

Payment Hubs & Real Time Payments

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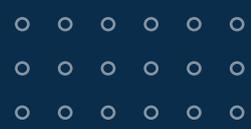


WHITE PAPER

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Executive Summary

Payment hubs are centralized systems that streamline the processing of various payment methods. With the advent of real-time payments, payment hubs have become crucial in facilitating instant transactions between banks and merchants. By integrating multiple payment

channels into a single platform, payment hubs can reduce processing costs, enhance security, and provide a seamless user experience. As the demand for instant payments continues to grow, payment hubs will play an increasingly important role in the digital economy.

Introduction

Payment systems have come a long way since the introduction of the first credit card in the early 1950s. The evolution of payments has seen the emergence of ATMs, electronic fund transfers, card networks, online payments, and mobile payments. In recent years, contactless payments, mobile wallets, and UPI have made payments more convenient and secure. Regulatory bodies like RBI and NPCI have played a crucial role in promoting digital payments and ensuring their safety and security. Today, new technologies like blockchain and biometric authentication are set to revolutionize payments, promising greater convenience, security, and transparency in financial transactions.

The current payments landscape includes a robust payment data infrastructure and data stores, interchanges such as VISA, Mastercard, AMEX, RuPay, and China Union Pay (CUP), and payment acquiring channels available to merchants such as ATM, POS, mobile, NFC, and QR codes. Monitoring and reconciliation stacks, settlement process, and digital security stacks (ensure safe and secure transactions, encompassing identity and authentication, tokenisation, Financial Risk Manage (FRM), and Application Management Interface (AMI) bring up the rest of the value-chain.



Objectives

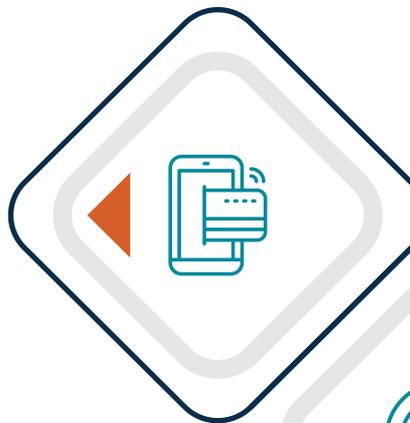
This whitepaper aims to provide insights into the evolving payments landscape, its significance in the current financial climate, and its benefits for both businesses and customers.

The white paper also addresses the challenges faced by banks during the COVID-19 pandemic, and their adoption of new business models, payment hubs, and real-time payment rails to streamline payment processing and enhance customer experience, while also addressing

benefits such as improved liquidity management, reduced settlement risk, increased operational efficiency, and improved cash flow forecasting.

Additionally, it highlights the growth of global payments revenue, expected to reach approximately \$2.5 trillion by 2028, with a CAGR of 5.9% from 2019 to 2028, and the future advancements, regulatory changes, and market forces that will shape a new era of payment hubs.

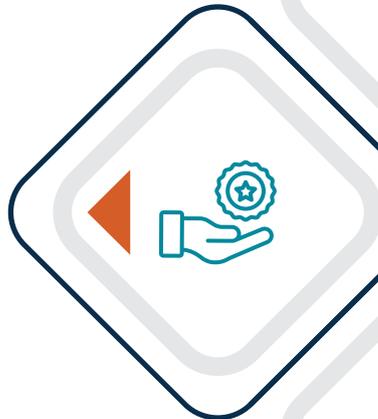
What are payment hubs, and how do they streamline payment processing for banks?



What challenges are banks facing due to the COVID-19 pandemic, and how are payment hubs helping bridge the revenue gap?



What benefits do real-time payments offer, and why are more businesses adopting them?



What are the top payment trends since 2020, and how will they impact the future of payment hubs?



What are the different phases of payment hub implementation, and what are the technological advancements, regulatory changes, and market forces propelling a new era of payment hubs?



