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1. Adoption of DLT in the Financial Sector
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Adoption of DLT
The emergence of the Internet of Information in the 90s was possible thanks to the creation of the Internet Protocols (TCP/IP, HTTP, SMTP...).

Internet Protocols enabled open innovation to flourish. Companies like Amazon, Ebay, Rakuten, Google and Alibaba were born once Internet Protocols gained adoption.

Today information moves seamlessly over the Internet, and due to its open and neutral nature, the Internet has given raise to all types of products and services that were previously unimaginable.
The Internet of Value will make for money and other forms of value what the Internet did for information.

Analogous to the Internet of Information, the Internet of Value needs open protocols and standards to enable the many value networks in the world to connect with one another and become interoperable.

As banks and other financial institutions adopt open standards like Interledger (ILP) to connect between each other and with Blockchain networks, we’ll see the Internet of Value emerge.

Blockchain technology and smart contracts will enable programmable money and frictionless transfers of digital assets, lowering the cost to transact and giving rise to seamless transactions between people, institutions and the IoT.

Blockchains and Distributed Ledger solutions mature, and all asset exchange networks become interoperable with ILP.
Blockchain & DLT Adoption and Maturity

Technology Breakthrough
Experimental platforms

Blockchain Technology
Testing the use of crypto currencies and smart contracts

Cross-Border Payments
Meeting the rising demand for faster, more cost-efficient international payments

Maturity and Adoption
Enterprise-level platforms for specific use cases

Capital Markets
Automating reconciliation to speed up post-trade services

Trade Finance
Pushing the digitalisation of trade to reduce risk and fraud

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Blockchain Technology
- bitcoin
- ETHEREUM

Cross-Border Payments
- ripple

Capital Markets
- R3 Corda
- Digital Asset

Trade Finance
- Hyperledger Fabric
Interledger Protocol

Application Layer
- HTTP
- SMTP
- VoIP

Transport Layer
- TCP
- UDP

Core Layer
- Internet Protocol

Network Layer
- Interledger Protocol

Value
- SPSP
- HTTP-ILP
- PayTorrent

Information
- PSK
- IPR

Interledger Stack

Interledger Protocol
HYPERLEDGER

For the advancement of Blockchain Open Standards

The Linux Foundation leads the biggest Consortium of Technology Companies and Financial Institutions collaborating to establish DLT and Blockchain technology standards.

NTT DATA is a member of Hyperledger, and as such we aim to become the best technology partner for Hyperledger member companies, who are working to adopt blockchain and distributed ledger based solutions.

With this objective we are working on the development of the Interledger Java software, which will facilitate transaction interoperability across banks, settlement networks and platforms.
Payments Settlement
Present and Future
RTGS systems reduce systemic risks by removing the settlement risk from interbank payment flows.

RTGS Systems today operate in daily batch process cycles.

RTGS systems don’t provide real-time settlement capability.

RTGS systems’ access is restricted to local banks in each country.

Consequently, correspondent banks are needed to access foreign currency corridors and liquidity pools.

Correspondent banks work in oligopolistic markets and use antiquated technology to settle transactions across countries. For these reasons, international transactions are expensive, slow and error prone.
Banks’ Adoption of Real-Time Settlement DLT
2017

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| HVPS / BEPS    | CDFCPS / CFETX | ILP |}

- 50 Japanese Banks are currently integrating with RippleNet through xCurrent to make real-time payments (including Mizuho, Bank of Tokyo Mitsubishi and Resona)
- xCurrent uses the Interledger Protocol (ILP) for making transactions across banks’ ledgers
- All over the world many other financial institutions are also joining RippleNet to make interbank local and international payments
- As banks accelerate the RippleNet adoption worldwide, financial institutions will start using the XRP Ledger for liquidity provisioning and cross-currency Global RTGS
- Aware of the fast changing financial landscape, Everis and NTT DATA are developing Interledger Java, an implementation of the Interledger Protocol, to facilitate real-time settlement of transactions across banks, payment systems and Capital Market platforms

Ripple Solution: Payments Software that banks integrate to settle funds in real-time with other banks

DLT: Distributed Ledger Technology
Cross-Border Real-Time Gross Settlement  
2020-2025

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- The Global RTGS will remove friction, costs and risks from cross-currency transactions.
- Distributed ledger technology, and in particular the XRP Ledger, will enable banks to settle cross-currency transactions in real-time (something impossible today).
- The XRP Ledger can be accessed by all banks and liquidity providers, enabling healthy competition between banks and a better service for customers.
- Correspondent banks and liquidity providers will be able to reach more currency corridors and new customers, improving their service offering for other banks and their clients.
- The Interledger Protocol (ILP) will enable financial institutions and central banks to make their existing infrastructure and processes interoperable with other currencies, asset classes and the XRP Ledger, the global liquidity marketplace and the Global decentralised RTGS system.
Interledger: Enabling Interoperability Across Platforms
2020-2025

Money Networks

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ILP:
- Hyperledger Fabric
- c-rda
- Digital Asset Holdings
- Ethereum
- Thomson Reuters
- Murex
- Calypso
- DTCC
- TREZOR
- Ethereum
- Intel
- Apple
- IBM
- Oracle
- SAP
- Tesal
- Samsung
- Apple Pay
- Android Pay
- PayPal
- Square
- Alipay
- Amazon
- Rakuten
- Alibaba Group
- eBay
- Airbnb
- Facebook
- Microsoft
- Google
- Netflix
- Uber