



Ontology

# What is Ontology?

Public blockchains with new architecture

&

A Distributed Trust Collaboration Platform

# Infrastructure

that integrates the fragmented industry is needed  
to build a true and complete trust system

The **Bridge** that links to the real world

# Why Ontology?

Performance issues

Different business requirements

Digital Economy

Real Economy

New Generation of  
Public Chain Infrastructure

- Public service chains & Application chains
- High-performance framework
- Protocol groups

A Distributed Trust  
Collaboration Platform

- A Bridge that links to the real economy
- A public trust platform
- A blockchain infrastructure

# Ontology Roadmaps

## Chain Network

## Trust Ecosystem

2018 Q2

**Socrates 2018 Homogeneous Chain Network**  
MainNet release

- WASM support
- VBFT consensus support
- Transaction parallel verification support
- Authority management

2018 Q4

**Socrates 2018 Homogeneous Chain Network**

- Chain Network POC
- Sharding
- Performance Tuning

2020

**Aristotle 2020 Next-Generation Internet**

2018 Q3

**Socrates 2018 Homogeneous Chain Network**

- Homogeneous chain and cross-chain POC
- Threshold signatures with MPC, secure private key recovery mechanism (using MPC)
- Parallel transaction execution

2019

**Plato 2019 Heterogeneous Chain Network**

2018 Q2

- Ontology distributed identity framework (ONT ID) release
- Distributed identification protocol release
- Verifiable claim protocol release

2018 Q4

- ONT trust search engine release
- Distributed data exchange marketplaces
- Second batch of trust anchors and partners join
- Support for trust collaboration dApps

2020

Become a top global trust collaboration platform

2018 Q3

- Ontology integrated application (ONTO app) release
- Distributed data exchange framework release
- Distributed reputation framework (ONT Scores) release
- Verifiable digital signature service (ONT Sign) release
- First batch of trust anchors join

2019

- Support for MPC and more cryptographic algorithms
- Distributed community framework release
- Distributed trust collaborative platform release
- Distributed financial services release
- Support for more trust collaboration dApps