Adapting to the new normal: Bridging the revenue gap, NPA rise and digital transformation

The COVID-19 pandemic has presented challenges for banks, including reduced revenue, an increase in non-performing assets, and a need for digital transformation. To bridge the revenue gap, banks are adopting new business models and investing in cloud-based solutions and agile development methodologies. They are also embracing payment hubs to streamline payment processing, reduce costs, and offer a seamless experience to customers. Digital transformation

initiatives include modernizing legacy systems, enhancing cybersecurity measures, and improving digital capabilities. With a rise in NPAs, banks have adopted stricter credit risk assessment practices and implemented loan restructuring schemes. Payment hubs and real-time payment systems can enable banks to stay competitive and enhance their customer experience.

Streamlining payments for the future: Why banks need an integrated payments hub

The banking industry is facing a challenge of multiple IT systems running across departments, resulting in a lack of data integration for real-time reporting. This issue has led to the adoption of Payment Hubs as a solution by central banks. However, most banks rely on standalone transaction processing systems that are limited in capabilities and operate in silos with outdated technology. The maintenance and support of such systems are becoming increasingly expensive, hindering banks from responding swiftly to changing market conditions. In addition to inefficient payment processing, data collection and processing have become a mammoth task.

The Payment Hub is a first-hand implementation of a concept that enables the consolidation of services into clusters, offering unified and standardized interfaces. By moving away from a silo view to a single consolidated view, Payment Hubs provide an enhanced customer experience. Migration to Payment Hubs enables banks to move towards industry-standard messaging interfaces, allowing integration with various channels and vendors. This approach will ensure that banks can streamline their payment processing, reduce costs, and offer a seamless experience to their customers.

Revolutionizing payment systems: Factors driving countries and banks to adopt/enhance real-time payment rails

Real-time payment rails are being implemented or upgraded by countries and banks for various reasons. It reduces reliance on cash and drives faster economic development. The safety and security of payment infrastructure are ensured, while open banking interaction through APIs provides better connectivity. Standardization and unification of payment processing enable

interoperability and quick transfers. Advancements in technology make it convenient for end-users, meeting increasing customer expectations to settle transactions at the speed of sharing a message on social media and avoiding transaction fees. Merchants benefit from reduced transaction frauds, faster fund receipts, and improved cash flow management.

Benefits of streamlining payment operations

Real-time payments (RTP) allow instant, 24/7, and real-time transfer of funds. The key benefits of RTP are:

Faster access to funds can help businesses make timely payments, manage cash flow efficiently, and avoid overdrafts.



Improved liquidity management

Reduced settlement risk



Real-time payments eliminate the risk of delayed settlement or non-payment of funds, reducing the risk of fraud and chargebacks.

Real-time payments offer a convenient and fast way for customers to make payments, leading to increased satisfaction and loyalty.



Enhanced customer experience

Increased operational efficiency



RTP reduces manual processes and reconciliation, saving businesses time and money, and enabling staff to focus on other tasks.

Real-time payments provide businesses with accurate and up-to-date information on cash flow, leading to better financial decisions and forecasting.



Improved cash flow forecasting

In summary, RTP offers numerous benefits to businesses and customers. It's no surprise that more businesses are adopting RTP to stay competitive in today's fast-paced and digital world.



Top payment trends since 2020

Global Payments Revenue

Expected to reach
\$2.5 trillion
by 2028

CAGR of
5.9%
from 2019 to 2028

Adds approximately
\$1 trillion
to the payments pool

Retail Payments vs. Wholesale Payments

Retail Payments Revenue

Faster growth rate of
6% CAGR
from 2019 to 2028

Driven by the
growth of
e-commerce and
remote transactions

Annual growth
rate of
11%

Wholesale Payments Revenue

Slower growth rate of
5.6% CAGR
from 2019 to 2028

Payments Growth in the U.S.

Expected growth rate of
3.8% CAGR
through 2028

The future of payments hubs: Technological advancements, regulatory changes, and market forces propel a new era

Payment hubs have undergone three distinct phases: early deployments, consolidation, and the new age. In 2002, early deployments saw major integration efforts by financial institutions, with only large institutions hosting deployments that typically had limited payment types and geography.

During the consolidation phase, major project resources were diverted due to the financial crisis, leading to acquisition and consolidation.

This led to restacking and movement toward cloud delivery.

