



RIPPLE (XRP)

Our definitive guide to Ripple (XRP)

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RIPPLE (XRP) EXPLAINED

Ripple is a **real-time gross settlement system (RTGS)**, currency exchange, and remittance network. It uses a common ledger which is managed and maintained by a network of independently validating nodes that can belong to anyone from individuals to banks. Ripple is based on a shared public database which makes use of a consensus process between validating servers to ensure integrity.

At its core, Ripple is not a **blockchain** as it uses a HashTree to summarise data into a single hash that's compared across nodes to provide consensus. Unlike Bitcoin, there is no actual mining and energy expenditure as nodes do not compete among each other to find the hash. Instead, they listen to other nodes for confirmations.

To defend against attackers, Ripple heavily relies on a Unique Node List (UNL) to censor malicious validators, as any validator not in another validator's UNL is ignored. Pending transactions are voted on by validators and only transactions accepted by at least 80% of validators are placed in the next block. This consensus mechanic can be described as a Federated Byzantine Agreement (FBA) consensus algorithm, similar to Stellar's XLM – an actual fork of the Ripple protocol.

Purpose of Token	TPS	Confirmation Time	Consensus Protocol
XRP, used as the payment currency and anti-spam mechanism within the Ripple ecosystem.	1,500–50,000	4 seconds	FBA

In terms of performance, the Ripple network takes about 4 seconds to confirm transactions and consistently handles 1,500 transactions per second (TPS), with the ability to scale up to 50,000 transactions per second. Comparatively, **Bitcoin** can do 6 TPS, about 0.4% of Ripple's total throughput, and it has a confirmation time of 10 minutes per block (up to 1 hour when the network is clogged).

Ripple's token – XRP

The goal of the Ripple network, or RippleNet, is to connect banks and payment providers, allowing one frictionless experience for sending and receiving money globally.

The Ripple cryptocurrency, XRP, offers banks and payment providers a reliable, on-demand option to source liquidity for cross-border payments. At the time of writing, the XRP token is used within the Ripple ledger mainly to pay fees and to avoid spam, although at its core it still lacks some utility functionality.

Nonetheless, its current function is to serve as the base currency for the Ripple ledger. In a simple way, XRP provides liquidity to big-time players and allows for faster inter-banking payments between them.

What is Ripple used for?

- ◆ **Banks:** Ripple is used by some banks to process cross-border payments in real time, with end-to-end tracking and certainty. Some key advantages are low transaction costs, easy integration, and new sources of revenue.
- ◆ **Payment providers:** Ripple provides a faster, more transparent, and more predictable payment service for customers with greater ease and reach.
- ◆ **Digital assets exchange:** XRP offers a reliable way to source liquidity for payments. An important benefit is faster settlements between accounts, and it also offers a reliable source of volume.

RIPPLE'S BUSINESS MODEL

Now that you know what Ripple is, it's time to explore its business model and future roadmap. The current Ripple business model is to develop and sell software built on top of XRP, the Ripple cryptocurrency.

Let's take an in-depth look at each one and explain what their purposes are within the current Ripple ecosystem.

xCurrent - Used to process payments

xCurrent is an interbank communications and settlement software built around the Interledger Protocol (ILP).

The ILP is an open protocol that enables interoperation between different ledgers and payments networks.

xCurrent is Ripple's enterprise software solution and enables banks to instantly settle cross-border payments with end-to-end tracking. Using xCurrent, banks message each other in real time to confirm payment details prior to initiating the transaction and to confirm delivery. It includes a Rulebook developed in partnership with the RippleNet Committee that ensures operational consistency and legal clarity for every transaction.

The solution offers a cryptographically secure end-to-end payment flow with transaction immutability and information redundancy.

It is designed to comply with each bank's risk, privacy, and compliance requirements. Because the software is built to fit within banks' existing infrastructure, it minimises integration overhead and business disruption. xCurrent is comprised of two primary layers:

1. The first layer is a communications protocol that is used to perform tasks like validating payment information and transferring funds.
2. The settlement layer ensures that funds are committed on both sides and then simultaneously releases the committed funds to each side.





By leveraging distributed ledger technology, xCurrent increases the efficiency of interbank communication by allowing banks to settle transactions (especially multi-currency transactions) faster with transparency and integrity. xCurrent is currently Ripple's most popular product among its clients.

xRapid - Used to source liquidity

xRapid is a software solution to provide liquidity, which allows companies to swap in and out of XRP to optimise exchange rate efficiency. In simple terms, XRP can be used in xCurrent as a bridge currency to settle transactions. Without a bridge asset, the spreads can be quite high between infrequently traded currencies, which results in expensive trades.

xRapid is for payment providers and other financial institutions who want to minimise liquidity costs while improving their customer experience. Because payments into emerging markets often require pre-funded local currency accounts around the world, liquidity costs are high. xRapid dramatically lowers the capital requirements for liquidity.

xRapid uniquely uses XRP to offer on-demand liquidity. This dramatically lowers costs while enabling real-time payments in emerging markets. Built for enterprise use, XRP offers banks and payment providers a highly efficient, scalable, reliable liquidity option to service cross-border payments.

xVia - Used to send payments

This product is the last stage in Ripple's product ecosystem. xVia is a standardised payment interface into RippleNet (the network of financial institutions using xCurrent or xRapid to settle payments) designed for corporations, payment providers, and banks who want to send payments across various networks using a standard interface.

xVia's simple API requires no software installation and enables users to seamlessly send payments globally with transparency into the payment status. xVia has three major selling points.