## Chain Network Vision

Power the next-generation internet

## Trust Ecosystem Vision

Global trust collaboration platform

# MainNet v1.0 launch

06/30/2018

Ontology 1.0

# Ontology 1.0



# Ontology 1.0

## Ontology Infrastructure



ONT Blockchains



ONT Blockchain Frameworks



ONT Interaction Protocols

## Ontology Modules and Protocols



ONT ID



ONT Data



ONT Scores

## Ontology Common Applications



ONTO



ONT TSE



ONT DDXF



# Chain network

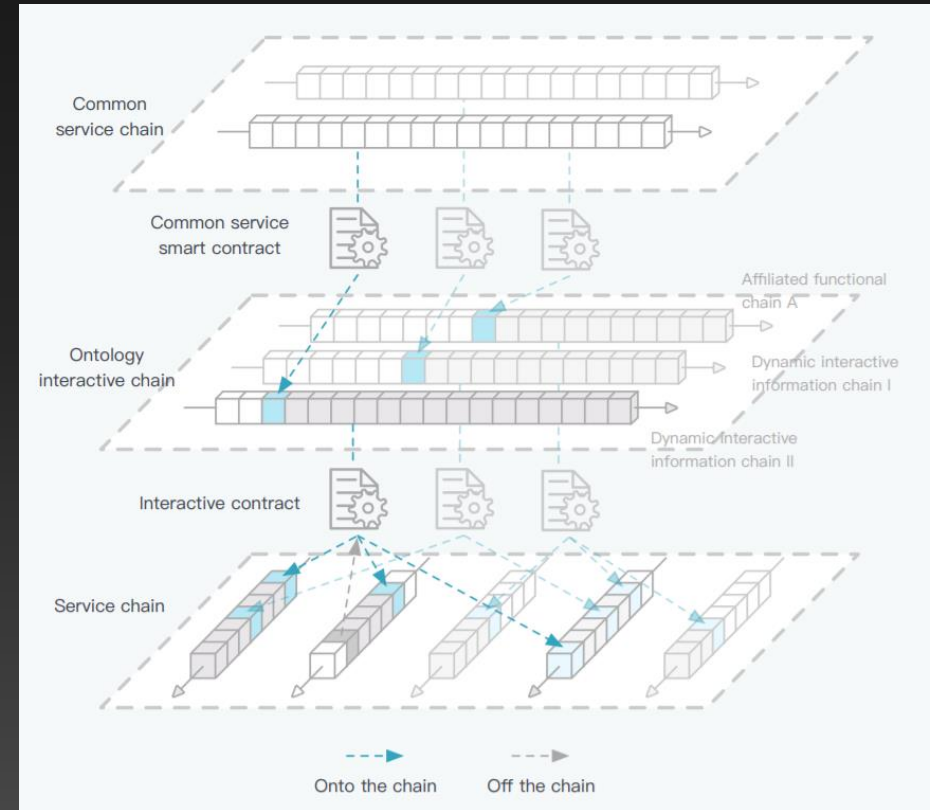
## Hyper-converged Chain Network

### Vertical Scaling

Public Chains  
+  
Unique Service Chains

### Horizontal Scaling

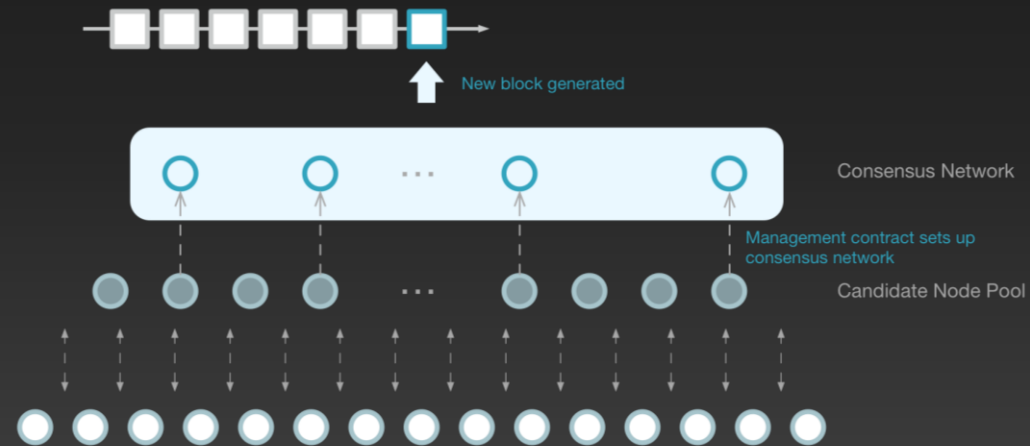
Business Chain  
+  
Business Chain



\*Ontology tech whitepaper: <https://ont.io/documents>

# VBFT

VBFT - a high performance consensus algorithm.



- High scalability and performance
- Randomness and fairness
- Rapid status finality realization
- Pluggable modular design

# Smart-contracts



ONT + NEO VM

Building a new standard  
for smart contracts

- A version of NeoVM written completely in Go language
- Supports multiple languages, C#, Java, Python, and JS
- A new smart contract development IDE

# Ontology – Tech Highlights

## Blockchain Technology

- Scalable lightweight **universal smart contract**
- **Cross chain** interactive protocol (processing)
- Multiple **encryption** algorithm support
- High transaction **efficiency**
- **Multiple** consensus algorithm support (VBFT/DBFT/RBFT/SBFT/PoW)
- **Quick** block generation

