

Whitepaper v2.0



The Electra Protocol Whitepaper

Electrifying the Crypto Community

User Benefits:

Electra Protocol has been developed with invaluable features in mind to allow merchants, customers, and casual users to incorporate Electra Protocol's global payment system into their everyday lives. Since its inception, the Electra Protocol team has kept its users at the forefront of project decisions throughout the development process, intending to transform how the world views payments through cryptocurrency and blockchain technologies. Together with our unique project and the integrity of our strong and robust community, we believe Electra Protocol will achieve this goal.

Customer benefits include:

- ◆ Ability to join the Electra Protocol community, where you can work to increase the monetary value of the project and coin
- ◆ Use of ElectraPay, a cryptocurrency payment option for online and in-store purchases
- ◆ Safe and secure payment option, built upon the SHA-256 algorithm
- ◆ Transactions fees are virtually zero percent at 0.00001%
- ◆ Instant transactions with an 80-second confirmation time
- ◆ No foreign currency exchange fee charges
- ◆ Staking rewards on the Electra Protocol network

Merchant benefits include:

- ◆ ElectraPay, a payment solution for e-commerce merchants looking for the alternative payment method that cryptocurrency provides
- ◆ Safe and secure payments built on the SHA-256 algorithm, with transactions fees substantially lower than credit or debit card options
- ◆ Instant transactions with an 80-second confirmation time
- ◆ No foreign currency exchange fee charges

Objectives:

- ◆ Design, build, and continuously evaluate the Electra Protocol project as it stays at the forefront of cutting-edge technology advancements
- ◆ Create a trusted financial ecosystem for our community
- ◆ Ensure that our community continues to have an active voice in the development of Electra Protocol as we move into the future while utilizing current best practices in crypto

Innovative and Open Development

Electra Protocol is a product of the combined abilities, skills, and talents of an ever-growing community of coders, developers, core business professionals, and other contributors. The project is built on a highly functional and feature-rich blockchain with a stable and solid foundation. Electra Protocol has continuously been subjected to multiple validation stages, and through this process, only the most valuable changes have been adopted and integrated into the project. As features have been added and improvements continue to be made, decisions are subjected to intense review and enhanced as needed. A key component to Electra Protocol's strength is its ability to adapt and consistently meet the needs of an ever-changing global environment.

As Electra Protocol moves forward and as technology continues to advance, our continued success will be due in part to the fact that we allow the project to expand, improve, and grow in tandem with the latest innovations.

Electra Protocol Sets New Standards for Cryptocurrencies

The Electra Protocol Project understands that the best product is capable of becoming completely different from its origins. As XEP has grown, so too has its algorithm with its enhanced SHA-256 coding. This development has allowed it to become one of the fastest, most secure, least expensive, and energy-efficient currencies available.

Electra Protocol is a unique cryptocurrency project in many ways, as it did not have an ICO (Initial Coin Offering), it has no CEO, as well as the fact that a centralized authority does not control its progress. Decisions are made by the core team, which consists of several highly experienced people across several regions of the world, with an average age of 35 years old. The majority of the core team has a large network in the crypto space, as well as the regular business world. The relatively high age of our team members, in combination with the business knowledge and experience, makes the core team a steady and experienced organization that brings a high level of uniqueness in the crypto world.

Despite being a completely functioning cryptocurrency at present, Electra Protocol is an ongoing development project subject to review, innovation, and updating.

Current Technology

Algorithm

At the heart of every digital currency is a unique blockchain code developed by a team of software specialists and supported by a peer-to-peer network that maintains the integrity of the blockchain's ledger. Electra Protocol's blockchain algorithm is known as SHA-256. Electra Protocol is safe, secure, and instantaneously accessible through the integrated most recent secure codes, which have been developed by many volunteer developers.

The Electra Protocol Blockchain

The Electra Protocol blockchain currently has the following specifications, with more enhancements in development:

Ticker:	XEP
Algorithm:	SHA 256
Confirmation/Block Time:	80 Seconds
Block Size:	10 MB
Transactions/Second:	Approximately 1,600
Consensus:	POS v3.0e
Coin Maturity:	12 Hours
Electronic Payments:	Yes
Atomic Swaps:	Yes
Lightning Network:	Yes
SegWit Integration:	Yes
Taproot	Yes

Purpose and Use of Premine

Electra Protocol was created with a premine of 3 billion coins at the end of 2020. The team will utilize the premine and generated stakes during the development and expansion of the Electra Protocol project. Expenses such as development, servers, marketing, exchanges, bounty, promotion, 3rd party payments, and licenses will be covered from the initially created premine.

