

## Mijin

Mijin is a private or permissioned blockchain project based on NEM's Catapult Technology that can be easily deployed on a cloud or a controlled network. This deployment method can be especially useful when data is required to be private throughout the network. Mijin can currently scale to more than 1000 transactions per second, thus meeting most real world requirements, and planned to further scale with later iterations. The Mijin platform is maintained by Tech Bureau, a company in Osaka, Japan, and it is currently being tested by many companies within Japan for managing transactional data. It is being used by Infotera KK to develop an enterprise solution that is to be deployed in over 5,000 medium to large sized companies as an adapter between the NEM/Mijin API. Mijin has been mentioned in official press releases as being tested by Dragonfly Fintech, SBI Sumishin Net Bank, OKWAVE, BC Fintech, and Metro Money Exchange, as well being reviewed in a government report conducted by the Japanese Ministry of Economy, Trade and Industry.

## Dragonfly Fintech

Based out of Singapore and focusing on payment and settlement, Dragonfly enables all players of the financial industry, from financial institutions to payment providers as well as users alike, to carry out payments and settlements in a ubiquitous and borderless manner. Applications that will use the Dragonfly platform include mobile payment, debit cards and ATM top-up of mobile wallet, merchant payment solution, and interbank cross transfer (under development). Upstream use will include correspondent banking as well as automated clearing and settlement in a direct Real Time Transaction Settlement as opposed to Real Time Gross Settlement (RTGS). With the use of the powerful NEM Technology, Dragonfly is making payments and settlement so much more simpler, faster, secure, seamless, and cost-less.

## Supernodes

The NEM Supernode's program is funded with XEM set aside during the Nemesis block. These awards are then given to high-performance nodes for helping to secure the network. These nodes form a backbone of support for light wallets, mobile wallets, and 3rd party apps so that users of these services might have access to the network that is easy, fast, and reliable without having to sync a blockchain by themselves or use untrustworthy centralized services.

## Ultralight Mining

NEM uses a process called "harvesting" which is a method whereby a node calculates blocks and adds them to the blockchain. During this process a node will collect, or "harvest", any fees used to send transactions included in that block.

With the help of the Proof-of-Importance algorithm, it is decided which node is allowed to calculate a block and can keep all included transaction fees. POI allows for the network to safely come to a consensus using light resources, even a Raspberry Pi, instead of large and wasteful resources usually associated with Proof-of-Work.

## XEM

"XEM" is NEM's currency code. It is similar to USD, EUR, CNY, JPY etc. It is the fuel of the NEM ecosystem and it can be used to pay transaction fees on the NEM network, or used on its own as a cryptocurrency. It is also the first mosaic on the NEM blockchain, nem:xem, and therefore can be used like any other mosaic.

On March 31, 2015, 8,999,999,999 XEM were generated during the original Nemesis block and no more will ever be created.

## Exchanges

Online cryptocurrency exchanges are websites where you can buy, sell or exchange cryptocurrencies for another digital currency or fiat money. You can purchase XEM at one of the following exchanges.

**POLONIEX**  
www.poloniex.com

**bitcoin**  
www.bitcoin.co.id

**BTER.com**  
www.bter.com

**比特时代**  
www.btc38.com

**BITTREX**  
www.bittrex.com

**Zaif**  
http://zaif.jp

## Find out more

 <http://nem.io>

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# nem



## What is NEM?

NEM is more than just a cryptocurrency or a new altcoin; it is an entire platform built on revolutionary blockchain technology, reimagining from scratch the ideal blockchain. NEM does not only allow for standard peer-to-peer value transfer transactions, but instead does much more – store data, make transactions, prove identity, timestamp documents, and create arbitrary digital assets. Using secure cryptography, it can be used for a wide variety of applications across many industries, including the financial industry, government, logistics, and the medical industry. The NEM platform is a highly available system that any business, government, and/or an individual can make use of to shorten the design lifecycle and reduce their cost of operation.

