools to use the available GPU capacities for various applications, from science and space industry to video processing and artificial intelligence.

Mining Solutions Tokens

After the crowdsale campaign, tokens can be exchanged for the available Mining Solutions products (detailed information in the Token Exchange section), or for participation in the Mining Solutions status program.

Tokens will be actively used in the Mining Solutions environment as a key to use freely circulating products, such as MSP Pool, on the one hand, and for gaining access to new software products (MSP Miner, MSP OS, MSP Acquiring, MSP Next Generation), on the other hand.

Furthermore, Mining Solutions will use tokens by for full or partial compensation of efficient solutions provided by partners.

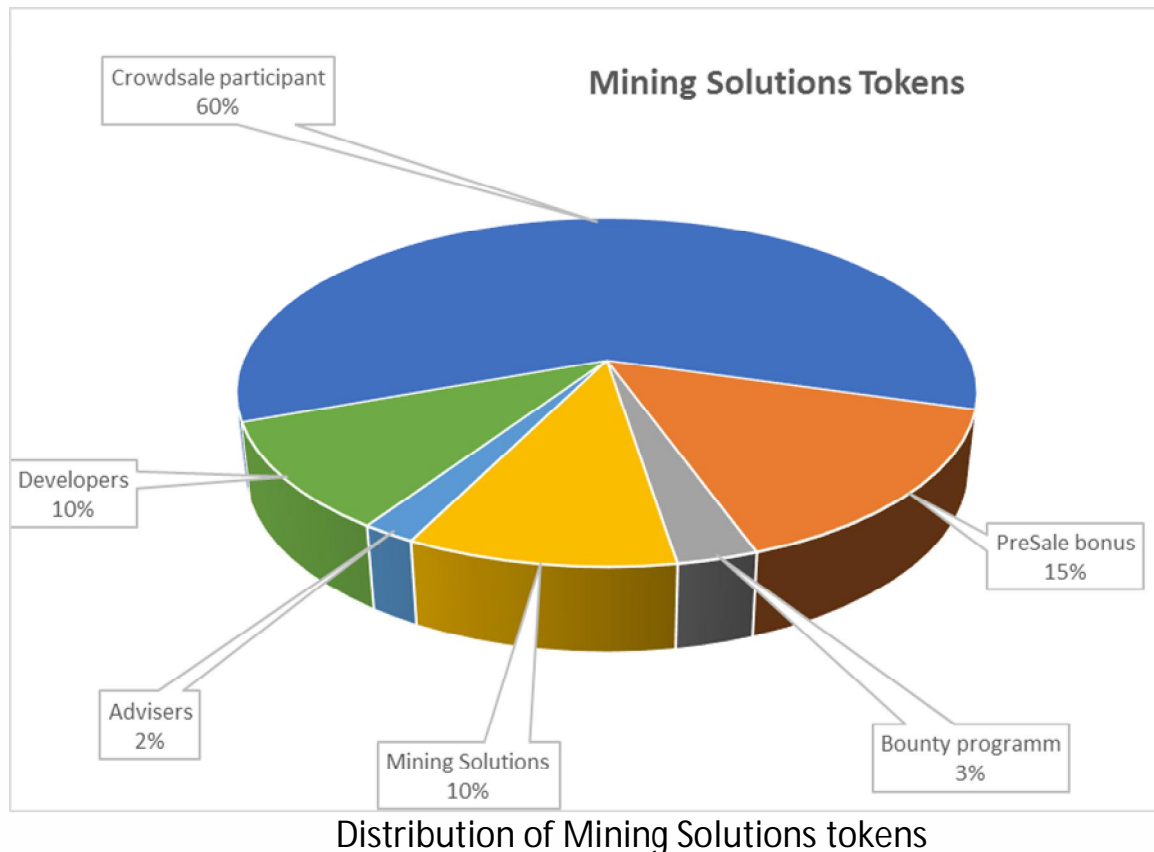
Mining Solutions Token Release

We will release 10,000,000 Mining Solutions tokens to fund the project. We think that number of tokens is enough for full functioning of the environment.

Tokens will be based on the Ethereum platform (ERC20) and be managed by the existing ETH solutions, such as MyEtherWallet.

The token pool will be divided as follows:

- Crowdsale participants: 6,000,000 (60%)
- Crowdsale bonuses: 1,500,000 (15%)
- Advisors: 200,000 (2%)
- Bounty program: 300,000 (3%)
- Mining Solutions: 1,000,000 (10%)



No additional tokens will be created during or after sale.