## Trust Ecosystem

### Modules and protocols:

- ONT ID
- ONT Scores
- ONT Data

&

### Application Framework Features:

- DDXF
- Encryption modules
- Distributed Storage

# Performance testing from Community

Conducted by  
The Ontology Community

Environment



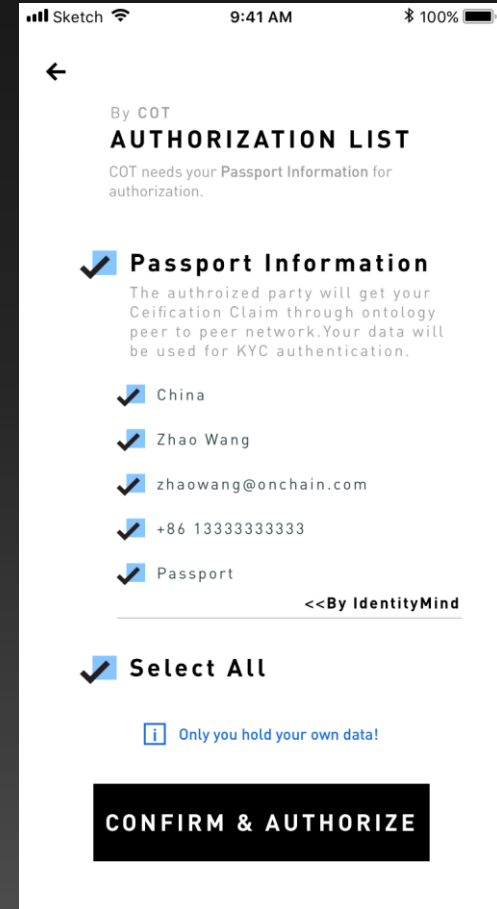
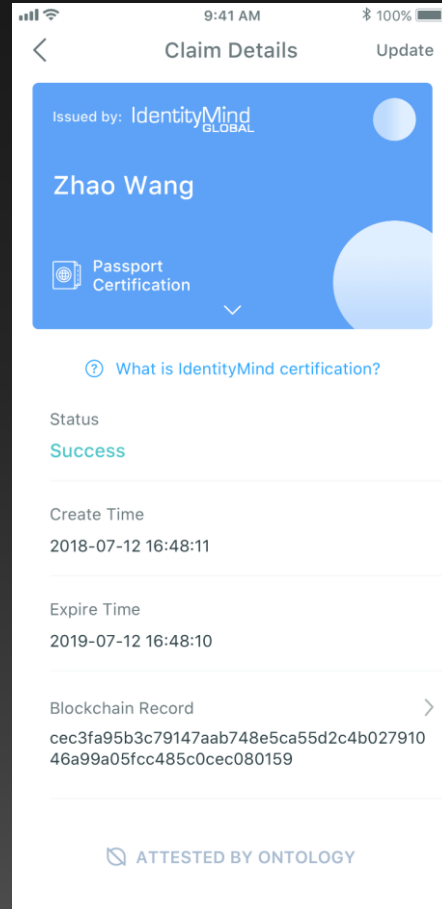
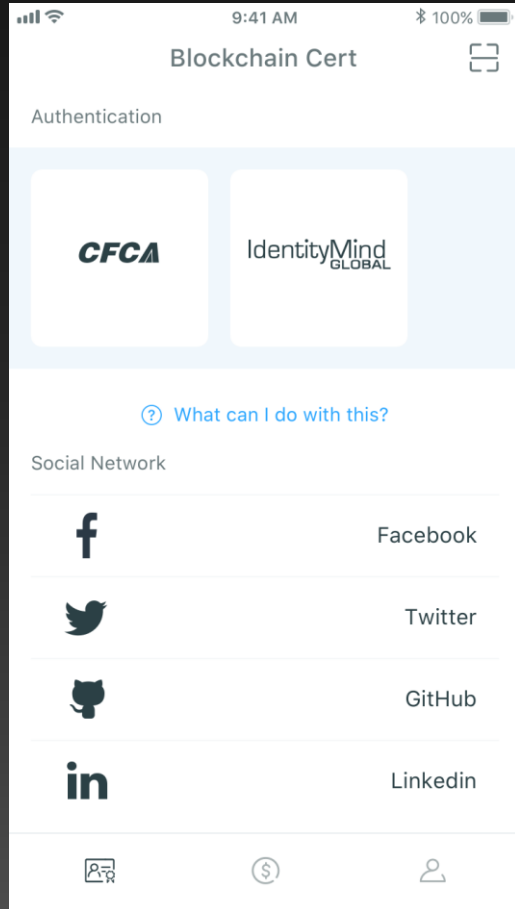
Result  
5,341 TPS

- All testing are base on the open-source version
- The test doesn't include modules for
  - Parallel execution
  - Sharding
  - Chain-network
- Based on a normal hardware environment

