

# Inverse Shunting Yard Algorithm for Porting FORTH to other programming languages as host environments

Phoscript is a FORTH dialect where various FORTH constructs are ported to other programming languages as host environments, based on Inverse Shunting Yard Algorithm, reducing the barriers of entry to learn FORTH for programmers of all ages.

Further, high level abstraction of source code using Phoscript generalises Merkle trees to general purpose digital contracts, enabling unprecedented large scale collaboration for free software projects, and novel mechanisms for collecting royalties.

# Bidirectional Shunting Yard Algorithm (BiSYA)

Infix:  $3 + 4$

C, C++

PHP, Python

Java,

JavaScript

.....

Shunting Yard Algorithm (SYA)

Inverse Shunting Yard Algorithm (ISYA)

Reverse Polish Notation

$\frac{3 \ 4}{+}$

Forth

Phoscript

$\Phi\Omega\Sigma$

- I. Phoscript: Inverse Shunting Yard Algorithm
- II. Hyperhash Graph: Homoiconicity in Metaprogramming & Cryptography
- III. Examples of Omni\*Web
- IV. Working with other FORTH Projects

$$\underline{3 + 4}$$

$$\underline{\quad \quad \quad + 4}$$

$$\underline{\quad \quad \quad + \quad \quad \quad 4}$$

+

4  
3

7

+

3

4

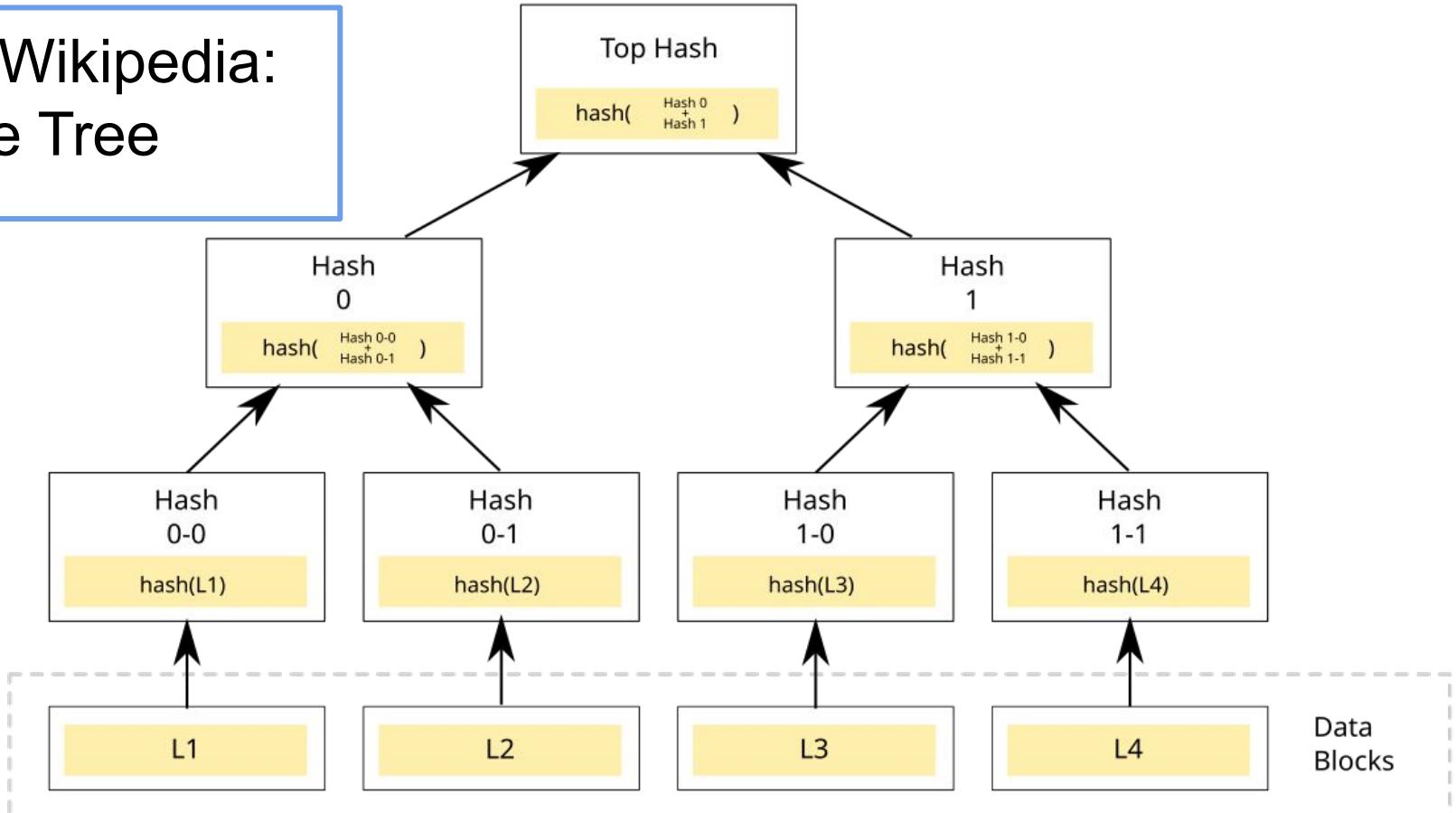
Operator

Operand

Data Stack

Dijkstra's Shunting  
Yard Algorithm (SYA)

# From Wikipedia: Merkle Tree





# Omni\* Omnihash

Omnihash GenKeys Save

Load Keypair

No file selected.

Your Hash is

GrSvYg4rjA==

Your Parent Hash is



Kha 25 Jul, 16:48

```
{"h":"GrSvYg4rjA==","t":"2024-07-25T08:47:29.227Z"}
```

On this day

Thu Jul 25 2024 16:47:29

<https://omnixtar.github.io/h/>

```
1 <html>
2   <!--
3   Omni* Hash Contract
4   - On the zSeparation of Disclosure and Royalties of the Source Code
5   July 21, 2024
6
7   1. You, a human agent of a company or government agency, may read the source code without
8       making payments to the author or authors, but if you execute this program on behalf of
9       your company or agency for commercial purposes, we reserve the rights to claim royalties
10      from you or your company or agency.
11  2. Your copy of source code shall be attached with at least one Omni* Hash Contract bearing the
12      Omnihash
13      of a Omni* Agent and your own Omnihash, to authorise you the permissions to use or modify said
14      source code,
15      otherwise you shall pay maximum penalties allowed by a legal court of your jurisdiction,
16      for the damages you have incurred for deploying the source code pertaining to clause (1).
17      -->
18 <head>
19   <meta name="viewport" content="width=device-width, initial-scale=1">
20   <script src="https://netdna.bootstrapcdn.com/bootstrap/3.1.1/js/bootstrap.min.js"></script>
21   <link href="https://netdna.bootstrapcdn.com/bootstrap/3.1.1/css/bootstrap.min.css"
22       rel="stylesheet" type="text/css">
23 </head>
24 <body>
25
26   <script src=".//Phos/libphos.js" type="module"></script>
27   <script type="text/javascript" src=".//jsencrypt.min.js"></script>
28   <script type="text/javascript" src="jquery.min.js"></script>
29   <script type="text/javascript" src="qrcode.js"></script>
30   <script type="text/javascript" src="aes.js"></script>
```

**Code**

Blame

Raw



```
55  function Phos() {
384      function f_ms() {
385
860      //      this.FGL = async function ($a) {
861      this.FGL = function ($a) {
862          s0 = preg_replace('/s+/', ' ', $a);
863          var $a = explode(' ', trim(s0));
864          var $SS = [], $xl = 0;
865          var $xk = 0;
866          var $xs = $a;
867          var $xl = count($a);
868          var $vk = $xk;
869          var $Z = $xl;
870          S.push($vk);
871          var $t = array_pop(S);
872          var $CC = $t[0];
873          S.skip = 0;
```

**Code**

Blame

Raw



```
55     function Phos() {
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860         //      this.FGL = async function ($a) {
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862             s0 = preg_replace('/s+/', ' ', $a);
863             var $a = explode(' ', trim(s0));
864             var $SS = [], $xl = 0;
865             var $xk = 0;
866             var $xs = $a;
867             var $xl = count($a);
868             var $vk = $xk;
869             var $Z = $xl;
870             S.push($vk);
871             var $t = array_pop(S);
872             var $CC = $t[0];
873             S.skip = 0;
```

[← Files](#)[main](#) ▾[omnixtar.github.io / h / Phos / libphos.js](https://omnixtar.github.io/h/Phos/libphos.js)[↑ Top](#)[Code](#)[Blame](#)[Raw](#)

```
861         this.FGL = function ($a) {  
}  
var $SL = end(end(S0.CDW));  
do {  
    $vk = $xk;  
    S[0].xk = $xk;  
    S0.tn = $vk;  
    S0.cda[1] = $vk;  
    $v = trim($xs[$xk]);  
    if (in_array($v, array_keys($CDW))) {  
        var $WA = $CDW[$v];  
        if (end($WA) == ';')  
            array_pop($WA);  
        S0.CDW.push([  
            $v,  
            $vk,  
            $v  
        ]);  
    }  
}
```