Tokens will be used as the only form of exchange for Mining Solutions products and Membership Mining Solutions.

Token Sale

The tokensale campaign is planned to be conducted within 6 (six) stages of 1 million tokens each. At the first stage, the buyer receives an additional 50% of tokens, 2% + 35%, 3% + 20%, 4% 10%, 5% additional tokens. Before starting the implementation, you must register with Whitelist in order to receive timely information about the beginning of the implementation of the tokensale and receive detailed instructions.

The token sale campaign will be held for two weeks and in several stages. The first week is presale for the participants from the whitelist. The second week

is for participants who haven't managed to register. Additional 3% of bonus funds will be distributed among participants who have bought more than 1000 tokens. Detailed information is provided below.

Table. Token Sale Program

Stage	Max number of tokens for sale	Bonus, %	Bonus, tokens
Stage 1	1 000 000	50%	500 000
Stage 2	1 000 000	35%	350 000
Stage 3	1 000 000	20%	200 000
Stage 4	1 000 000	10%	100 000
Stage 5	1 000 000	5%	50 000
Stage 6	1 000 000		0
	6 000 000		1 200 000



Token Sale Program

To take part in the presale and to receive the maximum bonus you need to be whitelisted.

Token Price

The preliminary cost of a token is ETH 0.01. The cost of a token will be further regulated by the marketplace at the available exchanges, in particular Etherdelta. After listing at the exchange on January 25, 2018, you will be able to buy the remaining tokens from Mining Solutions at the price of ETH 0.02.

How Do I Purchase Mining Solutions Tokens?

Mining Solutions tokens can be acquired in several ways:

1. Participation in the token sale program (the fastest and cheapest option)
2. Buying tokens at the exchange after the token sale campaign
3. Buying tokens from Mining Solutions (the cost isn't determined)

Exchanging Tokens for Mining Solutions Software

After the token sale campaign, token owners will be able to sell tokens at the exchange, or to exchange them for Mining Solutions software.

Token exchange for MSP Driver P106-100 and MSP Driver AMD 400/500 series

For MSP Driver P106-100 and MSP Driver AMD Series 400/500, the exchange equivalent will look as follows:

Package	Number of drivers*	Price, tokens	Price of 1 driver, tokens
<i>Simple</i>	1	50	50
<i>Standard</i>	5	225	45
<i>Advanced</i>	11	440	40
<i>Professional</i>	51	1,785	35
<i>Factory</i>	101	3,030	30
<i>Industrial</i>	501	12,525	25
<i>Corporation</i>	1,001	20,020	20

*) 1 (one) driver on 1 (one) motherboard (rig)

Participants of the status program will be able to obtain a complete set of drivers for various platforms (Windows, Linux, Ubuntu, etc.), software updates and discounts for higher-level products (MSP One-Click Installer, MSP OS). Detailed information is available in the Mining Solutions Status Program section.

Token Exchange for MSP One-Click Installer

MSP One-Click Installer is a higher-level software solution. It is a combination of a system for automatic detection of video cards types and their components which, during installation, select the most suitable driver and parameters irrespective of the type of video card you are using.

Package	Number of drivers *	Price, tokens	Price of 1 driver, tokens
<i>Simple</i>	1	100	100
<i>Standard</i>	5	450	90
<i>Advanced</i>	11	880	80
<i>Professional</i>	51	3,570	70
<i>Factory</i>	101	6,060	60
<i>Industrial</i>	501	25,050	50
<i>Corporation</i>	1,001	40,040	40

*) 1 (one) driver on 1 (one) motherboard (rig)

Procedure for Exchanging Tokens for Software Solutions

1. Create an account.
2. Choose the necessary packages and send a request.
3. Transfer tokens to the specified address.
4. Download a compressed file from your account page.



Mining Solutions Status Program

Mining Solutions has developed a status program for participants of the Mining Solutions environment. This program aims to effectively satisfy the needs of environment participants while timely introducing software solutions relevant for the market. We hope that our participants will actively contribute to the development of products and formation of consumer requirements for the said products. Today, the Mining Solutions status program for environment participants looks as follows:

Mining Solutions Products	Silver 100 tokens	Gold 500 tokens	Platinum 1000 tokens
<i>MS News</i>	+	+	+
<i>Individual Offer* For NVIDIA and AMD drivers</i>	+	+	+
<i>MSP One-Click Installer support + updates</i>	10% discount	20% discount	30% discount
<i>MSP Miner* support + updates</i>	Free 10% discount fee	Free 25% discount fee	Free 50% discount fee
<i>MSP OS support + updates</i>	10% discount	20% discount	30% discount
<i>MSP Pool* support + updates</i>	Free 10% discount fee	Free 25% discount fee	Free 50% discount fee
<i>MSP Acquiring</i>			Testing & first for use
<i>MSP Next Generation</i>			Testing & first for use

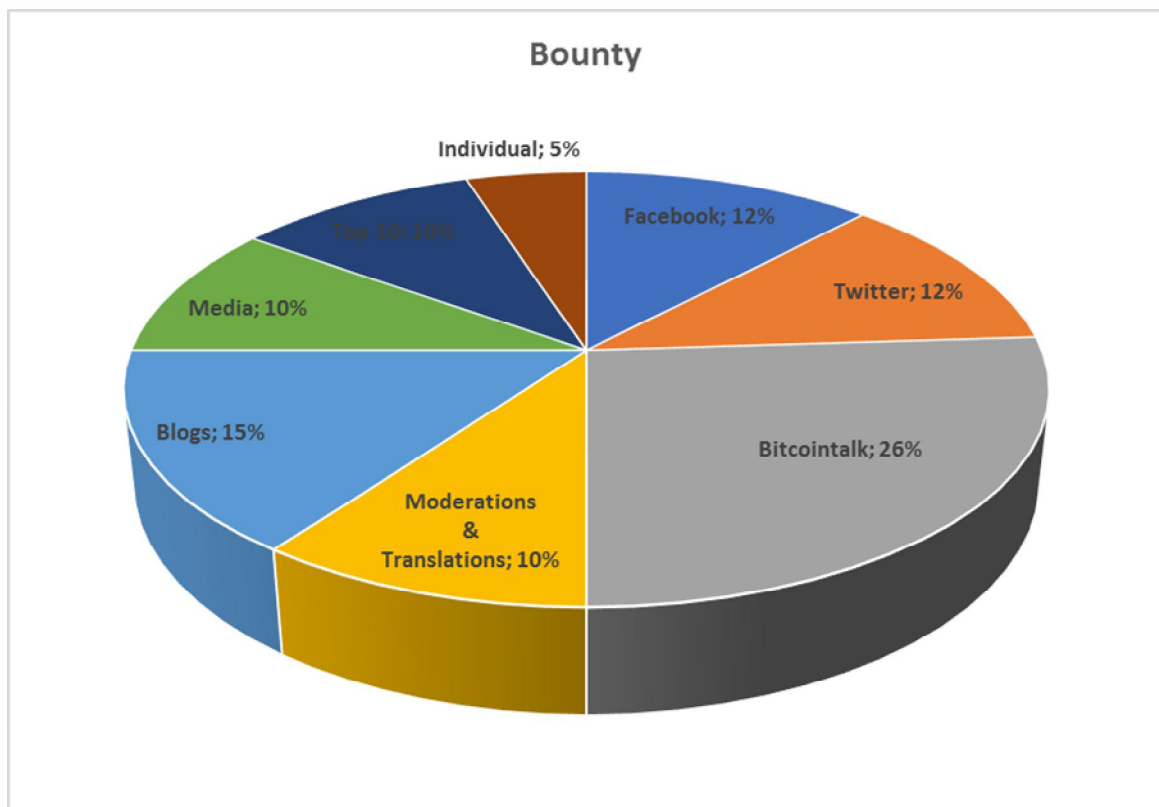
*) A possibility to merge packages for different types of video cards into a larger package.

If you have suggestions or recommendations on how to make our status program better, kindly send them to: info@minso.net

Bounty Program

The bounty program provides rewards for active promotion of Mining Solutions products. Three percent of the released tokens will be allocated for the bounty program. The bounty will be allocated as follows:

- Facebook	12%
- Twitter	12%
- Bitcointalk	26%
- Translations and moderations	10%
- Blogs	15%
- Media	10%
- Top 10	10 %
- Individual	5%



The bounty will be allocated within 14 days after the token sale.