The new age phase is now focused on faster payments, open banking, and ISO 20022. The proliferation of faster payment systems is creating new interest, while open banking is forcing financial institutions to review their digital strategies. New hub models incorporate APIs and new cross-border blockchain models.

Blockchain: Revolutionizing payments with secure and transparent transactions

Blockchain technology has emerged as a promising solution to improve the security and transparency of financial transactions.

One of the primary advantages of blockchain is its decentralization, which means that there is no need for intermediaries like banks or payment processors. As a result, transactions can be processed faster and cheaper, as there are no fees or delays associated with intermediaries.

Another key benefit of blockchain is its security. By using cryptographic protocols to encrypt and authenticate transactions, blockchain provides a tamper-proof and secure way of transferring value. This means that the risk of fraud or data breaches is significantly reduced, as every transaction is validated and confirmed by multiple parties in the network.

Moreover, blockchain technology enables greater transparency in payments. Each transaction is recorded on a decentralized ledger that is visible

to all parties in the network, creating a transparent and auditable trail of every transaction. This can help prevent fraudulent activities and improve compliance with regulations.

Furthermore, blockchain-based payments can be made instantly and globally, without the need for intermediaries or currency exchanges. This makes it possible to send and receive payments quickly and efficiently, regardless of the location or currency of the parties involved.

Overall, blockchain technology is revolutionizing the way we make payments by providing a secure, transparent, and efficient solution that offers several benefits over traditional payment systems. With its decentralization, security, transparency, and speed, blockchain has the potential to transform the financial industry and make payments more accessible, efficient, and affordable for everyone.

Biometric authentication improves payment security and reduces fraud

Biometric authentication is a highly accurate and secure technology that verifies the identity of an individual using unique physical characteristics or traits. It provides stronger security than traditional authentication methods, such as passwords or PINs, and is convenient for customers, who don't have to remember passwords or PINs. Biometric authentication helps prevent fraud by ensuring that only authorized users can access payment accounts or make transactions, reducing chargebacks and protecting against identity theft and account takeover. As more payment providers adopt biometric authentication, payment experiences will become faster, more secure, and more convenient.





Challenges in implementing payment hubs

Integrating legacy systems is a significant challenge in implementing payment hubs due to their incompatibility with modern payment technologies and potential security vulnerabilities.

Ensuring data privacy is another challenge in implementing payment hubs, as they centralize payment data and become prime targets for cybercriminals. Robust data security measures

must be implemented, and GDPR compliance must be met.

Meeting regulatory compliance is critical for successful deployment of payment hubs, as financial institutions must comply with various regulations such as KYC, AML, and PCI DSS to ensure secure and transparent payment transactions. Payment hubs must be designed with regulatory compliance in mind.

How cross-border real-time payments can boost global commerce

Cross-border real-time payments are transactions that occur in real-time across different countries, with a completion time of seconds or minutes. This system can significantly improve global commerce by reducing transaction costs, eliminating delays, and enabling faster settlement times. The benefits of cross-border real-time payments extend to SMEs that can expand their operations, secure and transparent payment networks that allow for instant settlement, promote financial inclusion,

and make it easier for people in developing countries to access financial services. However, challenges such as regulatory compliance issues, technical interoperability, and data security must be addressed. Despite these challenges, the potential for cross-border real-time payments to enhance global commerce is significant, with more businesses and individuals expected to adopt this payment solution for their cross-border transactions.

Future of RTP across the world

Eurozone

Most banks in Eurozone offer real-time payments through the SCT Inst scheme. Over 2,100 payment service providers have joined, offering immediate payments in 20 countries. However, the picture remains decentralized and inconsistent, with banks evaluating alternatives and local options. SCT Inst aims to provide secure payments up to €15,000 (€100,000 from July 2020) in seconds, with local implementations adapting payment limits and timelines. The EPC completed standards for EIPP, and EBA CLEARING gained support for a new Request to Pay service delivered in 2021.