**Code**

Blame

Raw



```
861      this.FGL = function ($a) {
            } while (1);
        } else if ($v[$l - 1] == ':') {
            $l = strlen($v);
            var $fn = substr($v, 0, $l - 1);
            if ($.function_exists('fgl_' + $fn)) {
                eval('fgl_' + $fn + '());
            } else if ($.function_exists('f_' + $fn)) {
                // console.log(' 1504 f_' + $fn + ' function exists ' + VM);
                eval('f_' + $fn + '(\'' + VM + '\')');
            } else if (eval('typeof this.fgl_' + $fn) === 'function') {
                eval('this.fgl_' + $fn + '());
            } else if (eval('typeof this.f_' + $fn) === 'function') {
                console.log('this.f_' + $fn + ' function exists ');
                eval('this.f_' + $fn + '());
                if (is_array(end($))) {
                    var $va = end($);

```

**Code**

Blame

Raw



```
861      this.FGL = function ($a) {
                console.log(' < in + > ' + $sa + ' ' + $sb + ' ' + ($sa + $sb));
                S.push(parseInt($sb) + parseInt($sa));
            } else if ($v == '.') {
                array_pop(S);
            } else {
                if ($v == '===') {
                    S.push(array_pop(S) === array_pop(S));
                } else {
                    S.push($v);
                }
            }
        }
    }
}
```

More about inverse shunting yard algorithm from video:

<https://www.youtube.com/watch?v=mYjKS0KiJVg&t=18s>

Will show Phoscript examples in other programming languages and environments in future:

- PHP, Python, Java (Android), C++, etc and
- develop new language API If anyone is willing to collaborate e.g. Rust, Golang, Haskell etc.
- Abstract mathematics: <https://github.com/udexon/SymForth>
- Fire4x: FORTH in Firefox browser

## Bidirectional Shunting Yard Algorithm (BiSYA)

Infix: 3 + 4

C, C++  
PHP, Python  
Java,  
JavaScript  
.....

Shunting Yard Algorithm (SYA)

Inverse Shunting Yard Algorithm (ISYA)

Reverse Polish Notation  
3 4 +  
Forth  
Phoscript  
 $\Phi\Omega\Sigma$



Bidirectional Shunting Yard Algorithm (BiSYA) and Sandwich API Model: Unifying Programming Languages

All

Watched



## Resources

# <https://omnixtar.github.io/docs>

- *Bidirectional Shunting Yard Algorithm (BISYA) and Sandwich API Model: Unifying Programming Languages*
- *Forth Day 2022 -- Less is Mo(o)re: Beyond FORTH -- Liang Ng and Demitri Peynado*

Omni\*Web::OXW is an initiative to build a Truly Decentralised Web, *owned and operated by individual users and free software programmers.*

OXW is built using reliable and transparent open source software projects that began in 2003 or earlier.

1. The first important technology is [I2P](#), which we prefer to rebrand as "Internationale Internet Proletariat", that enables ANY personal computer or mobile phone to act as WEB SERVER for FREE, without



More about inverse shunting yard algorithm from video:

<https://www.youtube.com/watch?v=mYjKS0KiJVg&t=18s>

TODO: links to videos PDF etc.

this slide as PDF, url will be posted after  
this talk has been uploaded on YouTube

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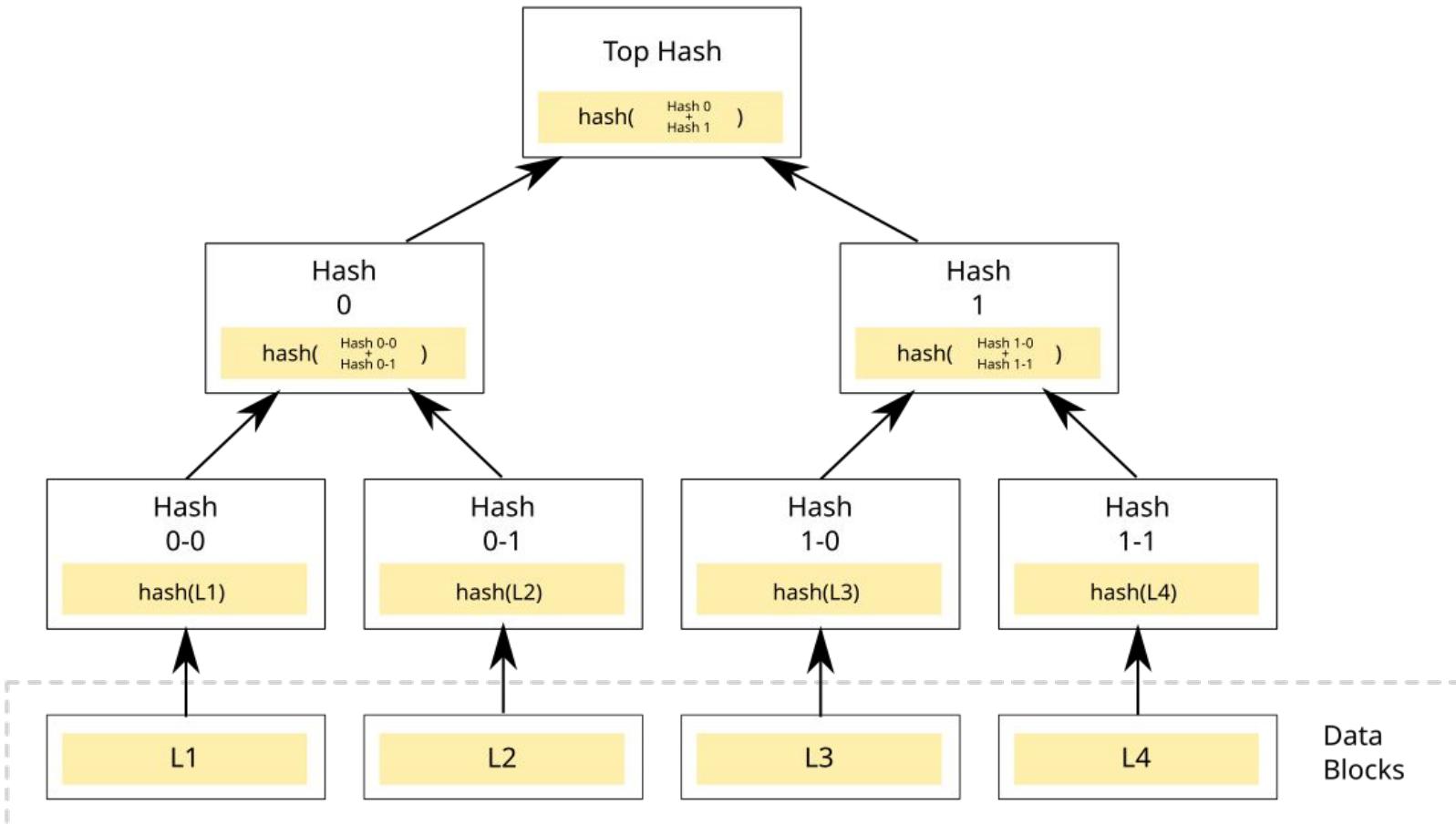
$3 \ 4 \ +$

Forth

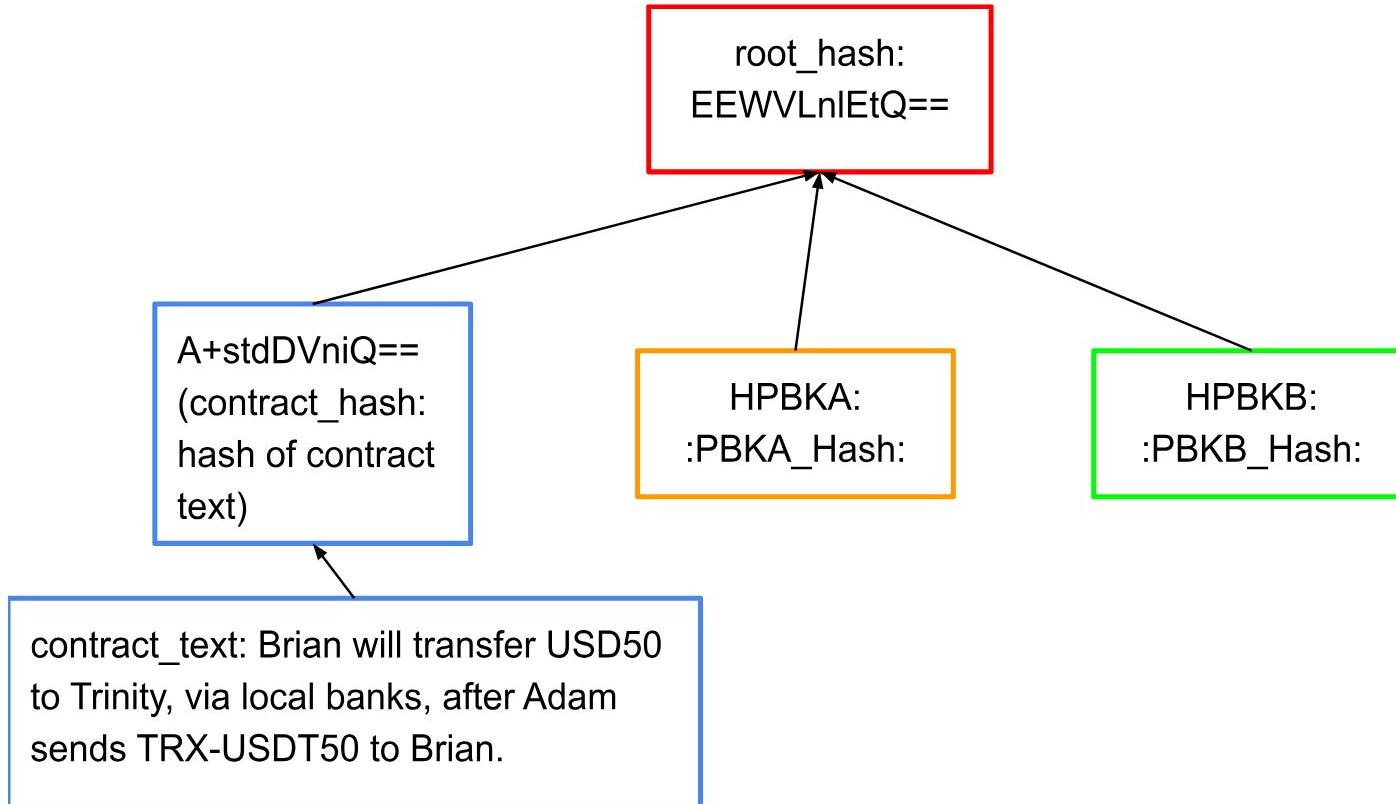
Phoscript

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Let us visualise the Omni\*Contract above and compare it with a typical Merkle tree.