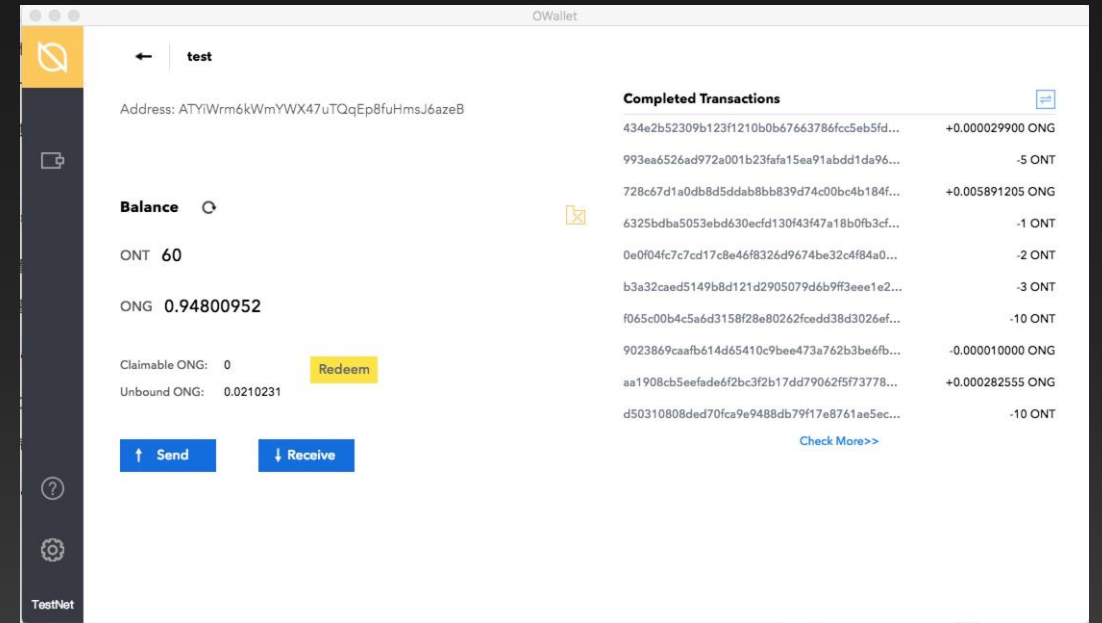
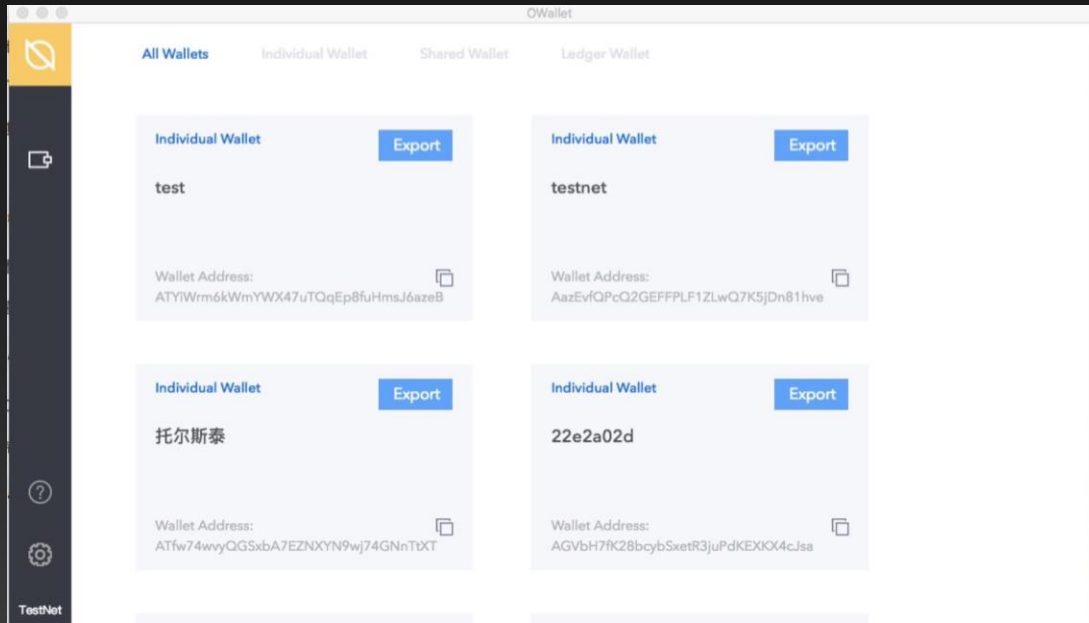
# Ontology 1.0



