




xCurrent

A brief technical overview for
financial institutions on RippleNet

October 2017



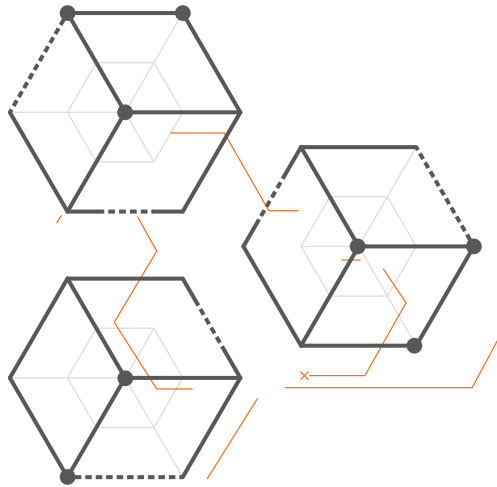


4	RippleNet & xCurrent
5	Key Benefits
6	Solution Components
9	Compliance, Security & Integration
10	About Ripple

One frictionless experience to send money globally

A consistent technology across a global network
of financial institutions

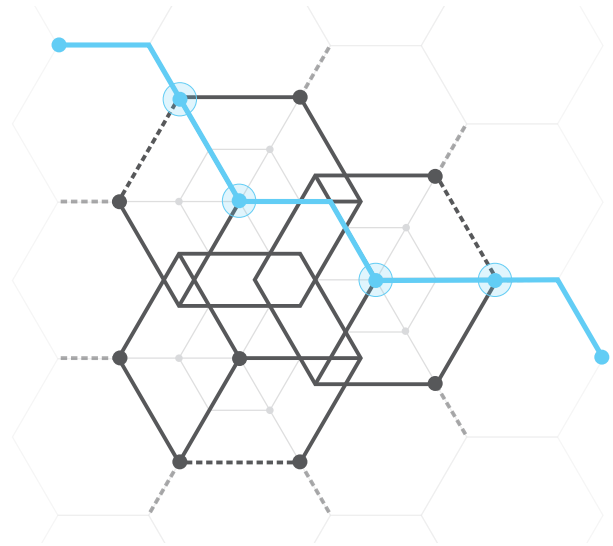
RippleNet & xCurrent



Today's Networks

Solving Inefficient Banking Payments Infrastructure

The needs of banking customers sending global payments have drastically evolved. Whether for retail remittance, corporate payments or correspondent banking, all customers are now demanding real-time, traceable payments from their banks. Yet, the currently siloed payment networks and banks' batch-processing infrastructure yields an experience that is slow, opaque and costly for banks and their customers.



RippleNet

Real-time, On-demand And Low-cost Payments With RippleNet Powered By xCurrent

All members of RippleNet are connected through Ripple's standardized technology, xCurrent. xCurrent enables banks to message and settle their transactions with increased speed, transparency and efficiency with RippleNet members. xCurrent is built around Interledger Protocol (ILP), an open, neutral protocol, that enables interoperation between different ledgers and payment networks. The solution offers a cryptographically secure, end-to-end payment flow with transaction immutability and information redundancy.

Rather than a constellation of disparate technologies, unstandardized communications and centralized networks, RippleNet is a decentralized, global network of banks that send and receive payments via Ripple's distributed financial technology.

Key Benefits



Access

Gain a single point of access into a global, decentralized network of financial institutions using standard rules, formats and governance.



Speed

Leverage on-demand, real-time settlement which enables banks to transact in milliseconds instead of days.



Certainty

Minimize risk of failure and deliver end-to-end visibility into every payment by exchanging transaction and fee information before payments execute.



Cost

Reduce total cost of settlement for every transaction by lowering processing costs and minimizing capital requirements for global payments.

Solution Components

Messenger

Messenger is an API-based messaging module that enables bidirectional communication between connected RippleNet banks. Transacting parties use Messenger to exchange information regarding risk and compliance, fees, FX rates, payment details and expected time of funds delivery.

Higher straight-through processing (STP) rates

Data validation between the transacting parties prior to each transaction ensures minimal failures and errors

Increased transparency

Pre-disclosure of end-to-end delivery fees and rates enhances customer experience and complies with Dodd-Frank and Basel III fee pre-disclosure requirements

New efficiencies

Payment delivery confirmation and the ability to monitor intraday liquidity allows for automated reconciliation to alleviate administrative burdens

Secure communication

Encrypted bank-to-bank communication using Transport Layer Security (TLS) v1.2 enables secure communication with existing financial institution systems, partner xCurrent instances and the internal components of xCurrent

Validator

A module that cryptographically confirms success or failure of each payment and coordinates movement of funds across ledgers of transacting parties.

No settlement risk

Atomic settlement secures all transaction legs with a single pass-fail outcome regardless of the number of transacting parties

Single source of truth

One-stop system of record for payment statuses enhances efficiency and provides convenience over checking disparate databases

ILP Ledger

ILP Ledger is a subledger of each transacting bank's general ledger which tracks the credits, debits and liquidity across all parties for Ripple transactions.