Omni\*Web Home Demo Test Download GitHub P

## Omni\*Web: Omni\*Contract

<https://omnixtar.github.io/omnicontract>

### OmniHash: Base64 53-bit Hash

#### Contract to hash:

Brian will transfer USD50 to Trinity, via local banks, after Adam sends TRX-USDT50 to Brian.

OmniHash

#### OmniHash of Contract:

A+stdDVniQ==

#### OXC3 Triplets:

A+stdDVniQ== :PBKA\_Hash: :PBKB\_Hash:

OXC3

ROOT

#### Root Hash (Hash of All Hashes):

EEWVLnIEtQ==

Omni\*Contract (OXC) is arguably the simplest smart contract ever invented.

Omnihash: 53 bit JavaScript Integer  
(mantissa part of 64 bit IEEE floating point number), encoded as base64 string.

What does hyperhash graph have to do with FORTH or Phoscript?

Consider this problem:

- Programmer A wrote an algorithm in Phoscript, whose colon definition is A\_ACTION\_X.
- Programmer B wrote an algorithm in Phoscript, which makes use of A\_ACTION\_X, and its colon definition is B\_ACTION\_Y.
- How would A and B generate a digital contract to include necessary terms such that B may pay A a certain amount of money on some conditions?

Solution: 2 level Hyperhash Graph (Omni\*Contract).

**Code**

Blame

Raw



```
30     S0.dlb.DSC[2].style.bottom='150px'
31
32     // chris browser 2021-2-20 2255
33     f(': do_sign awa: im_pbk ss: mk_sign ;')
34     f(': im_pbk . dup: js: jd: msg ix: awa: impbk: ss: ;')
35     f(': mk_sign awa: sign_kp: rsa_sign ;')
36     f(': ecr_sig 5 pick: s2ab: 1 pick: 1 pick: catab: 4 pick: 1 pick: awa: ecr_t: ab_scj ;')
37     f(': rsa_sign saveks: privateKey ix: dsc_sign geid: value: awa: sign: do_scj ;')
38     f(': do_scj awa: ecr_sig ss: ;')
39     f(': ab_scj ab2s: btoa: awa: scj_d: u_chat ;') // scj_d is async!!
40     f(': u_chat 10 pick: 1 pick: CHAT: ;')
41     f(': a_scj dsc_ecr geid: value: 3 pick: dup: awa: do_sign ss: ;') // dsc_ecr is DOM id!!
42     f(': x_dsc a_scj ;')
43
44     // DSC uuid
45     f(': u_do_sign awa: im_pbk ss: u_mk_sign ;')
46     f(': u_mk_sign awa: sign_kp: u_rsa_sign ;')
```

level: 1

func\_name: rsa\_sign

func\_def: saveks: privateKey ix: dsc\_sign geid: value: awa: sign: do\_scj

(Get func\_hash)

root\_hash: hash(func\_hash HPBK\_A HPBK\_B) => EyWPKqyKOg==

Contract to hash:

func\_name: rsa\_sign  
func\_def: saveks: privateKey ix: dsc\_sign geid: value: awa: sign:  
do\_scj

OmniHash

OXC3 Triplets:

DsdRLPyLcw== :PBKA\_Hash: :PBKB\_Hash:

OXC3

ROOT

OmniHash of Contract:

DsdRLPyLcw==

Root Hash (Hash of All Hashes):

EyWPKqyKOg==

level: 2

contract\_text: B to pay A a certain amount of money on some conditions for the rights to use code in contract EyWPKqyKOg== .

contract\_hash: HKpOER8ZRQ==

(Get root\_hash)

root\_hash: hash(func\_hash HPBK\_A HPBK\_B) => EMwjblpL7A==

Contract to hash:

B to pay A a certain amount of money on some conditions for the rights to use code in contract EyWPKqyKOg== .

OmniHash

OmniHash of Contract:

HKpOER8ZRQ==

OXC3 Triplets:

HKpOER8ZRQ== :PBKA\_Hash: :PBKB\_Hash:

OXC3

Root Hash (Hash of All Hashes)

EMwjblpL7A==

**Omni\*Web 万能网**  
**Decentralised 去中心化**  
**Cloud 云端 &**  
**Metaverse 元宇宙**

弗式虚拟机  
Phos VM

自家云  
Garage Cloud

万能哈希码  
Omnihash

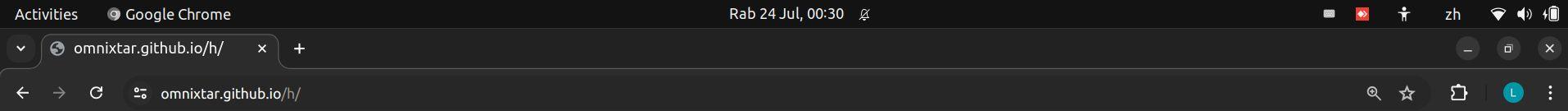
开源税  
Open Source Tax

任意学 Omnilogy  
Train-The-Trainer  
On TikTok (T5)

哈希金(元)  
Hash Bullion Coin

大山寨  
Big Cloning

散 AI  
Decen-  
tralised AI



# Omni\* Omnihash

Omnihash

GenKeys

Save

Load Keypair

Choose File No file chosen

Activities Google Chrome Rab 24 Jul, 00:32 zh

omnixtar.github.io/h/ Omni\*Contract: Decentr +

omnixtar.github.io/omnicontract/

Omni\*Web Home Demo Test Download GitHub Project

# Omni\*Web: Omni\*Contract

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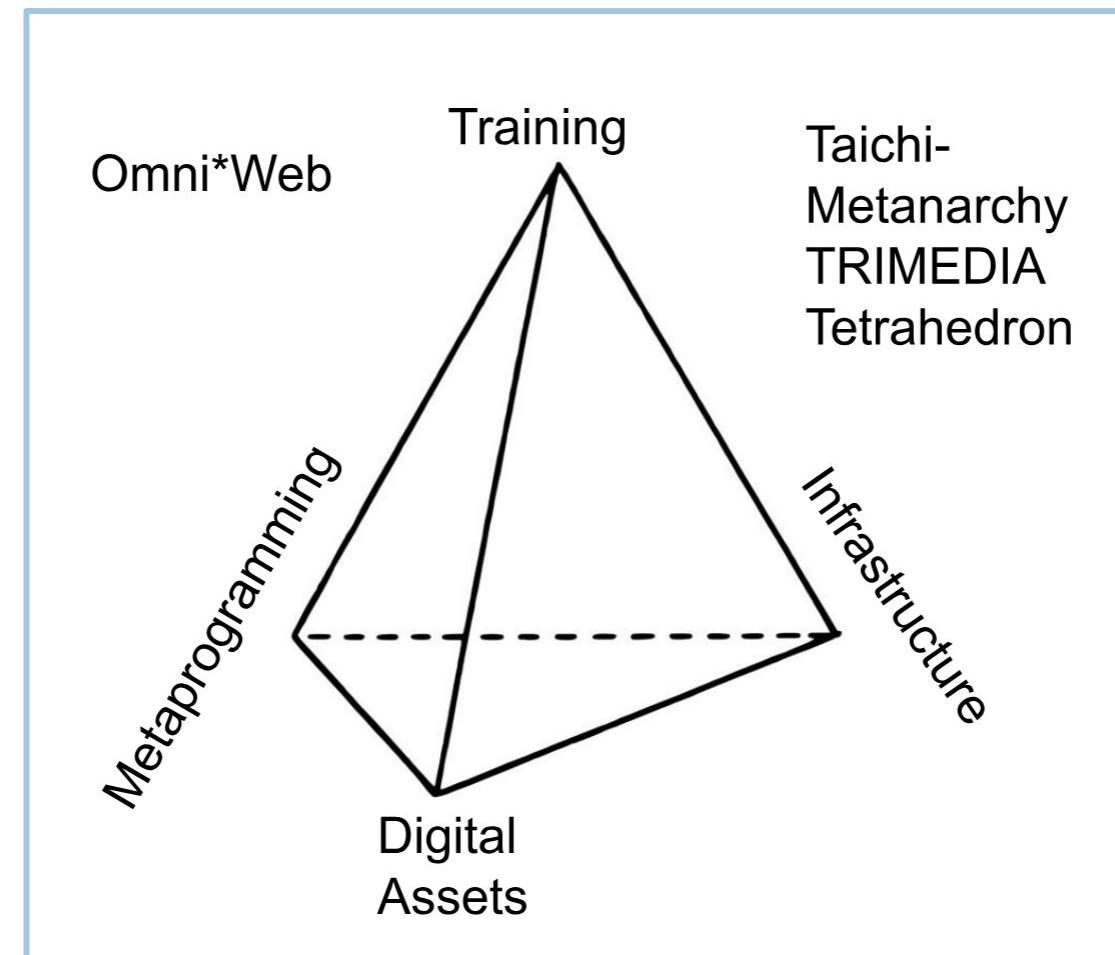
EEWVLnIEtQ==

Omni\*Contract (OXC) is arguably the simplest smart contract ever invented.