# ONTO

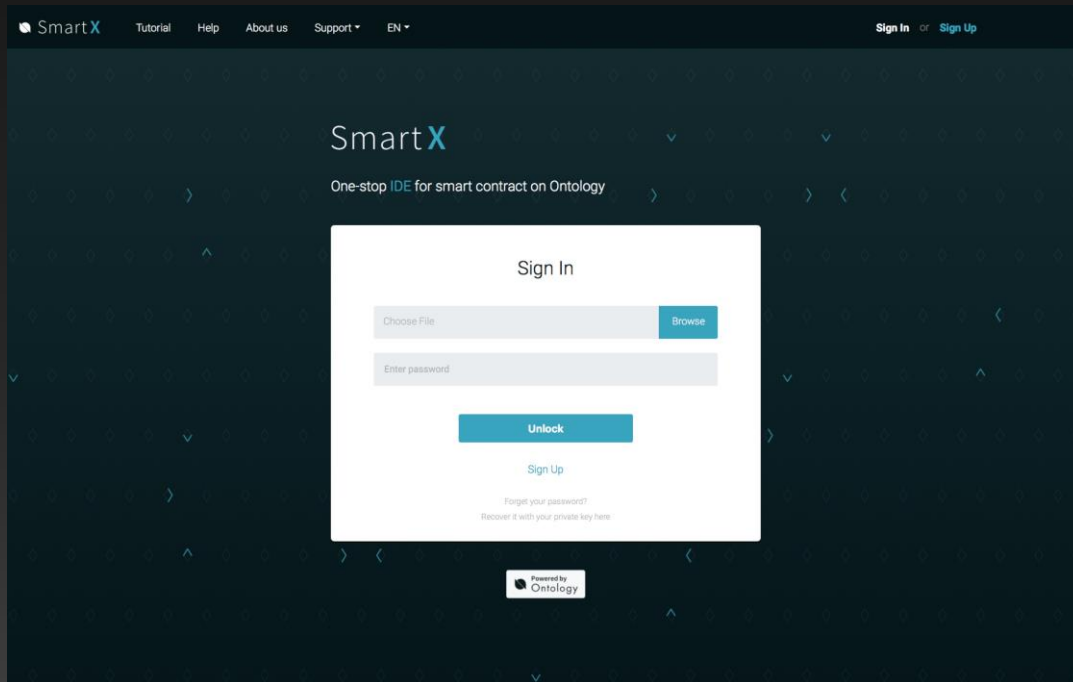


# OWallet





# SmartX



SmartX Tutorial Help About us Support EN Sign In Sign Up

SmartX

One-stop IDE for smart contract on Ontology

Sign In

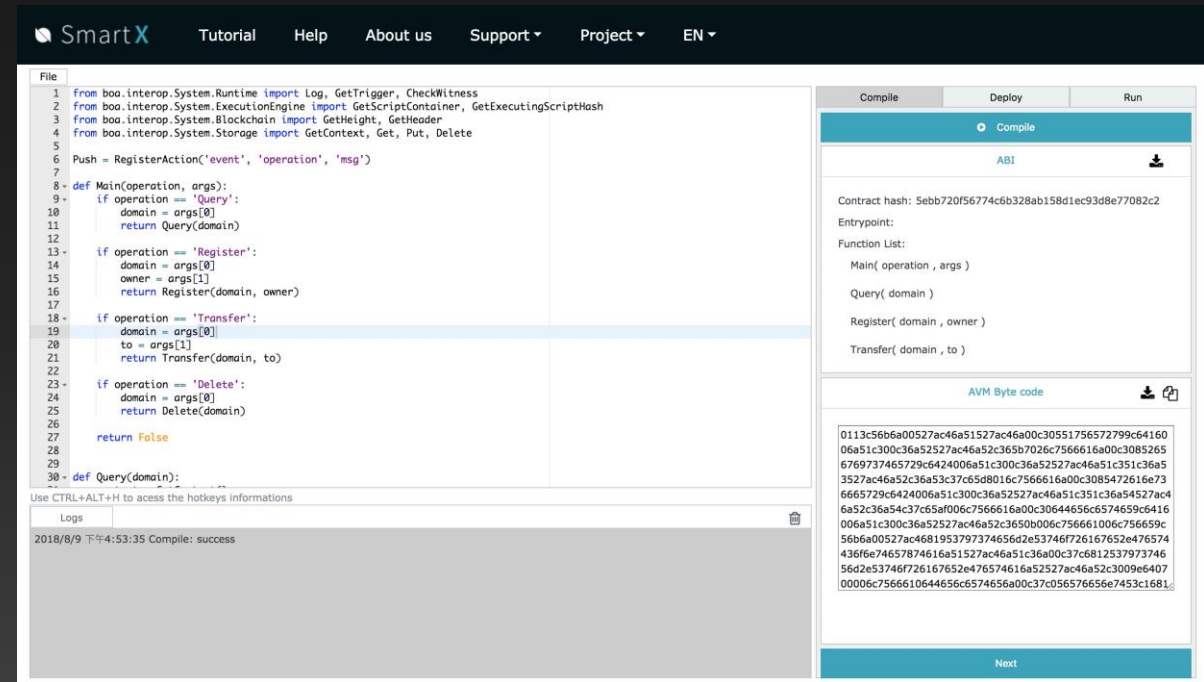
Choose File

Enter password

Sign Up

Forgot your password?  
Recover it with your private key here

Powered by Ontology



SmartX Tutorial Help About us Support Project EN

```
1 from boa.interop.System.Runtime import Log, GetTrigger, CheckWitness
2 from boa.interop.System.ExecutionEngine import GetScriptContainer, GetExecutingScriptHash
3 from boa.interop.System.Blockchain import GetHeight, GetHeader
4 from boa.interop.System.Storage import GetContext, Get, Put, Delete
5
6 Push = RegisterAction('event', 'operation', 'msg')
7
8 def Main(operation, args):
9     if operation == 'Query':
10        domain = args[0]
11        return Query(domain)
12
13    if operation == 'Register':
14        domain = args[0]
15        owner = args[1]
16        return Register(domain, owner)
17
18    if operation == 'Transfer':
19        domain = args[0]
20        to = args[1]
21        return Transfer(domain, to)
22
23    if operation == 'Delete':
24        domain = args[0]
25        return Delete(domain)
26
27    return False
28
29
30 def Query(domain):
```

Compile Deploy Run

ABI

Contract hash: 5ebb720f56774c6b328ab158d1ec93d8e77082c2

Entrypoint:

Function List:

- Main( operation , args )
- Query( domain )
- Register( domain , owner )
- Transfer( domain , to )

AVM Byte code

```
0113c56b6a00527ac46a51527ac46a00c30551756572799c64160