1. Payments tracking: on demand with tracking and delivery confirmation, even in non-traditional networks, like wallets.
2. Capital efficiency: free up capital sitting idle in foreign currency transaction accounts with on-demand and real-time global payments.
3. Rich data transfer: significantly improve the reconciliation process through rich data including invoices attached to payments.

By combining all three products, Ripple is able to offer its customers a truly unique crypto-banking experience and tackle the major issues currently criticised in traditional banking.

HOW AND WHERE TO BUY RIPPLE'S XRP

Ripple is a cryptocurrency mostly limited to crypto-to-crypto exchanges. In order to purchase Ripple on the majority of exchanges, you must buy it using Bitcoin or Ethereum rather than fiat currency.

A cryptocurrency exchange, or digital currency exchange (DCE), is an online platform that allows you to buy and trade cryptocurrency or digital currency, then sell it to convert it back to fiat money. These exchanges will either take a commission or simply charge usage fees for their service.

If you're familiar with placing buy and sell orders through stock brokers, you can safely assume cryptocurrency exchanges function in a similar, third-party manner to these brokers. Brokers take your desired **cryptocurrency price** and order quantity, wait for an order to be completed, and then typically collect a percent commission (plus an upfront fee) on your order.

A cryptocurrency exchange is usually programmed to accept your digital buy and sell orders (along with price and

quantity), waits in a similar manner for your order to be triggered (met by a buyer or seller on the other end), completes the trade, and then updates your on-exchange holdings, all without human brokers.

You can use a centralised or decentralised exchange, depending on your preference. Don't forget, to buy Ripple's XRP you have to:

1. Buy either BTC or ETH with fiat currency (on a fiat-to-crypto exchange)
2. Sign-up/login to an exchange and click on either XRP/BTC or XRP/ETH
3. Choose a price and an amount of XRP to buy and just click "buy"

The general overview of the current XRP market is as follows:

Exchange	Fee	Country	Payment
Binance	0.05%-.1%	All	BTC or ETH only
CEX.io	6%	All	Directly with fiat
Changelly	0.25%	All	Fiat and crypto
Bittrex	0.25%	All	BTC or ETH only
Coinmama	5%	Everywhere but the US	Debit and credit card

RIPPLE AND THE COMMUNITY

Now that you know what Ripple is, where to buy it and how it can be used, let's take a look at the role of Ripple throughout the crypto community.

As an organisation, Ripple is starting to lead the way when it comes to education and regulation. Recognising the importance of both factors and the role they will play in mainstream adoption of blockchain and cryptos, Ripple is looking to motivate and inspire communities around the globe.