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# Part III

- Components of Omni\*Web
- “Omni”, meaning “all” in Latin, is the opposite of UNIX
- The star \* character also means “all” in UNIX environments.
- Omni\* is both a double pun as well as a recursive acronym, in the long tradition of precedents such as GNU and PHP.
- Most importantly, \* character cannot be copyrighted.



**BiglyBT**

**File View Community Tools Torrent Help**

**Open Torrents** **Find Torrents...**

**My Torrents**

- Library
  - New
  - Audio **(2)**
  - Dev **(3)**
  - Disc Images **(14)**
  - Documents **(27)**
  - Video **(908)**
  - Downloading... **(338)**
  - Archived Downloads **(0)**
  - All Peers
  - Tags Overview
  - Video Interview Candidate #180
  - Free Full HD Wallpapers **(0%)**
  - Icons **(26%)**

**BiglyBT**

- Notifications

**Content Discovery**

- Chat Overview
- Subscriptions
  - + 606
  - IA Open Office 2 **(5)**

**Devices**

- In Progress **(25)**
- UPnP Android/5.1.1
- Kodi (My-MacBook-Pro.local)

**Plugins & Extras**

- VPN Helper for PIA **(OK)**

**991 items: 6 active, 314 queued (Search results: 17, 0 active)**

**Order ▲ Name Size Downloaded Done Status Seeds Peers Down Speed Up Speed ETA Share Ratio Tags**

1 ► Fedora-14-Beta-i386-DVD	3.36 GB	3.37 GB	0.0%	Stopped								1.992	An extre...
2 ► redhat	7.22 GB	7.34 GB	3.2%	Stopped								7.419	Cute, Disc...

**Order ▲ Seeding Rank Name Completed On Size Uploaded Status Peers Up Speed Share Ratio Tags Networks Rating**

1 Waiting ► Fedora-14-x86_64-DVD	'17/03/17	3.27 GB	4.50 GB	Queued					1.231	Disc Images, linux	Public,I2P	★★★★★
6 Waiting ► FreeBSD-7.3-RELEASE-i386-all	'11/01/05	3.43 GB	631.97 MB	Queued					0.082	Deep Pink, Disc I...	Public,I2P	★★★★★
7 ► 8.0-RELEASE-i386-all	'10/10/21	3.65 GB	14.31 GB	Stopped					1.992	A very long tag d...	Public,I2P	★★★★★
8 Waiting ► ubuntu-9.10-alternate-amd64.iso	'10/10/15	696.31 MB	1.95 GB	Queued					1.435	Disc Images, linux	Public,I2P	★★★★★
9 Waiting ► Fedora-13-i386-DVD	'10/06/22	3.05 GB	5.07 GB	Queued					0.831	Disc Images, Fed...	Public,I2P	★★★★★
10 Waiting ► Fedora-11-i386-DVD	'10/06/23	3.43 GB	24.00 GB	Queued					3.493	Disc Images, Fed...	Public,I2P	★★★★★
11 ► ubuntu-16.04.1-desktop-amd64.iso	'16/10/05	1.40 GB	836.56 MB	Stopped					0.579	linux	Public,I2P	★★★★★
12 ► ubuntu-8.04.4-alternate-i386.iso	'10/10/19	697.17 MB	3.57 GB	Stopped					2.622	Disc Images, linux	Public	★★★★★
30 Waiting ► Fedora-Live-Workstation-x86_64-...	'15/10/09	1.36 GB	4.27 GB	Queued					3.122	Disc Images, Fed...	Public,I2P	★★★★★

**General Sources Peers Swarm Pieces Piece Map Files Tags Privacy Console Chat Discoveries**

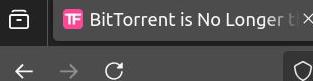
**Hide files not selected for download**

**7 items**

**Search for files...**

Name	Size	Done	%	First piece #	# of pieces	Remaining	Pieces	Mode	Priority
installationx64.ISO	3.30 GB	136.00 MB	4.0%	718	848			Read	Normal
installationx32.ISO	2.80 GB	80.00 MB	2.7%	0	719			Read	Normal
supplementx64.ISO	609.79 MB	5.85 MB	0.9%	1719	153			Read	Normal
supplementx32.ISO	427.63 MB	10.14 MB	2.3%	1612	108			Read	Normal
rescuex64.ISO	95.51 MB	5.00 MB	5.2%	1588	25			Read	Normal
rescuex32.ISO	94.24 MB	2.99 MB	3.1%	1565	24			Read	Do not download
Torrent_downloaded_from_Demonoid.com.txt	47 B	0 B	0.0%	1871	1			Read	Do not download

**Respect IP mDHT Routing NAT 664,254 users 0 B/s [65K] 0 B/s 1**



stream

TF

As these traffic.

March 15, 2024 by Ernesto Van der Sar

still accounted for the largest share of global upstream Internet traffic.

The main question was how long this would last. In 2013, BitTorrent still accounted for roughly a third of all upload traffic. It remained the dominant upload source in the years that followed, but trended downwards, reaching a new low of 10% two years ago.

BitTorrent Dethroned

This week, Canadian broadband management company Sandvine released its latest Global Internet Phenomena Report which makes it clear that BitTorrent no longer leads any charts.

The latest data show that video and social media are the leading drivers of downstream traffic, accounting for more than half of all fixed access and mobile data worldwide. Needless to say, BitTorrent is nowhere to



AnyDesk

768086256

Free license (non-professional use). Start trial license.

Sab 13 Apr, 11:29

Please visit here for details

Config

Activities BiglyBT

Sab 13 Apr, 11:29

**File View Community Tools Window Help**

**Open Torrents** Find Torrents...

**Dashboard** **Decentralized Chat Friends**

- Use independent windows for pop-out
- Force pop-out windows to the side bar
- Use the IP Filter to filter messages and notifications
- Play a sound when a message is received
- Flash status bar icon when message was received

**My Torrents**

- Library
- New
- Active
- Inactive
- Paused

**BiglyBT**

- Notifications

**Content Discovery**

- Swarm Discover...
- Subscriptions
- Chat Overview

**Devices**

- In Progress
- Disk
- Internet

**Plugins & Extras**

- Friends

**Advanced**

- Share anonymous torrent and chat destination
- Unfortunately using separate destinations

**Test**

- Public beta chat Open
- Anonymous beta chat (I2P) Open
- Create/join custom channel: key 224455

**Advanced**

- Share anonymous torrent and chat destination
- Unfortunately using separate destinations is currently unreliable

**Test**

- Public beta chat Open
- Anonymous beta chat (I2P) Open

Anon - '224455'

DHT=0, Nodes=1/1, Requests=0/0.2

[01:16] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"13332.0"}  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"13332.0"}  
[01:53] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 7777 2222 + d2s: dbl put: je:  
[01:53] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"9999.0"}  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"9999.0"}  
[04:12] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 7777 2266 + d2s: dbl put: je:  
[04:12] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"10043.0"}  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"10043.0"}  
[09:19] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 2266 + d2s: dbl put: je:  
[09:21] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3465.0"}  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3465.0"}  
[09:22] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 220066 + d2s: dbl put: je:  
[09:22] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"221265.0"}  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"221265.0"}  
[09:34] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 2200 + d2s: dbl put: je:  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3399.0"}  
[11:27] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1126 2200 + d2s: dbl put: je:  
[11:27] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3326.0"}  
  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1129 2200 + d2s: dbl put: je:

ests=0.2/0.2, refs=3: '224455'

d put: j k put: m n put: 7777 5555 + d2s: dbl put: je:  
:"m","dbl":"13332.0"}  
:"m","dbl":"13332.0"}  
d put: j k put: m n put: 7777 2222 + d2s: dbl put: je:  
:"m","dbl":"9999.0"}  
:"m","dbl":"9999.0"}  
d put: j k put: m n put: 7777 2266 + d2s: dbl put: je:  
:"m","dbl":"10043.0"}  
:"m","dbl":"10043.0"}  
d put: j k put: m n put: 1199 2266 + d2s: dbl put: je:  
:"m","dbl":"3465.0"}  
:"m","dbl":"3465.0"}  
d put: j k put: m n put: 1199 220066 + d2s: dbl put: je:  
:"m","dbl":"221265.0"}  
:"m","dbl":"221265.0"}  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 2200 + d2s: dbl put: je:  
[09:34] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1126 2200 + d2s: dbl put: je:  
[09:34] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3399.0"}  
[11:27] **BDF12C**  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1126 2200 + d2s: dbl put: je:  
[11:27] **EE6A59**  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3326.0"}  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3326.0"}

File AnyDesk 768086256

AnyDesk

768086256

Free license (non-professional use). Start trial license.