06a51c300c36a52527ac46a52c365b7026c7566616a00c3085265
6769737465729c6424006a51c300c36a52527ac46a51c351c36a5
3527ac46a52c36a52c37c55d8016c7566616a00c3085472616e73
6665729e424006a51c300c36a52527ac46a51c351c36a54527ac4
6a52c36a54c37c65a006c7566616a00c30644656c6574659c6416
006a51c300c36a52527ac46a52c365b006c756661006c756659c
56b6a00527ac4681953797374656d2e53746f726167652e476574
436f6e74657874616a51527ac46a51c36a00c37c6812537973746
56d2e53746f726167652e476574616a52527ac46a52c3009e6407
0000c7566610644656c6574656a00c37c056576656e7453c1681
```

2018/8/9 下午4:53:35 Compile: success

Next

# https://github.com/ontio

**documentation**  
Ontology Documents <https://ont.io>

[distributed-ledger](#) [ontology-infrastructure](#)

● C ★ 67 🗄️ 47 Updated an hour ago

---

**ontology**  
Official Go implementation of the Ontology protocol.  
<https://ontio.github.io/documentation/>

[golang](#) [high-performance](#) [blockchain](#) [ontology](#) [distributed-ledger](#)

● Go ★ 353 🗄️ 140 📄 LGPL-3.0 Updated 3 hours ago

---

**OEPs**  
Ontology Enhancement Proposal

[proposal](#) [ontology](#)

★ 13 🗄️ 9 📄 CC-BY-4.0 Updated 16 hours ago

---

**OWallet**  
OWallet - a comprehensive Ontology desktop wallet

● JavaScript ★ 2 🗄️ 3 Updated 17 hours ago

---

**ontology-crypto**

● Go ★ 18 🗄️ 15 📄 LGPL-3.0 Updated 23 hours ago

---

**ontology-python-sdk**  
Comprehensive python library for the Ontology blockchain.

● Python ★ 3 🗄️ 4 Updated 4 days ago

---

**ONTO**  
ONTO is a comprehensive decentralized client product, which is an entrance of trust search engine and blockchain system.