Lon Wong, Dragonfly Fintech CEO



## NEM at a glance

- Code built 100% from the ground up (not a fork of any existing project)
- Two-tier web architected platform with focus on security and safety
- Test-driven development
- Easy to use universal APIs
- Uses innovative Proof-of-Importance: first reputation based blockchain algorithm
- Improves different features of POW and POS coins, being efficient and more environmentally friendly
- Nodes need not be expensive machines and run independent of wallet
- One minute average block times
- Asset creation with NEM Mosaics featuring fixed or editable supplies, descriptions, levies and transferring rights
- Namespaces for management of unique mosaics and domain names on NEM blockchain
- First blockchain with delegated harvesting (secure and safe proxy mining)
- First localized spam protection
- First with Eigentrust++ peer reputation management for Nodes
- First editable m-of-n multisig with blockchain based alerts
- P2P time syncing of nodes
- Offers encrypted, unencrypted and hex-messaging
- Small memory footprint, easy to install and portable client and server
- Zero currency inflation (fixed supply, all 8,999,999,999 coins released at launch)
- Private permissioned ledger sidechains
- Geographically distributed multistaged transaction approvals for XEM Sign/Pay
- Has Mobile wallet for both iOS and Android (coming soon, closed beta now)

## NEM can be used for...

- Time stamping of events
- Messaging, encrypted or not, including hashing for Proof-of-Existence
- Unique to NEM only, wallet agnostic, multi-signatory on-chain signing. Use case extension example – A specially written small footprint software in a thumb drive that can be used to sign transactions – PnP and does not require any booting or chain synchronisation.
- Sign-on for “password-less” applications, using NEM key ID (NEMKID) to authenticate a random challenge statement. Highly secure method of authentication. Can be used with a password for 2-FA. Allows users to sign on securely to websites without needing to remember complex passwords.
- DAO’s utilizing NEM’s multisig as its foundation.
- Voting on chain enabled with POI or Mosaic weighting of votes to either by share or by account.
- Makings digital assets to represent any financial security with NEM Mosaics including fiat representations, game tokens, coupons, member loyalty points/awards/miles, micropayments, remittance applications and so on.
- Using the NEM Namespace feature to act as a decentralized DNS.
- Back-end solutions for large specialized databases
- Document and database fingerprinting and notarization preventing tampering with data sets.
- Proof-of-Existence and ownership of digital documents, goods, applications, and services.
- Fundraising and ICOs
- Identification systems

## Mosaic

A Mosaic is a special kind of asset unique in NEM. A Mosaic is not a coloured coin, as a Mosaic is created as a separate token class rather than “colouring” a coin.

- Assets are mutable or fixed in quantity
- Each Mosaic type is uniquely named using NEM's Namespace methodology
- Assets can have levies applied to them
- Assets can be made to peg to an asset, e.g., price of a share.
- Assets can be backed by real world assets, e.g., gold, silver.
- Assets can be made to be transferable or non-transferable among third parties, meaning assets can be issued and transacted between issuer and user only and not between third parties, e.g., land entitlement, voting tokens, or user identification.

## Multisignature Accounts

Multisig accounts in NEM can be used for multi-user accounts where users share an account so that any one of them can spend freely, or it can be used as a security measure where m-of-n users, e.g. 3-of-5, must sign a transaction for it to be executed. It can be used for 2FA on an account, or serve as the foundation for a DAO (Distributed Autonomous Organization). NEM manages its multisig with on-chain editable contracts making setting up, editing, or deleting multisig contracts literally as simple as a few clicks. Moreover, because it lies on chain, NEM allows for push notifications to wallets alerting signers of a shared account they need to review to sign a transaction. And like all features on NEM, it has been fully integrated into NEM's APIs making it wallet and 3rd party developer agnostic.

## NEM Wallets

In addition to the original NCC wallet for the NEM network, iOS/Android stand alone apps, a desktop Lightwallet, and a desktop and mobile Nanowallet are in late stages of development. These different wallet options give users of the NEM network a variety of options and since all are open-source and able to be forked, third-party developers looking to make special apps already have a useful code they can use to incorporate into their own specialized apps.

## NIS

While wallets act as the gateway to the NEM Infrastructure Server (NIS) is a node in the peer-to-peer network. It verifies transactions, puts them onto the blockchain when building a block, i.e., when it successfully harvests (cf. mining in other cryptos), maintains a database, synchronises the database with the rest of the network, manages Sybil attacks, and maintains its trustworthiness and reputations of other nodes through the use of the Eigentrust ++ algorithm. It has peer-to-peer time syncing, a first in blockchain technology. And it allows for any wallet to connect to any node for any transaction; trust is not needed. Additionally the NIS has a full set of JSON RESTful services. More information about the JSON RESTful APIs can be found at <http://bob.nem.ninja/docs/>

The two-tiered NEM wallet/NIS solution is very simple, straightforward, and easy to work with. It is holistic and the design improves upon and solves many of the mistakes made in previous releases of other crypto solutions in the market. It is in fact a holistic realisation of the blockchain technology.