Activities BiglyBT

Sab 13 Apr, 11:29

Anon - '224455'

DHT=0, Nodes=1/10, Requests=0.2/0.2

File View Community Tools Window Help

Open Torrents Find Torrents...

Dashboard Decentralized Chat Friends

My Torrents

- Library
- New
- Active
- Inactive
- Paused

BiglyBT

- Notifications

Content Discovery

- Swarm Discover...
- Subscriptions
- Chat Overview

Devices

- In Progress
- Disk
- Internet

Plugins & Extras

- Friends

Decentralized Chat

- Use independent windows for pop-out
- Force pop-out windows to the side bar
- Use the IP Filter to filter messages and notifications
- Play a sound when a message is received
- Flash status bar icon when message was received

Private Chat

- Enable private chat
- Only accept chats from pinned participants

Integration

- Make my friend key automatically available

Consider setting up your public profile (see below)

Channel Restore

Previously exported backup data

Advanced

- Share anonymous torrent and chat destinations
- Unfortunately using separate destination

Test

- Public beta chat
- Anonymous beta chat (I2P)
- Create/join custom channel: key 224455

Help

Nick BDF12C Shared

Online: 1, Posted: 2 Friends

Name	#	Friends
BDF12C	10	
EE6A59	19	

Search...

[01:16] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"13332.0"}  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"13332.0"}  
[01:53] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 7777 2222 + d2s: dbl put: je:  
[01:53] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"9999.0"}  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"9999.0"}  
[04:12] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 7777 2266 + d2s: dbl put: je:  
[04:12] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"10043.0"}  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"10043.0"}  
[09:19] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 2266 + d2s: dbl put: je:  
[09:21] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3465.0"}  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3465.0"}  
[09:22] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 220066 + d2s: dbl put: je:  
[09:22] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"221265.0"}  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"221265.0"}  
[09:34] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1199 2200 + d2s: dbl put: je:  
[09:34] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3399.0"}  
[11:27] BDF12C  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1126 2200 + d2s: dbl put: je:  
[11:27] EE6A59  
ECHO {"a":"b","k":"j","d":"c","n":"m","dbl":"3326.0"}  
OMNI jo: gc: dup: hm: b a put: c d put: j k put: m n put: 1129 2200 + d2s: dbl put: je:

File Edit Selection View Go Run Terminal Help

J BuddyPluginBeta.java X

```
core > src > com > biglybt > plugin > net > buddy > BuddyPluginBeta.java > logMessage(ChatInstance, ChatMessage)
  83   BuddyPluginBeta implements DataSourceImporter, AEDiagnosticsEvidenceGenerator {
2292     logMessage(
2337       // Stack<> stackAll = new Stack<>();
2338       String expr = msg;
2339
2340       System.out.println(expr);
2341       System.out.println("Input\tOperation\tStack after");
2342
2343       // Phoscript (Phos) Engine
2344       for (String token : expr.split("\\s+")) {
2345         System.out.print(token + "\t");
2346         switch (token) {
2347           case "+":
2348             System.out.print("Operate\t\t");
2349             stack.push(stack.pop() + stack.pop());
2350             break;
2351           case "-":
2352             System.out.print("Operate\t\t");
2353             stack.push(-stack.pop() + stack.pop());
2354             break;
2355           case "*":
```



#### Router Info

Version: 2.5.2-0  
Uptime: 6 days

#### Update Status

Update downloaded  
Click Restart to install Version 2.6.0

#### Bandwidth in/out

3 Sec: 0.88/0.96 KBps  
5 Min: 0.88/0.94 KBps  
Total: 1.05/1.15 KBps  
Used: 570MB/624MB

⚠ Network: SymmetricNAT

#### I2P Services

# Hidden Services Manager



## Hidden Services Manager

These are the local services provided by your router. By default, most of your client services (email, HTTP proxy, IRC) will share the same set of tunnels and be listed as "Shared Clients".

### Status Messages

```
Starting tunnel A01 Omni*Web HTTPS...
Client ready, listening on 127.0.0.1:4444
Tunnels ready for client: HTTP Proxy on 127.0.0.1:4444
Client ready, listening on 127.0.0.1:6668, delaying tunnel open until required
Client ready, listening on 127.0.0.1:7660
Tunnels ready for client: Standard client on 127.0.0.1:7660
```

Refresh

Clear

### Global Tunnel Control

Tunnel Wizard

Stop All

Start All

Restart All

### I2P Hidden Services

**Network: SymmetricNAT**

**I2P Services**

- Email
- Torrents

**Configuration**

- Address Book Help
- Hidden Services Manager Settings
- Setup

**Diagnostics**

- Graphs Logs NetDB Peers
- Profiles Tunnels

**Help & FAQ**

Changelog FAQ Licenses Network

Sidebar Troubleshoot

**Peers**

Active:	23 / 169
Fast:	36
High Capacity:	23
Floodfill:	148
Known:	251

**Tunnels**

**Restart** **Shutdown**

## I2P Hidden Services

Name	Type	Points at	Preview	Status	Control
A01 Omni*Web HTTPS	Standard server	127.0.0.1:443	No Preview		<b>Stop</b>
<b>Destination:</b> yo6sgmfq7pfvvp2e4kcuuhjtfg7wfllt63igwcukhbmuqm6lu3a3a.b32.i2p					
<b>Description:</b> A01 Omni*Web HTTPS					
HTTP Phos tunnel	HTTP server	127.0.0.1:80	No Preview		<b>Stop</b>
<b>Destination:</b> weor7pxsuxpkkbvh4sgta7hvoom5jrzemvy253y5norcamadujaq.b32.i2p					
<b>Description:</b> HTTP Phos tunnel					
I2P HTTPS Tunnel	HTTP server	127.0.0.1:7668	No Preview		<b>Stop</b>
<b>Destination:</b> 6fjdbkxk7z3ykh5fauag3gopui7sx4sdzererl7jvsrdiwsboqra.b32.i2p					
<b>Description:</b> I2P HTTPS Tunnel					
I2P webserver	HTTP server	127.0.0.1:7658	No Preview		<b>Start</b>
<b>Hostname:</b> mysite.i2p					
<b>Description:</b> My eepsite					



# Omni\*Web::OXW

[HOME](#)[ABOUT](#)[PLATFORM](#) ▾[PAGES](#) ▾[CONTACT](#)[Add Item](#)

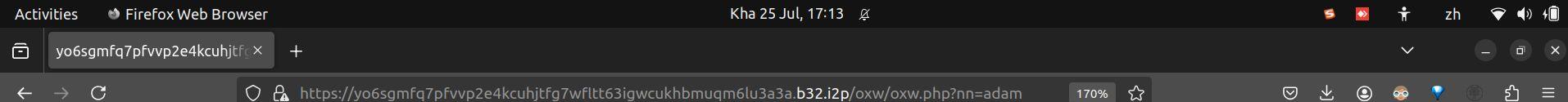
## A Truly Decentralised Web ...

Omni\*Web::OXW is an initiative to build a Truly Decentralised Web, *owned and operated by individual users and free software programmers*.

OXW is built using reliable and transparent open source software projects that began in 2003 or earlier.

1. The first important technology is [I2P](#), which we prefer to rebrand as "Internationale Internet Proletariat", that enables ANY personal computer or mobile phone to act as WEB SERVER for FREE, without paying any company hosting fees that may range from USD10 to more than USD1000 PER MONTH, and also achieve the reverse -- allowing individual users and programmers providing hosting resources to CHARGE other users and generate income.

[Get Started](#)



## Omni\*Search Demo

Copy the following code and execute it in the browser console:

```
f(): B_F '+ JSON.stringify({w:'like', t:'recipient_hash', f:'sender_hash'}) +' jd: rghc: g_ohc ; AJAX')
```