Fast Payment

Electra Protocol transactions are received in the recipient's wallet almost instantly, and the XEP received is spendable as soon as the first confirmation is recorded in the blockchain. The transaction confirmation process occurs at an unparalleled 80 seconds, making Electra Protocol one of the fastest in the industry. With the activation of validator nodes, XEP transactions will be settled with instant confirmations.

Transaction Fees Approaching Zero

With transaction fees of the Electra Protocol network at 0.0002 XEP, it takes 5,000 transactions to accumulate one XEP worth of transaction fees.

POS 3.0e

Electra Protocol launched with the latest and secure coded PoS 3.0e version. PoSv3e moves away from the vulnerabilities created by staking weight and the ability of a rogue user to initiate a 51% attack by gaining a majority of network weight and instead introduces considerations for transaction depth (UTXO's – Unspent Transaction Outputs) in the blockchain and also introduces a random component in awarding blocks and staking rewards. The deeper a transaction (UTXO) is in the blockchain – the more blocks created since the block containing the transaction was created – the greater the odds of it being selected for a new block and thereby a staking award.

Staking Rewards

Electra Protocol PoS v3.0e encourages users to stay connected to the network because if they are not connected, they cannot earn a block or reward based partially on transaction depth and partly on being randomly selected.

Once a single transaction containing coins has matured and remained unspent for 12 hours, that transaction is eligible to be selected to earn a block and a staking reward.

Once selected for a block and reward, a user's stake is determined by a separate calculation specific to Electra Protocol. Currently, staking is set at 3% annually for regular desktop wallet users and looks like the following: $\text{Staking Reward} = (3\% * \# \text{Coins in the Transaction Selected}) * (\text{Days Unspent}) / 365$.

Notes

- ◆ Transactions that occur when coins are moved and unspent thereafter are what developers call UTXO's (Unspent Transaction Outputs). Because transaction inputs can be faked, it's more secure to look at transactions that have already been verified on the blockchain and are available for future transactions (spending).
- ◆ Sending coins to the same address or wallet in stages or incrementally will create multiple UTXO's.
- ◆ To earn a staking reward, wallets must remain unlocked.
- ◆ "Days Unspent" are the number of days the transaction was staked or unspent and cannot exceed 30 days to encourage users to remain connected to the network.

Environment Friendly

The proof of stake algorithm of Electra Protocol allows it to be one of the most environmentally friendly cryptocurrencies available. It requires significantly less energy to run than completing algorithms without compromising the security of network members. Since it is a Proof of Stake coin, there is no need for ASIC miners, which significantly reduces its carbon footprint.

Lightning Network

The introduction of the Lightning Network (LN) into the Electra Protocol blockchain is yet another advancement that proves XEP is setting the stage to become a global currency. In turn, it makes it attractive to merchants and will allow for mass adoption.

The Lightning Network (LN) was developed by Lightning Labs out of San Francisco, California, to increase the number of Transactions Per Second (TPS) that could be completed over a blockchain network. Electra Protocol's transactions per second rate (TPS) is +1500 currently and heading even higher with future advancements to the Lightning Network.

The power of SegWit and the Lightning Network together allows XEP to scale as its user base grows, all the while allowing this to occur without the need to force a hard-fork within the Electra Protocol blockchain.

Segwit

The Segregated Witness, SegWit, integration into XEP includes many highly technical features, all of which have greatly improved the number of Transactions per Second (TPS) the Electra Protocol blockchain can process.

Future Technology

Creating the cryptocurrency of the future requires going beyond the limits of existing technology; it requires a commitment for continued growth and success. The strength of XEP resides in the fact that individuals from all over the world come together to form a community of stakeholders that fully participate in the direction of the Electra Protocol project. As a community, we understand that to continue developing the most cutting-edge technology for cryptocurrency evolution, the Electra Protocol project must adapt to future societal and economic needs.

As cryptocurrency technology moves forward, the XEP development team is fully prepared to adapt to emerging innovations that are more efficient and superior to current features, allowing it to maintain a competitive advantage in the market.

The Electra Protocol Ecosystem

The Electra Protocol Family of Products

Electra Protocol's family of products can be summarized into the following categories:

- ◆ Desktop Wallets (Windows, Mac, and Linux)
- ◆ Mobile Wallets (Android and iOS)
- ◆ Merchant Applications
 - ◆ Plugins for eCommerce Applications
 - ◆ Merchant Mobile Applications
 - ◆ Merchant Desktop Software
 - ◆ Centralized Online Payment Gateway
 - ◆ Point-of-Sale (POS) Terminals
 - ◆ Point-of-Sale (POS) Software Solutions

Integrated support containing user guides and live support from the community is available for the entire product line.