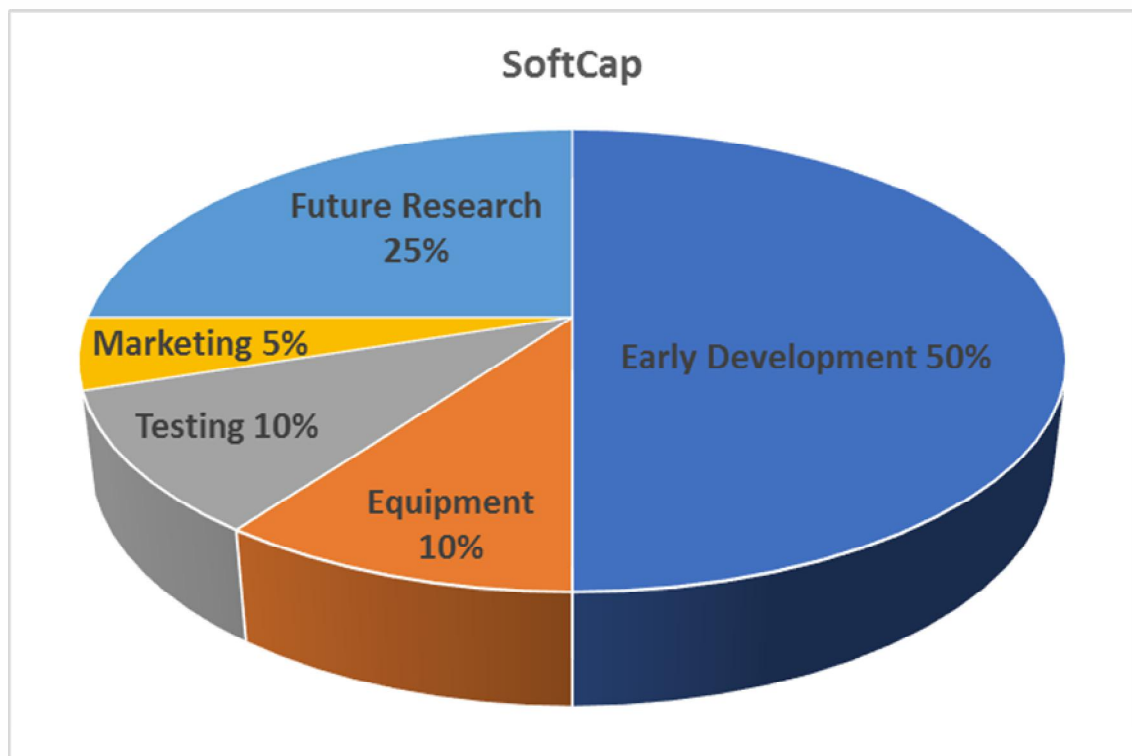
Distribution of Proceeds

Mining Solutions is very responsible when it comes to investor money. The minimum and maximum amount to be raised was therefore determined in advance.

Distribution of SoftCap

If the minimum amount is raised (about ETH 1000), Mining Solutions plans to distribute the funds as follows:

Early development	50%
Equipment	10%
Testing	10%
Marketing	5%
Future research	25%



Distribution of HardCap

If the maximum is raised (about ETH 20,000), the distribution will be different, since solving promising tasks is associated with the creation of algorithms for adapting current tasks and formats of digital streams to the capabilities of distributed GPU capacities. Therefore, in this case, more attention will be paid to enlisting relevant experts.

Marketing and business investigations
(Find&Define tasks, developing
algorithms for using in distributed
GPUs)

35%

Development (programming)

25%

Testing

(fee for using GPU capacities)