*Show Phoscript AJAX code  
I2P + ngrok*

AUTH GenKeys SEND GET



index.html h

index.html oxw X



```
oxw > index.html > html > body
  2   <html lang="en">
  4     <head>
29
30       <!-- Template Stylesheet -->
31       <link href="css/style.css" rel="stylesheet">
32     </head>
33
34     <script>console.log('Omni*Web::OXW');
35     function MyFunction() { console.log('MyFunction Omni*Web::OXW');
36       // window.location="https://
37       yo6sgmfp7pfvvp2e4kcuhjtfq7wfllt63igwcukhbmum6lu3a3a.b32.i2p/dm23/dmeta.
38       php?nn=adam";
39       window.location="https://
40       yo6sgmfp7pfvvp2e4kcuhjtfq7wfllt63igwcukhbmum6lu3a3a.b32.i2p/oxw/oxw.php?
41       nn=adam";
42     }
43   </script>
44
45   <body>
46     <div class="container-xxl bg-white p-0">
```





index.html h

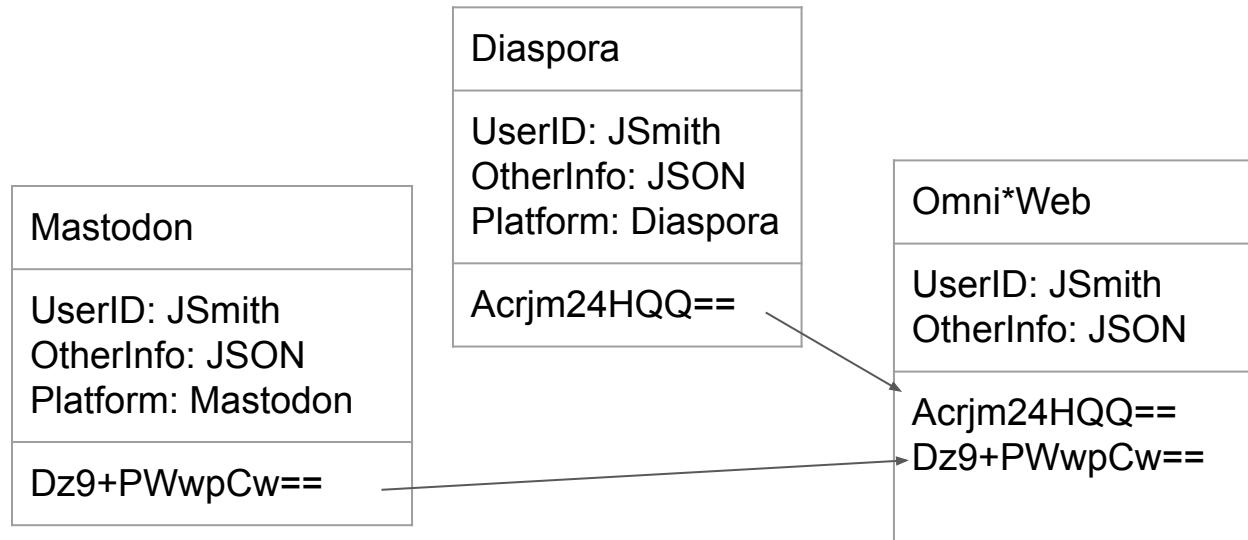
index.html oxw X



```
div.container-fluid.header.bg-white.p-0 > div.row.g-0.align-items-center.flex-column-reverse.flex-md-row > div.col-md-6.p-5.mt-lg-5
  2   <html lang="en">
  41  <body>
  42    <div class="container-xxl bg-white p-0">
  43      <div class="container-fluid header bg-white p-0">
  44        <div class="row g-0 align-items-center flex-column-reverse
          "Internationale Internet Proletariat", that enables ANY
          personal computer or mobile phone to act as WEB SERVER
          for FREE, without paying any company hosting fees that
          may range from USD10 to more than USD1000 PER MONTH, and
          also achieve the reverse -- allowing individual users
          and programmers providing hosting resources to CHARGE
          other users and generate income.</p>
  103     <a href="" onclick="MyFunction();return false;">
          <span>Get Started</span>
        </a>
  104   </div>
  105   <div class="col-md-6 animated fadeIn">
  106     <div class="owl-carousel header-carousel">
  107       <div class="owl-carousel-item">
  108         
```



# Integrating Existing Social Media Platforms





# Diaspora



429 users like this



Diaspora is a federated social networking service, designed to be a more privacy-aware alternative to [Facebook](#). Share what you want, with whom you want.

[116 Diaspora alternatives](#)

## LICENSE MODEL

[Free • Open Source](#)

## APPLICATION TYPES

[Social Network](#) [Microblog](#)

## PLATFORMS

[Online](#) [BSD](#) [Self-Hosted](#) [Ruby](#)[More about Diaspora](#) 

## TOP DIASPORA FEATURES

[Decentralized](#)[Federated](#)[Encrypted Connection](#)[No Tracking](#)[Privacy focused](#)[Distributed](#)[Ad-free](#)[Support for ActivityPub](#)[Support for Markdown](#)[Fediverse](#)[Self-hosted](#)[Ruby](#)

## DIASPORA VS FACEBOOK

Is Diaspora a good alternative to Facebook



## Integrating Multiple Social Media Platforms

2 aspects of Omni\*Web to collaborate  
with existing open source platforms:

- I. Share data
- II. Unify user interface



Hubzilla



Diaspora



Friendica



Minds



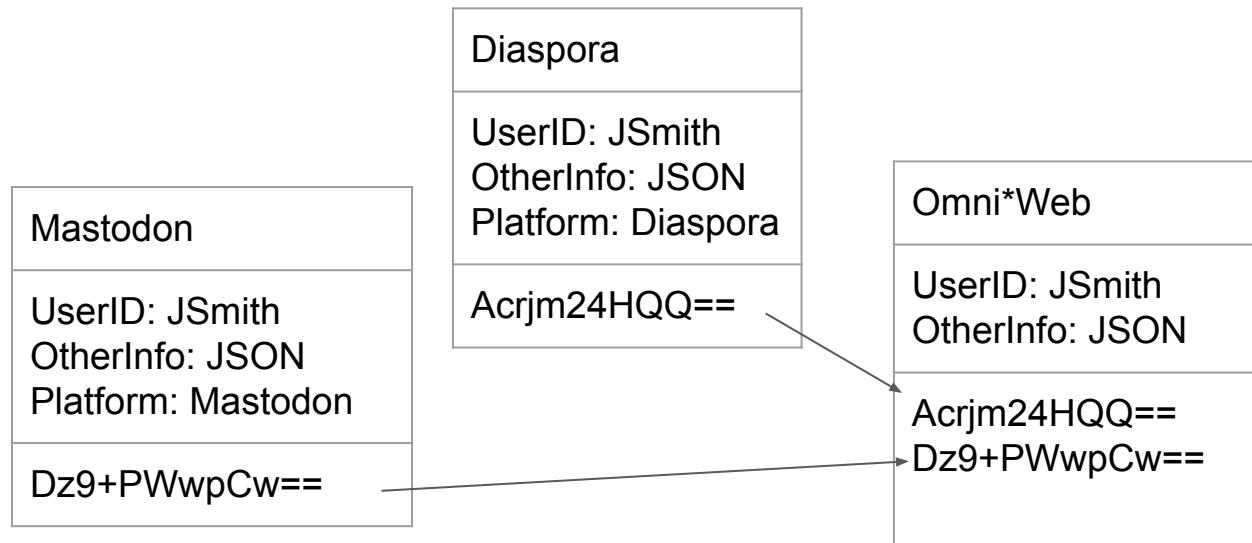
Mastodon

**gab** Gab

## Unique Properties of Hashes

Hashes can be used for:

- I. Authentication
- II. Identification for data objects stored somewhere on the Internet



# Omni\*Web: Omni\*Contract

## OmniHash: Base64 53-bit Hash

### Contract to hash:

UserID: JSmith  
OtherInfo: JSON  
Platform: Diaspora

OmniHash

### OmniHash of Contract:

Acrjm24HQQ==

### OXC3 Triplets:

:Contract\_Hash: :PBKA\_Hash: :PBKB\_Hash:

OXC3

ROOT

### Root Hash (Hash of All Hashes):

:Root\_Hash:

Omni\*Contract (OXC) is arguably the simplest smart contract ever invented.

The simplest form of OXC consists of THREE (3) OmniHashes, which are collectively known as OXC3 or OXC Triplets:

- OmniHash of the Public Key of Party A
- OmniHash of the Public Key of Party B

Code for social media interfaces can be converted to hashes, and the hashes can be used by programmers to manage development projects.

Programmers working on different platforms may share code to maximise the use of limited free software programmers manpower.

Example: Jitsi Meet



Files

master



Go to file



&gt; av-moderation

&gt; base

&gt; breakout-rooms

&gt; calendar-sync

&gt; chat

&gt; components

actionTypes.ts

actions.any.ts

actions.native.ts

actions.web.ts

constants.ts

functions.ts

middleware.ts

jitsi-meet / react / features / chat /

...



mihhu fix(subtitles) show subtitles even without reactions ena... bd631f5 · 2 months ago



Name

fix(subtitles) show subtitles even without reactions enabled (#14784)

+1 -1 🟩 🔴 ⚪ ⚪ ⚪



components

fix(subtitles) show subtitles ev... #14784

ili... 3 months ago



actionTypes.ts

mihhu committed on May 29

S ... last year



actions.any.ts

ref(TS) Improve TS (#13120)

last year



actions.native.ts

ref(TS) Improve TS (#13282)

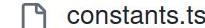
last year



actions.web.ts

ref(TS) Improve TS (#13120)

last year



constants.ts

feat: prosody plugin for sending syste...

3 months ago



functions.ts

feat: prosody plugin for sending syste...

3 months ago



middleware.ts

fix(subtitles) show subtitles even with...

2 months ago



reducer.ts

ref(chat): Refactor Chat components (...)

last year

Without Phoscript, impossible to  
integrate User Interface code written in  
various incompatible programming  
languages.

First example of Omnihash: involves only 2 parties;

Second example: integrating open source social media

- involve hundreds of programmers
  - & millions of users.

Variables in project management: time, money, people,

- all can be quantified as hashes.

Authentication and identification using hashes

- do not involve centralised authorities
- Hash is unique and crucial in implementing truly decentralised information systems.