Electra Protocol Services:

- ◆ Integrated Merchant, Customer, and User Support
- ◆ ElectraPay
- ◆ Atomic Swaps

Integrated merchant, customer, and user support

As the world moves closer to cryptocurrency mainstream adoption, the community behind the Electra Protocol understands that the idea of managing a digital wallet and using digital currencies may seem to be a daunting task for some. To that end, Electra Protocol users can rest assured that regardless of where you are located in the world, there will be someone from our 30,000 plus member community that will be able to provide you with the assistance and support you need as you integrate the XEP Payments Gateway and other Electra Protocol products and services into your life.

ElectraPay

ElectraPay allows any merchant with a WooCommerce based website to easily accept XEP as payment, with plans to expand to integrate Shopify and Magento in the near future.

Customers simply shop and select XEP at checkout as their desired payment option and complete the transaction just like normal. What isn't like traditional payment methods is the savings a merchant sees over conventional credit or debit card transactions.

Because XEP can be transferred at virtually no cost (less than 0.00001%), the merchant essentially receives the funds from the sale for free compared to a 2.5% to 3.0% fee from a bank-issued credit or debit card.

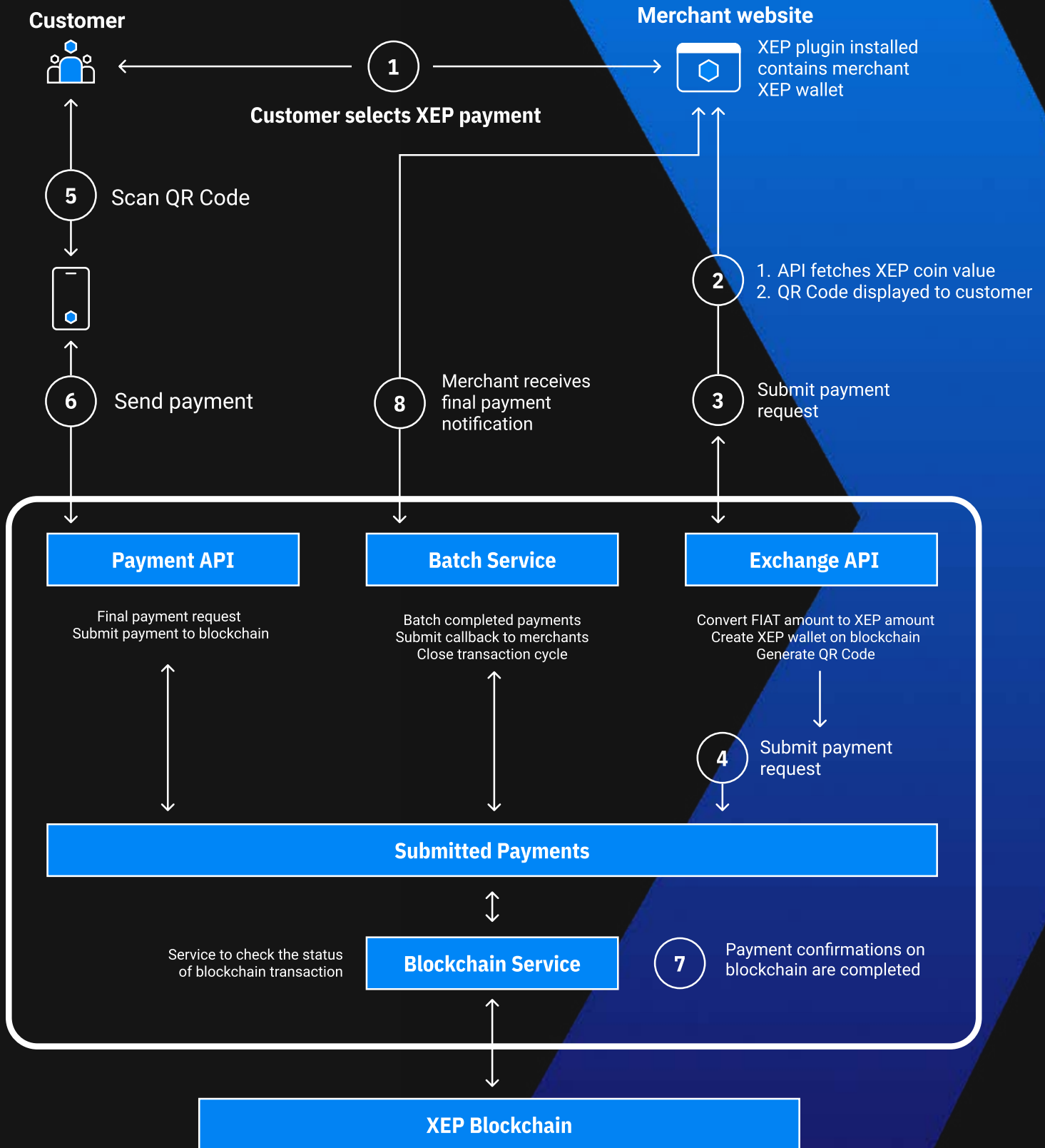
ElectraPay is very fast, with transactions appearing in both the merchant's and customers' accounts within milliseconds and are completely verified within 80 seconds or less.