10%

Salaries and fees

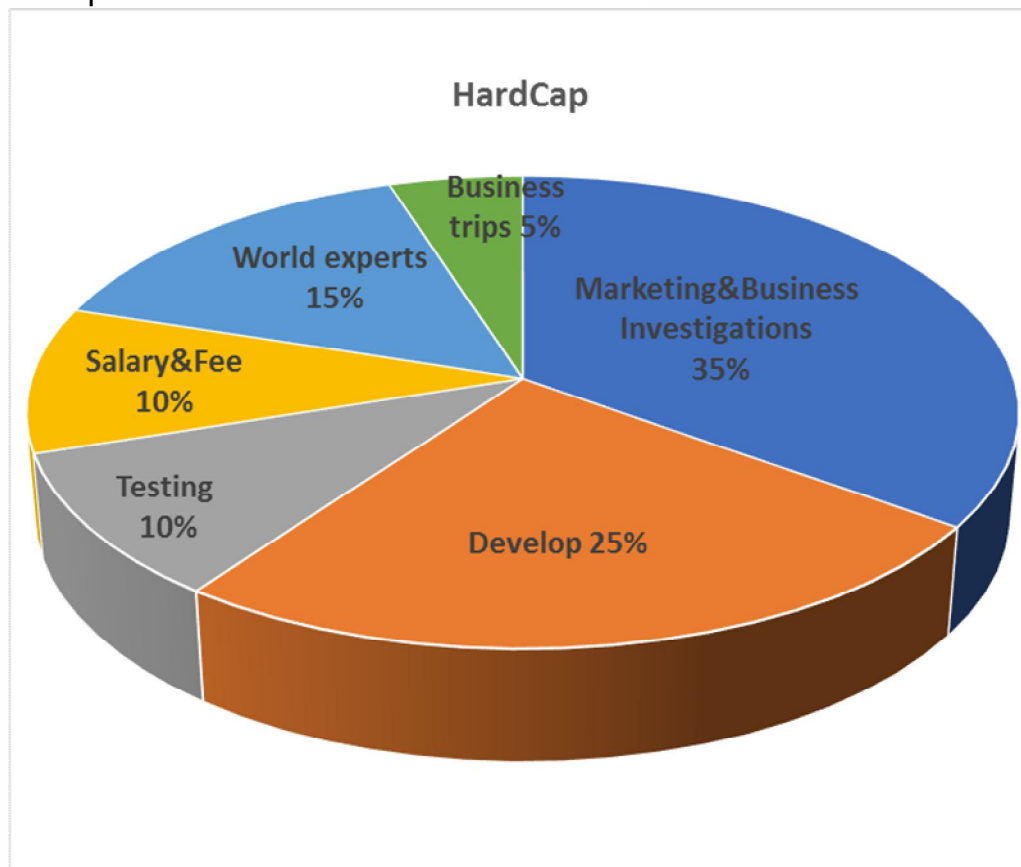
10%

Engaging world-class experts in
business, entertainment, video,
hardware, software

15%



Business trips

5%



Mining Solutions Team

	<p>Stas Chulkov</p> <p>CEO & Co-founder, MBA</p> <p>Has been managing information and digital technologies since 2001.</p> <p>Founder and director of TsVT since 2009. Implementation and introduction of large information systems at state and finance companies. Proprietary information systems.</p> <p>Graduated from Novosibirsk State University.</p>
	<p>Ilya Skribunov</p> <p>Finance Director & Co-founder, MBA</p> <p>For more than 10 years, Ilya had been studying biophysics of living systems at Novosibirsk State University and the Institute of Biophysics in Krasnoyarsk.</p> <p>Did an internship at the Antwerp University Hospital in 2003.</p> <p>Co-founded a consulting company in 2004. Industrial and social consulting.</p> <p>Graduated from Novosibirsk State University.</p> <p>MBA in corporate finance at the Moscow Business School.</p>
	<p>Alex Semisynov</p> <p>Marketing & Technical Partner, Co-founder, PhD</p> <p>Unique experience in developing hi-tech production startups (TermoMet).</p> <p>For more than 15 years, Alex had been involved in R&D in aerophysics and gas dynamics (ITAM SB RAS).</p> <p>Has implemented design and construction projects on a state order (GiproNiiGaz).</p> <p>Graduated from Novosibirsk State University.</p>

	<p>Stas Nosov</p> <p>Technical Director</p> <p>Management and administration of large corporate networks and data centers. Setup and security of active network and server hardware. More than 15 years of experience.</p> <p>Graduated from Novosibirsk State University.</p>
	<p>Yury Anikin</p> <p>Advisor</p> <p>CEO & Founder at Futurolab, F-lab.pro.</p> <p>Research Scientist at the Institute of Thermophysics, Siberian Branch of the Russian Academy of Science.</p> <p>Head of the Department of Analytics and General-Purpose Software at the Institute of Optoelectronic Information Technologies.</p>
	<p>Vladimir Popov</p> <p>Advisor</p> <p>IT & blockchain lawyer, author of studies on ICO, blockchain and cryptocurrencies. Specializes in project assessment. Created a 4K project analysis technique. Provided ICO support to more than 20 projects (not all of them on the legal part).</p> <p>Content marketing for Kickico, Nitro.live, Eloplay, Pluscoin. Legal support for Descrow, Imagine8, DokaDecora.</p> <p>At the request of founders, reviewed token economy and legal part for ins.world, b2bx, digmus, squarex. Performed special and joint researches for ICOtracker. Did primary assessment for Nimfamoney, Sorin, SProject.</p> <p>Did assessment for investors at Coss, Golos, Decent. Performed token economy assessment and WP study for Charitize (Solomon).</p>

Enjoy the mining!

www.minso.net

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