# Conclusions

## Omni\*Web TRIMEDIA: Training Infrastructure Metaprogramming Digital Assets

- Omnihash: hash number or hash code to label digital assets:
  - Monetise digital assets representing collaboration;
  - Attract more people to participate;
  - Repeat the above.
- Training: Using Omnihash, help FORTH experts and other trainers to manage training, trainees and payments.
  - Attract more trainers, trainees or investors using Omnihash.
- Metaprogramming: Phoscript helps anyone learn FORTH easily.
- Infrastructure: BitTorrent & I2P let you set up servers without any charges, no DNS, and EARN money for sharing your resources (CPU/GPU, bandwidth, storage), even if you don't do any of the above!!

title: CORE-I Phoscript Verilog Lesson 1

contract\_text: Trainer:Smith Trainee:Roberto Freq:Weekly Duration:4h

contract\_hash: GGNn2VcPBw==

root\_hash: hash(func\_hash HPBK\_A HPBK\_B) => DwxXnmlHtA==

#### Contract to hash:

title: CORE-I Phoscript Verilog Lesson 1

contract\_text: Trainer:Smith Trainee:Roberto Freq:Weekly

Duration:4h

OmniHash

#### OXC3 Triplets:

GGNn2VcPBw== :PBKA\_Hash: :PBKB\_Hash:

OXC3

#### OmniHash of Contract:

GGNn2VcPBw==

#### Root Hash (Hash of All Hashes)

DwxXnmlHtA==

**Omni\*Web 万能网**  
**Decentralised 去中心化**  
**Cloud 云端 &**  
**Metaverse 元宇宙**

弗式虚拟机  
Phos VM

自家云  
Garage Cloud

万能哈希码  
Omnihash

开源税  
Open Source Tax

任意学 Omnilogy  
Train-The-Trainer  
On TikTok (T5)

哈希金(元)  
Hash Bullion Coin

大山寨  
Big Cloning

散 AI  
Decen-  
tralised AI

# Phoscript Python SymPy

Bitwise Stack Machine: A “nano” FORTH interpreter taking inputs from 8, 16, 32, 64 bit words (storage) to produce integers or floating point numbers requiring more bits for storage.

- Based on prime factors: any integer is the product of prime numbers; the rank of a prime number needs fewer bits for storage compared to itself, e.g. Python `sympy.prime(1)=2, sympy.prime(7)=17;`
- Inspired by CORE-I and Space FORTH: to save more space (storage) in space (extraterrestrial).
- Need better ways to represent hash numbers, long random strings.

```
>>> n=1
>>> for c in range(13):
...     if (c>0):
...         n=sympy.prime(n); print(c,n)
...
1 2
2 3
3 5
4 11
5 31
6 127
7 709
8 5381
9 52711
10 648391
11 9737333
12 174440041
>>> hex(174440041)
'0xa65be69'
>>> # 7 hex char = 28 bits
```

Omnihash and hashes in general can be applied to:

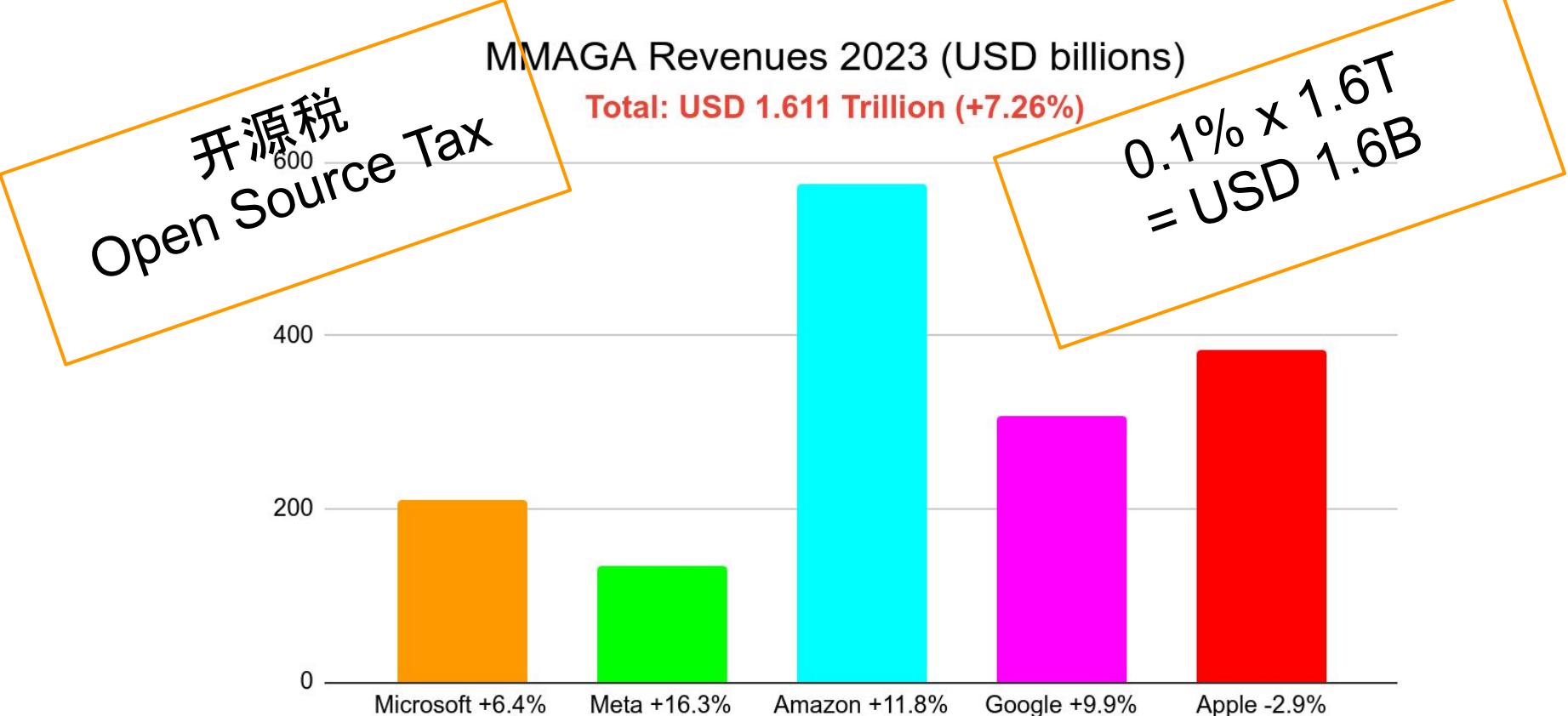
- fiat currencies, cryptocurrencies, physical bullion (gold and silver),
- (collectively known as Trispecies Money)
- create a truly decentralised global monetary system based on physical bullion.

Artificial Intelligence: Hashes enable training data for large language models

- to be distributed onto small devices
- such as personal computers and mobile devices
- with limited CPU or GPU power, memory and storage.

Disclaimer before showing last slide:

- Not sure if MMAGA (Microsoft Meta Amazon Google Apple) will be offensive to American audience; .... *relate to hard monetary figures* ....
- We adopt Monty Python humour, cf. Life of Brian.



A literal trillion dollar question: Do you know that the combined revenues of the top 5 technology companies in 2023 already exceeded USD 1.6 trillion and are growing strongly above 5% annually?

# Relations of Phoscript Omni\*Web to other FORTH projects

<https://www.youtube.com/watch?v=xDkc2-LUmCs>

2022 FORTH Day, Phoscript Verilog Demo.

<https://www.youtube.com/watch?v=6LKN0hD8IGQ&t=48s>

Omni\*Chat 2024-04

YouTube<sup>MY</sup>

less is m(o)ore svfig



# Homotronics

Hardware Design in Forth

11:22 / 43:00



## Forth Day 2022 -- Less is Mo(o)re: Beyond FORTH -- Liang Ng and Demitri Peynado



Silicon Valley Forth Interest Gr...  
1.26K subscribers

Subscribed

Download 720

14



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461 views 21 Nov 2022

SVFIG 2022-11-19

Forth Day 2022 -- Less is Mo(o)re: Beyond FORTH -- Liang Ng and Demitri Peynado

### Transcript



Search in video

- 11:21 so Liang just let me know if you've seen the slides yep  
that's fine so right here you can
- 11:27 see this line we can do you okay go on please thank you  
so uh
- 11:34 Liang mentioned before about the inverse chantillyard  
algorithm
- 11:39 and I saw his work a few years ago actually in fourth 2020  
did a presentation on this
- 11:46 and he claims that the first script could interface with any  
known programming language am I challenged
- 11:54 that so I thought okay fair enough what what do I use what  
what do I personally use and since
- 12:02 I work as a design engineer in a company

English (auto-generated)

ClickUp  
The everything app for  
work, now with chat.