★ 11 🗄️ 2 Updated 4 days ago

**ontology-java-sdk**  
Comprehensive Java library for the Ontology blockchain.

[java](#) [sdk](#) [ontology](#)

● Java ★ 37 🗄️ 36 📄 LGPL-3.0 Updated 4 days ago

---

**ontology-ts-sdk**  
Comprehensive TypeScript library for the Ontology blockchain.

[typescript](#) [sdk](#) [ontology](#)

● TypeScript ★ 24 🗄️ 13 📄 LGPL-3.0 Updated 5 days ago

---

**ontology-explorer**  
Ontology blockchain explorer

[monitor](#) [ontology](#) [explorer](#)

● Vue ★ 6 🗄️ 5 Updated 6 days ago

---

**ontology-smartcontract**  
tools, tutorials for ontology smart contract

● C ★ 6 🗄️ 17 1 issue needs help Updated 12 days ago

---

**ontology-go-sdk**  
SDK for Ontology

[golang](#) [sdk](#) [ontology](#) [rpc](#) [wallet](#) [restful-api](#)

● Go ★ 9 🗄️ 15 Updated 18 days ago

---

**ontology-test**  
Light-weight test framework for ontology

[test](#) [ontology](#)

● Go ★ 7 🗄️ 10 Updated 21 days ago

---

**ontology-DID**  
Ontology decentralized identification protocol based on W3C DID specifications.

● C# ★ 27 🗄️ 10 Updated 22 days ago

**ontology-oracle**  
The Oracle node and Oracle contract

[blockchain](#) [oracle](#) [ontology](#)

● Go ★ 14 🗄️ 5 📄 LGPL-3.0 Updated on 6 Jul

---

**neo-devpack-dotnet**  
Forked from neo-project/neo-devpack-dotnet  
NEO Development Pack

● C# 🗄️ 36 📄 MIT Updated on 5 Jul

---

**ontology-eventbus**  
Forked from Asynkron/Tiproactor-go  
The Go Language Implementation of Ontology Actor Model

[go](#) [ontology](#) [eventbus](#)

● Go ★ 20 🗄️ 218 📄 Apache-2.0 Updated on 21 Jun

---

**ontology-wasm**  
Ontology wasm is a VM for ontology block chain, it can also be used for other stand-alone environment not only for block chains.

[engine](#) [blockchain](#) [wasm](#) [ontology](#)

● Go ★ 24 🗄️ 9 📄 LGPL-3.0 Updated on 1 Jun

---

**ontology-ddxf**  
Distributed data eXchange Framework which allows to build data marketplaces .

★ 8 🗄️ 4 Updated on 27 Apr

---

**ontology-fpga**

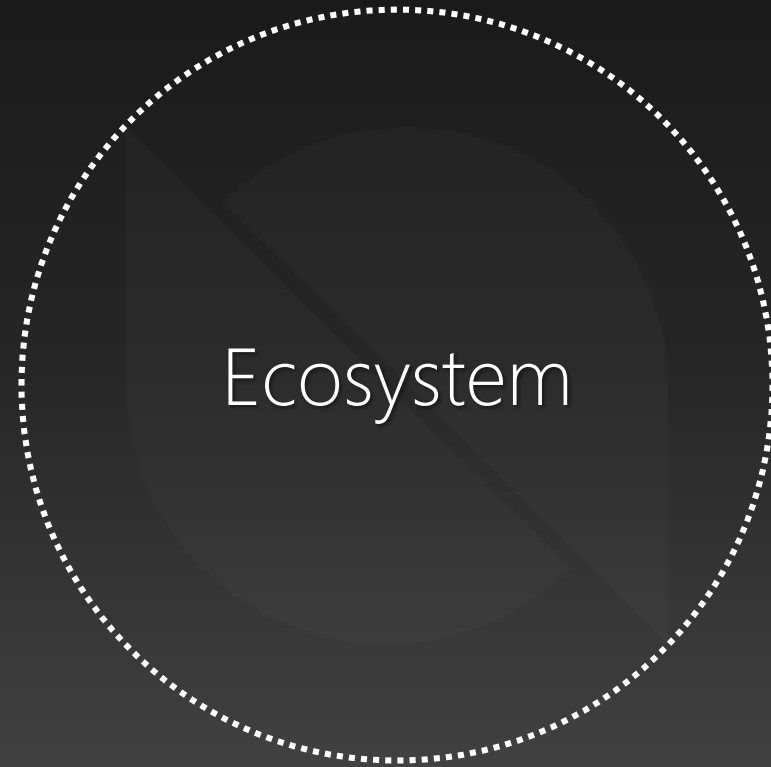
● HTML ★ 8 🗄️ 4 📄 LGPL-3.0 Updated on 20 Apr