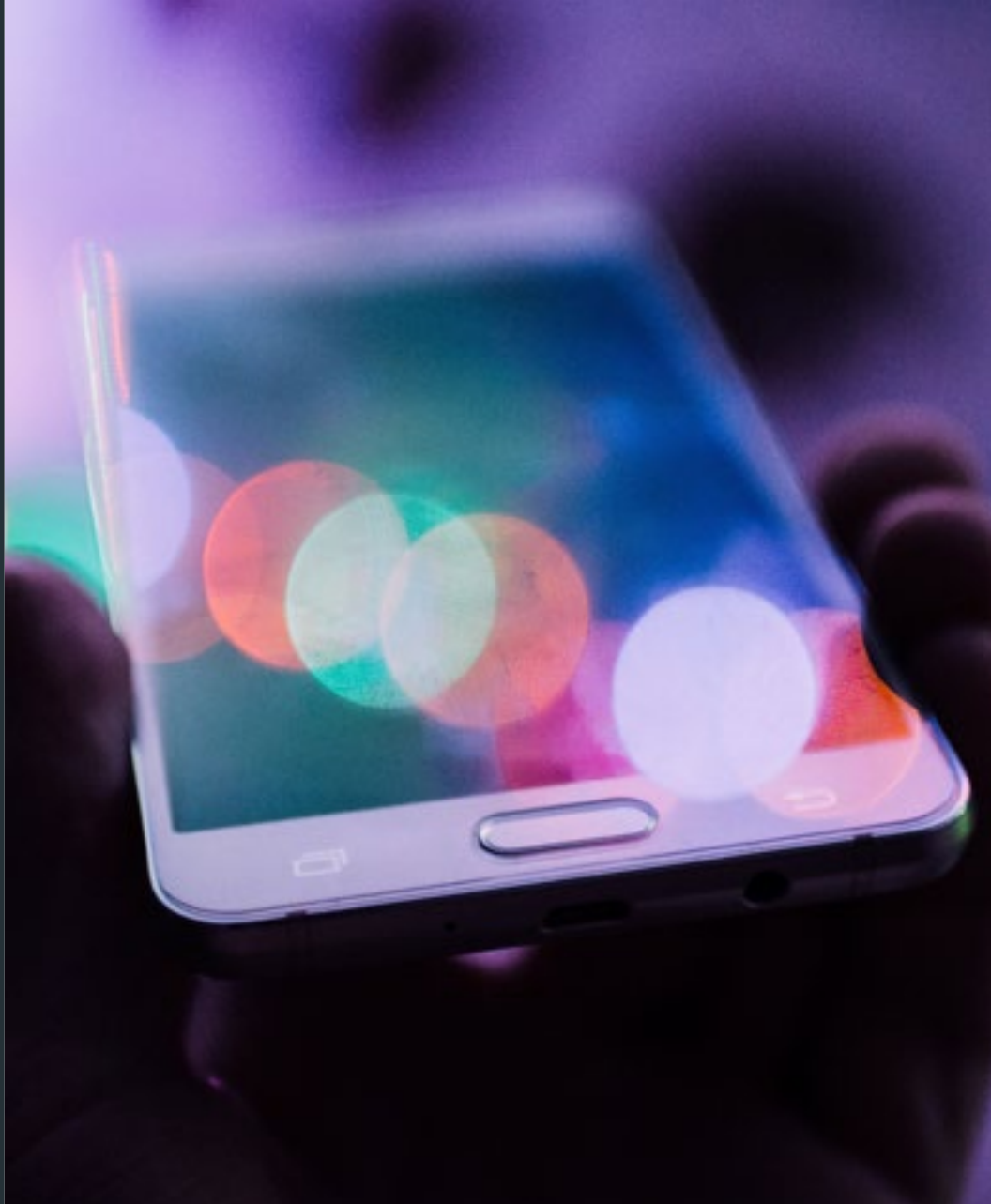
Ripple has made inroads into the education sector by **partnering with 11 top universities** as part of its blockchain research program. The University Blockchain Research Initiative (UBRI) is designed to enhance the blockchain technology ecosystem.

The UBRI launched in June 2018, and since then it has partnered with 29 education centres to “further accelerate academic research, technical development, and innovation in blockchain”.

The new universities that have been added to Ripple's roster include the likes of Cornell University in New York State, Georgetown University, the National University of Singapore, and the University of Sao Paulo.

“We are excited by the momentum that the Ripple UBRI Partnership has fostered at Berkeley Haas and throughout UC Berkeley in the development of blockchain, digital payments, and cryptocurrency-related research and innovation,” says **Laura Tyson**, faculty director at **Berkeley Haas Blockchain Initiative**.





Striving for regulation

Digital assets should be regulated on a global scale, argued Sagar Sarbhai, Head of Government & Regulatory Relations, APAC & Middle East at Ripple. He flags up Thailand, Abu Dhabi and Japan as examples of forward thinking policymakers driving demand while protecting customers.

Sarbhai notes that the latter country has a long-standing progressive attitude to digital assets and exchanges. As other major Asian economies like China and India opted for bans, Japan boosted its position. Today around half of the world's virtual currency trade happens there.

Most other countries are, however, reluctant to introduce regulations. Some don't believe that the market is big or important enough to bother. Others are concerned about money laundering and risks for crime or terrorist financing associated with digital assets.

A lack of regulation is often encouraged by the digital asset market itself. "The original digital asset, Bitcoin, was an anti-establishment reaction to the 2008 financial crisis. Regulation makes this tool of revolution a part of the system they're trying to overthrow. When there are no rules, certain groups can profit from the chaos," says Sarbhai.

Three-pronged approach to regulation

He adds that Ripple believes in collaborating with regulators and working within the existing financial system.

"Ripple leverages a combination of distributed ledger technology and the digital asset, XRP, to make cross-border payments faster, cheaper and more efficient. We believe regulation will help organisations use digital assets to develop innovative solutions, while also protecting consumers who use these services or invest in digital asset markets."

The venture has **long advocated a three-pronged approach to regulation** focused on use-cases that address risks to consumers and also provides guidance to banks on leveraging digital assets. Japan is a prime example of how this kind of progressive and thoughtful regulation can work, Sarbhai concludes.

CONCLUSION

Ripple (XRP) offers many benefits and is a serious alternative to Bitcoin. As an organisation, its focus on education on regulation could easily see it become one of the leading currencies within crypto markets.

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