ClickUp™ Productivity  
Software  
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Try today





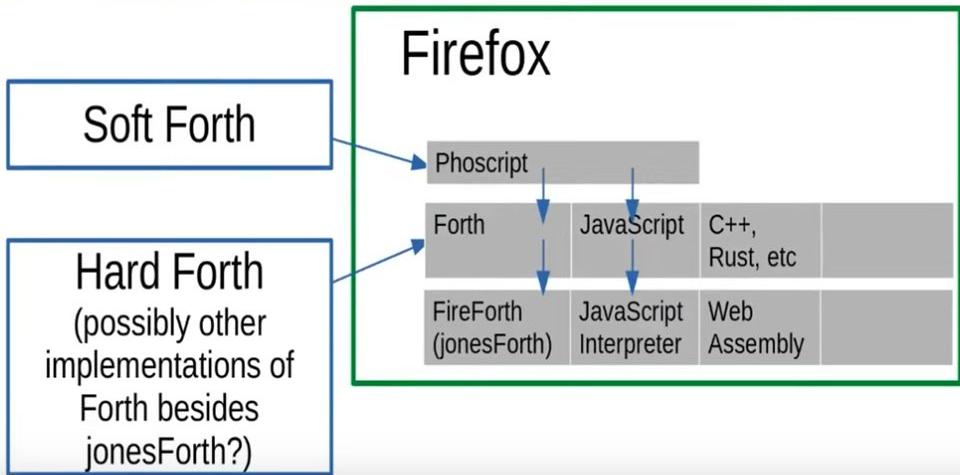
YouTube

less is m(o)ore svfig



# FireForth / Fire4x

(jonesForth in Firefox)



27:21 / 43:00



## Transcript



Search in video

27:05 to actually hack the Firefox uh source code directly right so that we

27:12 can actually put in the the you know all all kinds of uh

27:17 assembly code right like John swap being one of the classic one might not be the best but uh that's what

27:25 I I had at that time yeah I I would estimate this this may take a

27:30 a one-man month to complete you know with uh you know with someone uh interested

27:38 yeah and uh yeah so anyway

27:43 it would be quite interesting to see that if you can execute for directly right in in the in the browser instead

English (auto-generated)

## Forth Day 2022 -- Less is Mo(o)re: Beyond FORTH -- Liang Ng and Demitri Peynado



Silicon Valley Forth Interest Gr...  
1.26K subscribers



Subscribed

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720

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Share



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SVFIG 2022-11-19

Forth Day 2022 -- Less is Mo(o)re: Beyond FORTH -- Liang Ng and Demitri Peynado



The everything app for work, now with chat.



ClickUp™ Productivity Software  
Sponsored · clickup.com

Try today



- Caution to connect to Tor and Onion.
  - I2P: insert Phoscript debugging code to make sure no information will be compromised.
  - Can be a new project on its own,
  - at least 1 man month to get some significant results.
- 
- Fire4x / FireFORTH too need 1 man month ....

Use Omnihash Omni\*Contract can monetise digital assets and motivate people.

- Monetise and Motivate

## References

<https://omnixtar.github.io/docs>

Success of Omni\*Web: BitTorrent.

<https://torrentfreak.com/bittorrent-is-no-longer-the-king-of-upstream-internet-traffic-240315/>

Omnihash name conflict: <https://github.com/Miserlou/omnihash>

- Last update: 8 years ago.

Miserlou / **omnihash** Type / to search[Code](#)[Issues 9](#)[Pull requests 2](#)[Actions](#)[Projects](#)[Security](#)[Insights](#)**omnihash**

Public

[Watch 9](#)[Fork 23](#)[Star 253](#)[master](#) ▾[Go to file](#)[Code](#) ▾**Rich Jones** 0.21.1 - pluralize json

870e9ae · 8 years ago

[70 Commits](#)

0.21.1 - pluralize json

8 years ago



fix(githash): byte-interpolation in git...

8 years ago



0.1.0 - working

8 years ago



Small changes on top of new flow

8 years ago



0.1.0 - working

8 years ago



0.1.0 - working

8 years ago



feat(cmd): FIX #14 impl -f option to...

8 years ago

## About

Hash files, strings, input streams and network resources in various common algorithms simultaneously

[🔗 \*\*github.com/Miserlou/omnihash\*\*](https://github.com/Miserlou/omnihash)

[Readme](#)

[MIT license](#)

[Activity](#)

[253 stars](#)

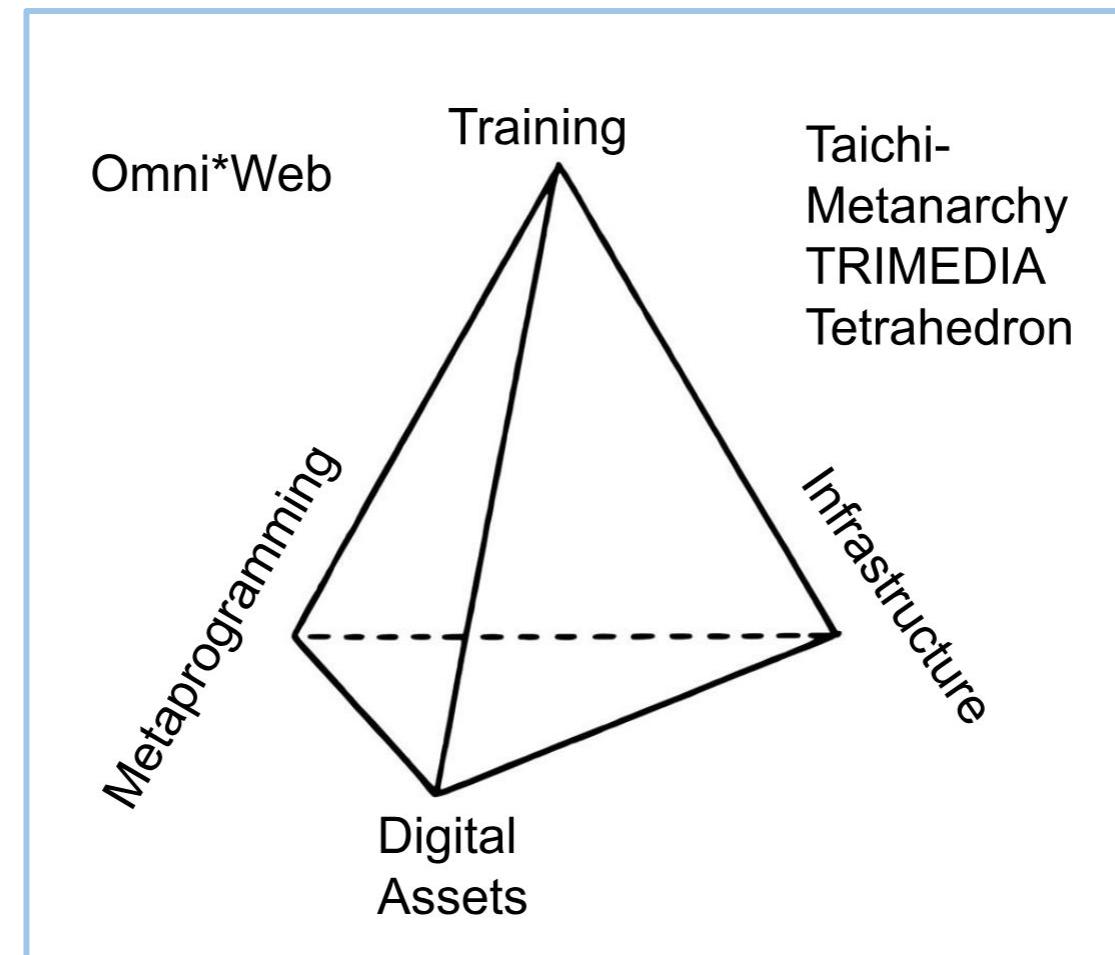
[9 watching](#)

[23 forks](#)

[Report repository](#)

# Part III

- Components of Omni\*Web
- “Omni”, meaning “all” in Latin, is the opposite of UNIX
- The star \* character also means “all” in UNIX environments.
- Omni\* is both a double pun as well as a recursive acronym, in the long tradition of precedents such as GNU and PHP.
- Most importantly, \* character cannot be copyrighted.

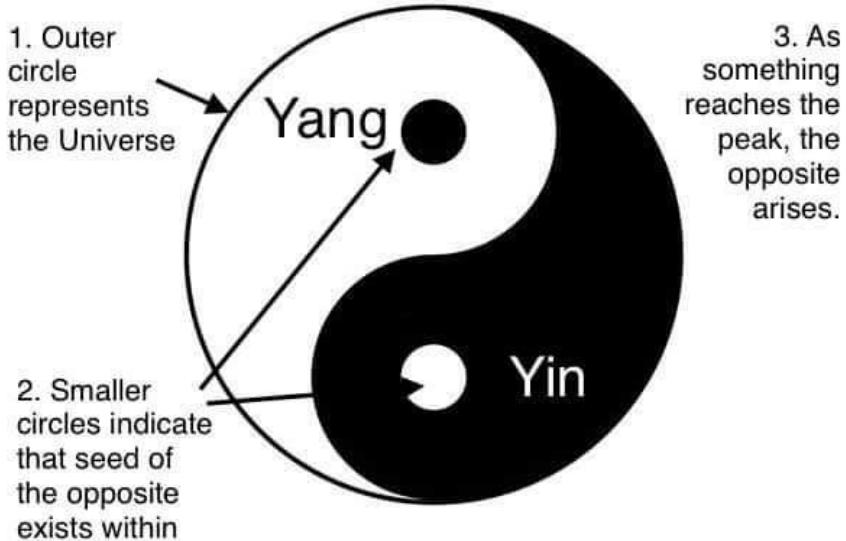


# Taichi-Metanarchy

Metanarchy = Metaverse +  
-archy (governance, e.g.  
Monarchy)

The English language only  
describes people by class, in  
opposition to each other. e.g.  
Centralized vs. decentralized.

## Yin-Yang 阴阳 Symbolisms



Taichi diagram shows opposing forces forming a unity.

太极阴阳 相克相生