---

**ontology-compiler**  
Forked from neo-project/neo-compiler

● C# 🗄️ 66 📄 MIT Updated on 10 Apr

# Ontology 1.0



# Technical community

OEP (Ontology Enhancement Proposal)

Build Technical Group

100,000,000 ONT

Only for the Technical Community!

# Real-world connection



Partners  
programs  
scenarios

# Ontology Partners

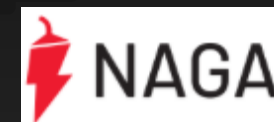
Auto & IoT



Industry



Fintech



Identity



Media & Gaming



Health Care



Entertainment



Security



Public Chain



# Ontology Olympus Accelerator (OOA)



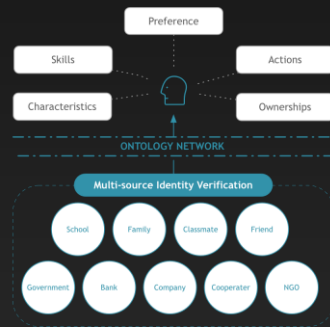




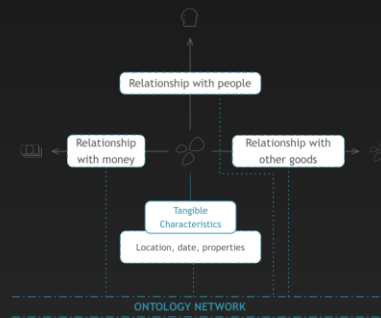


# A Distributed Trust Collaboration Platform

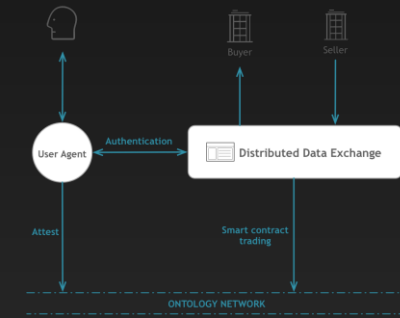
Multi-Source Identity System for People



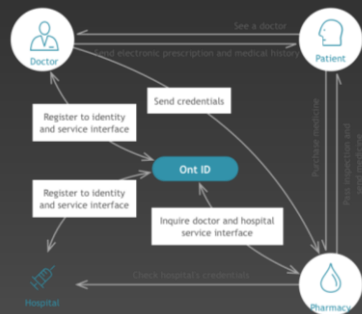
Multi-Source Identity System for Objects



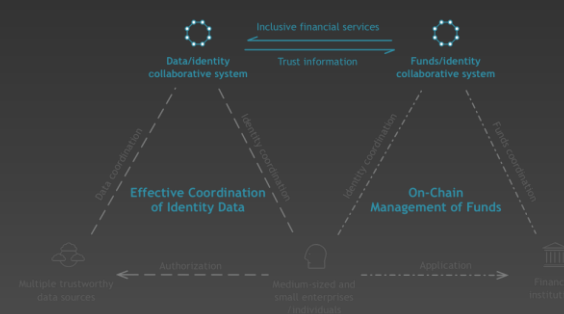
Distributed Data Exchange



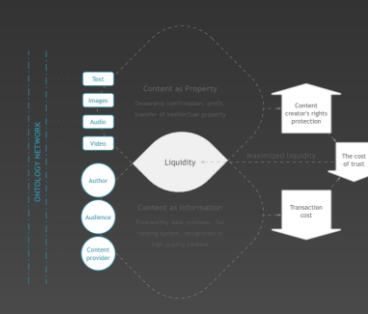
Distributed Collaborative Systems



Decentralized Inclusive Financial Services



Distributed Content Generation and Trade



# Scenarios





Ontology

ont.io

sallygong@ont.io