One of the best features of ElectraPay is that all transactions are transparent and visible on Electra Protocol's blockchain, which serves as a permanent record of payments and receipts for merchants and customers alike.

ElectraPay's core applications and database for transaction processing currently reside on a cloud-based server provided by Amazon Web Services (AWS). Working with AWS also offers scalable bandwidth for future needs and certainty to merchants and customers alike that ElectraPay services are always available and 100% reliable.

Future developments in ElectraPay will allow for off-blockchain contracts for even faster payment verification, mobile payments with private party send-and-receive capability, Electra Protocol cards that transact with the swipe of a card, currency exchange or swap, known as an Atomic Swap so that a customer can pay with XEP and a merchant can receive the currency of their choosing.

How ElectraPay Works?



Why Atomic Swap

There are currently thousands of cryptocurrency projects in existence, and the number continues to grow exponentially as blockchain technology is adopted. As this list continues to grow, so too will the complexity of exchanging one cryptocurrency for another when payment needs require different currencies. Currently, cryptocurrency transactions are irreversible, so users must fully understand the steps needed to complete sometimes complicated transactions. Due to this level of difficulty, user adoption can be time delayed due to the level of trust in the entire process.

Electra Protocol aims to eliminate the complexity associated with this process, and our community believes that implementing Atomic Swaps is the answer.

Utilizing Atomic Swaps

The steps needed to complete an Atomic Swap are quite simple. As an example, imagine you go to pay for a pizza at an establishment that only accepts Bitcoin, and you would like to pay for it with your XEP. Using the Atomic Swap feature, you would choose to “swap” your XEP for Bitcoin in a two-way cross-blockchain private transaction. This swap is completed between users with Electra Protocol’s integration of AtomicDEX technology.

Another exciting feature that Atomic Swap will allow is the opportunity to complete a secure over-the-counter (OTC) sale, which is becoming increasingly popular as cryptocurrency trading grows. The OTC option allows users to bypass the use of an exchange, set an agreed-upon price, and complete the transaction without ever leaving the seller’s wallet until the sale is complete. Since the buyer will be buying with a coin other than XEP, those coins cannot be kept in the seller’s XEP wallet. The AtomicDEX wallet will be utilized, where users own their private key (Mnemonic passphrase), allowing for maximum security.

AtomicDEX is a core technology, decentralized exchange, which provides amazing security because, unlike traditional cryptocurrency exchanges, community members never deposit their coins on an exchange. Users will hold their coins and initiate swaps from a local and secure wallet.

Industry pioneers are embracing Atomic Swap technology, as it works with a variety of other cryptocurrencies that a merchant may choose to use. Electra Protocol believes that this is a key element for its future growth.

Roadmap

For the most up-to-date version of the Electra Protocol roadmap and additional details regarding the direction of Electra Protocol, please visit

<https://electraprotocol.com/roadmap/>

Electra Protocol Team

As the Electra Protocol community continues to expand, so too does the Electra Protocol team. The XEP team member web page can be viewed here:

<https://electraprotocol.com/team/>

Communication

The team has a number of core members who volunteer their time to develop and promote Electra Protocol. Team members are from many countries, including the Netherlands, South Africa, India, Germany, Turkey, USA, Canada, UAE, and more. To keep in contact with the community, the team utilizes various social media applications, including Twitter, Telegram, Discord, and Medium. At any time, day or night, you can find a team member online to communicate with in regard to the project or to answer any questions you may have.

The Electra Protocol core team holds weekly online meetings to discuss ongoing developments and weekly planning. The team also prepared progress reports regularly for the information of the community of 3rd party partners.

Partnerships and Charity

Since Electra Protocol had no ICO and has no CEO, our success is due in large part to the community that supports the overall mission of the Electra Protocol project. Over the past two years, thousands of individuals from all over the world have come together to contribute to Electra Protocol in countless ways, so we are fully aware that there is strength in numbers and that success occurs when we all work together. This same principle holds true in regards to our partnerships and social responsibilities, as both play pivotal roles in Electra Protocol's future.

At Electra Protocol, we understand that relationships, big or small, work best when there is a shared goal. To learn more about our partners and the services they offer please visit <https://electraprotocol.com/partnerships/>

To learn more about the supported charities that we have partnered with, please visit <https://electraprotocol.com/charity>

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