24/7 on-demand availability

Always-on ledger capabilities expand servicing hours regardless of core banking system availability

End-to-end visibility

Real-time insights into nostro balances eliminate the need for maintaining 'shadow' balances

FX Ticker

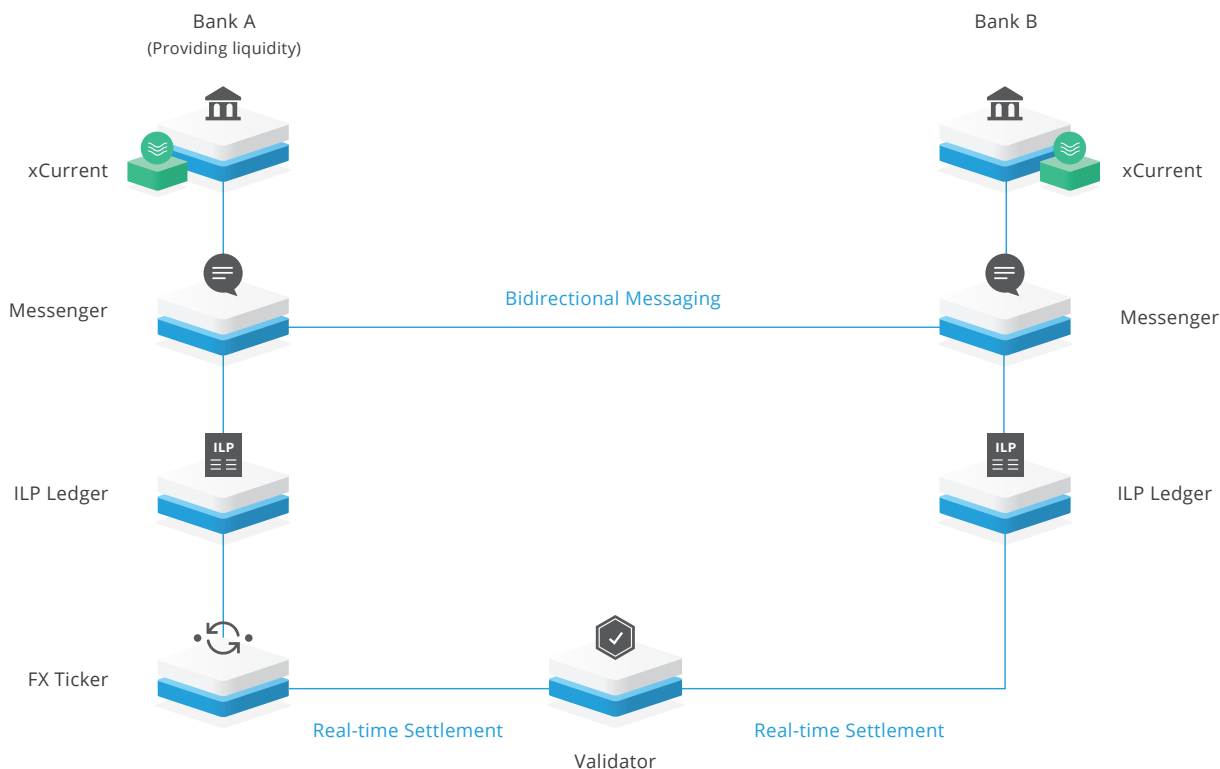
FX Ticker is a module within xCurrent that facilitates value exchange between ledgers by enabling liquidity providers to post FX rates. FX Ticker tracks account, currency and authentication credentials for each configured ILP Ledger and coordinates value transfers for settlement across the transacting ILP Ledgers.

Configurable FX rates

APIs that can be used to feed FX rates from the bank's existing FX and pricing engines

Coordinated value transfer

Dynamic coordination between transacting ledgers in different currencies for value movement





Compliance, Security & Integration

xCurrent fits within a bank's existing risk, compliance and information security frameworks. Customers' data remains private and secure, behind the bank's firewalls. All payment data is sent directly between transacting parties; neither Ripple nor any third party has access to this data. xCurrent does not impact a bank's compliance responsibilities; customer onboarding, KYC actions and AML and sanctions obligations remain unchanged. Based on individual domestic regulations, Ripple supports each bank to identify and assist with meeting all relevant regulatory requirements.

xCurrent utilizes industry-standard cryptographic algorithms and public/private key cryptography to mathematically verify each transaction. Banks' internal systems communicate with xCurrent over secure HTTPS connections and use OAuth 2.0 for authentication.

xCurrent is installed within the bank's infrastructure and is built to interface with the bank's systems (e.g., payments hub) using an API interface or through a translation layer that can consume traditional payment message formats to compress the integration time frame into weeks.

About Ripple

Ripple provides one frictionless experience to send money globally using the power of blockchain. By joining Ripple's growing, global network, financial institutions can process their customers' payments anywhere in the world instantly, reliably and cost-effectively. Banks and payment providers can use the digital asset XRP to further reduce their costs and access new markets.

With offices in San Francisco, New York, London, Sydney, Mumbai and Luxembourg, Ripple has more than 90 customers around the world.

Contact Us

To learn about joining RippleNet and leveraging xCurrent for cross-border payments, please contact us at ripple.com/contact.