USA

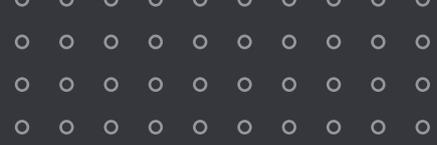
The Federal Reserve aims to evolve the US payment system to be faster, safer, and efficient. The FedNow Service (Fedpay) is being developed to enable financial institutions to provide safe and efficient instant payment services around the clock by 2023-24. Meanwhile, Zelle offers P2P payments backed by a network of U.S. banks. The FedNow Service is expected to be competition for The Clearing House's RTP service and may benefit fintechs.

UK

The UK's New Payments Architecture (NPA) aims to deliver innovation in the payments market. It is a new conceptual model for shared retail payment infrastructure, encouraging competitive innovation and unlocking new business opportunities. The NPA includes more transactional services, clearer information for consumers and businesses, and a common messaging standard for simplifying access and interoperability. The core clearing and settlement layer, which will process over £6.7 trillion worth of payments annually, is not fully live until 2025. The NPA allows for easily developed overlay services, increasing competition and innovation in payments.

Canada

Canada has launched a new real-time payments service named Real-Time Rail (RTR), which operates round the clock and facilitates almost instantaneous delivery of low-value payments within seconds. RTR enables overlay services that offer a platform for innovation in payments. Furthermore, RTR processes payments in ISO2022 format to maintain consistency and efficiency.



Future of RTP in India

The future of real-time payments (RTP) in India appears promising, with phenomenal adoption of the Unified Payments Interface (UPI), recording over 3 billion transactions in March 2021 alone. Spearheading the development of RTP infrastructure, the National Payments Corporation of India (NPCI) plans to introduce Real Time Gross Settlement (RTGS) 24x7 in the near future, enabling instant, round-the-clock interbank transfers and further promoting digital payments

The Reserve Bank of India (RBI) has also been supportive of RTP and aims to establish a safe, secure, accessible, efficient, and transparent payment system in the country through its vision for Payment and Settlement Systems in India 2019-2021. In addition to promoting RTP, the RBI has issued guidelines for the adoption of tokenization for card payments, adding an extra layer of security to digital transactions.

Technological advancements such as blockchain, artificial intelligence, and biometrics will further propel the growth of RTP in India. Blockchain can enhance the security of payment infrastructure by enabling tamper-proof, decentralized transaction

processing. Artificial intelligence can improve fraud detection and risk management, while biometric authentication can provide a secure and convenient way to authenticate transactions.

Regulatory changes, such as the introduction of the Personal Data Protection Bill and the proposed ban on private cryptocurrencies, will also impact RTP in India. The Personal Data Protection Bill will regulate the collection, storage, and use of personal data, protecting customer data in digital transactions. The proposed ban on private cryptocurrencies will boost government-backed digital currencies, such as the proposed Digital Rupee, which can integrate with RTP infrastructure.

Market forces, such as the increasing adoption of digital payments by small and medium enterprises (SMEs) and the growing popularity of contactless payments, will also drive the growth of RTP in India. SMEs are turning to digital payments to reduce costs and improve cash flow management, while contactless payments offer a convenient and safe way to pay in the post-COVID-19 world.



Conclusion

The payments industry faced geo-political and macro-economic uncertainties in 2022, leading to a short-term decline in transaction volumes and a scarcity of VC funding for innovative Pay-Techs. However, most stakeholders remain optimistic and are prioritizing modernization by investing in IT budgets. In 2023 and beyond, the industry will focus on delivering customer-centric payment services and leveraging data for hyper-personalization of products. As regulations become more stringent, fintech/bank collaborations will continue to proliferate. Incumbents will need to adapt and implement new digital technologies, messaging standards, and compliance directives will have to continue to remain competitive in the evolving payments landscape.

About Altimetrik

Altimetrik is a pure-play digital business and digital transformation company unlocking growth and opportunity with speed, scale, and consistency. We focus on delivering business outcomes with an agile, product-oriented approach. Our digital business methodology provides a blueprint to develop, scale, and launch new products to market faster. Our team of 5,500+ practitioners with software, data, and cloud engineering skills helps create a culture of innovation and agility that optimizes team performance, modernizes technology, and builds new business models. As a strategic partner and catalyst, Altimetrik quickly delivers results without disruption to the business.