



THE STATE OF INCLUSIVE INSTANT PAYMENT SYSTEMS IN AFRICA

SIIPS 2024 • Case study

MauCAS Mauritius

Origin story



Challenge

The Republic of Mauritius has a strategy to further digitalize its economy. Even though over 90% of adults in the country own a financial account, the economy remains predominantly cash based (Bank of Mauritius, 2024). Furthermore, prior to 2017, the country's mobile money operators (MMOs) lacked interoperability, resulting in a fragmented user experience. Integrating mobile and bank payments emerged as imperative to enhance accessibility and streamline transactions, in the hope of driving digital payment adoption.



Adding value

In line with the country's strategy, the objective of the Bank of Mauritius (BoM) is to set up a robust, secure and efficient digital payments ecosystem that would support the digital transformation of the economy. Additionally, one of BoM's policy objectives is to provide the public with low cost, fast, universally accessible and transparent means of payment.

The BoM initiated the implementation of the Mauritius Central Automated Switch (MauCAS) card payment system in 2017 in pursuit of that goal. The project aimed to provide another option for processing card payments given high international merchant discount rates. After calls for a system that could also facilitate mobile interoperability, the BoM expanded the project beyond card payments to implement a fast payment system, the MauCAS Instant Payment System (IPS).

The two components of MauCAS were launched in August 2019. The switch unites credit and debit electronic fund transfers (EFT) and e-money rails in one cross-domain system that provides all-to-all interoperability between banks and non-bank payment service providers (PSPs). The goal is to reduce digital payment costs (especially for merchants), to stimulate

competition, and to advance broader digitalization of the economy through e-government and e-services transformation.



The IPS timeline

In 2013, the BoM issued the Guideline on Mobile Banking and Mobile Payment Systems to provide a framework for mobile banking and mobile payment services in Mauritius. In the subsequent years, mobile payments adoption slowly picked up, but did not reach critical volume, because each service provider was operating in a silo model due to the absence of interoperability among the operators.

In 2019, Mauritius promulgated the National Payment Systems (NPS) Act 2018 to provide comprehensive payment legislation for safe and sound payment space. This framework also provides a conducive environment for the entry of non-bank payment service providers in the payment landscape, innovation of the payment eco-system, and the operation of MauCAS. The aim of the NPS Act was to modernize the Mauritian retail banking system with an appropriate framework for digital payments (Bowmans, 2021).

In 2018, the central bank issued a request-for-proposal to select a technical solution provider to develop the IPS procedures and system. Testing and certification with all commercial banks took place in early 2019 and the system launched in August 2019. Initial capabilities included card payments and instant payments. MauCAS onboarded banks and non-banks concurrently, a process that was complete by August 2020. Post-launch, the BoM implemented a payment portal for government services, consistent with the government's digitalization strategy. Repeated national marketing and sensitization campaigns, including via print media, played a crucial role in MauCAS' roll-out strategy; these efforts played a pivotal role in building trust. Today the MauCAS brand is well known in the country and is facilitating the country's digital transformation.

Case study: MauCAS Mauritius

In September 2021, the BoM introduced quick response (QR) code payments through the MauCAS QR code, which is powered by the central bank and based on EMVCo international standards.¹ This QR code has been designed to be fully interoperable and allow payments at any merchant location using any mobile app. QR codes have increased visibility and adoption of MauCAS, especially among smaller merchants. The QR code has also been instrumental in the digitalization of government payments and services.

As electronic money and digital payments became increasingly widespread, the BoM sought to provide more streamlined guidelines to prospective PSPs, including clarifying the authorization process for payment systems and the licensing of PSPs (Bowmans, 2021). The [National Payment Systems \(Authorization and Licensing\) Regulations 2021](#) aimed to achieve this.

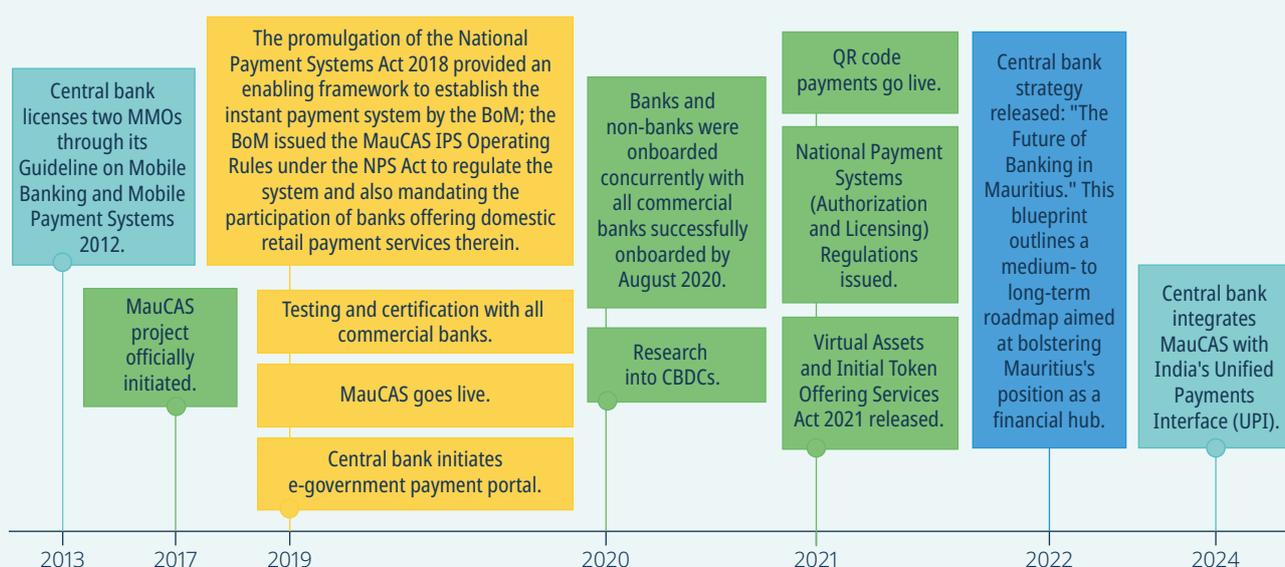
In 2022, the central bank and financial institutions released the BoM strategy: the [Future of Banking in Mauritius](#). This strategic plan provides a roadmap for Mauritius to become a leading international financial center. It includes information on creating a state-of-the-art cybersecurity strategy and issuing a

central bank digital currency (CBDC), the Digital Rupee (Bank of Mauritius, 2024; Chuttoo, 2023).

The most recent addition in 2024 has been to integrate MauCAS with India's Unified Payments Interface (UPI). Travelers between the two countries can use MauCAS QR code payments. This eliminated the need for a third-party currency for settlement. Drawing inspiration from the European Union Payment Services Directive, the BoM conducted market research for the India bilateral agreement, which is a cornerstone of the strategy to develop cross-border payment solutions. The BoM is also in ongoing discussions about regional integration, for example with the Common Market for Eastern and Southern Africa (COMESA), and Transactions Cleared on an Immediate Basis (TCIB) in the Southern African Development Community (SADC).

The BoM tracks the total number of users, transaction volumes, and cash circulation, yet faces challenges in collecting comprehensive data on merchant cash payments. As clearer data emerges, it will assess whether it is achieving the targets set out in its strategy to reduce cash transactions.

MauCAS timeline



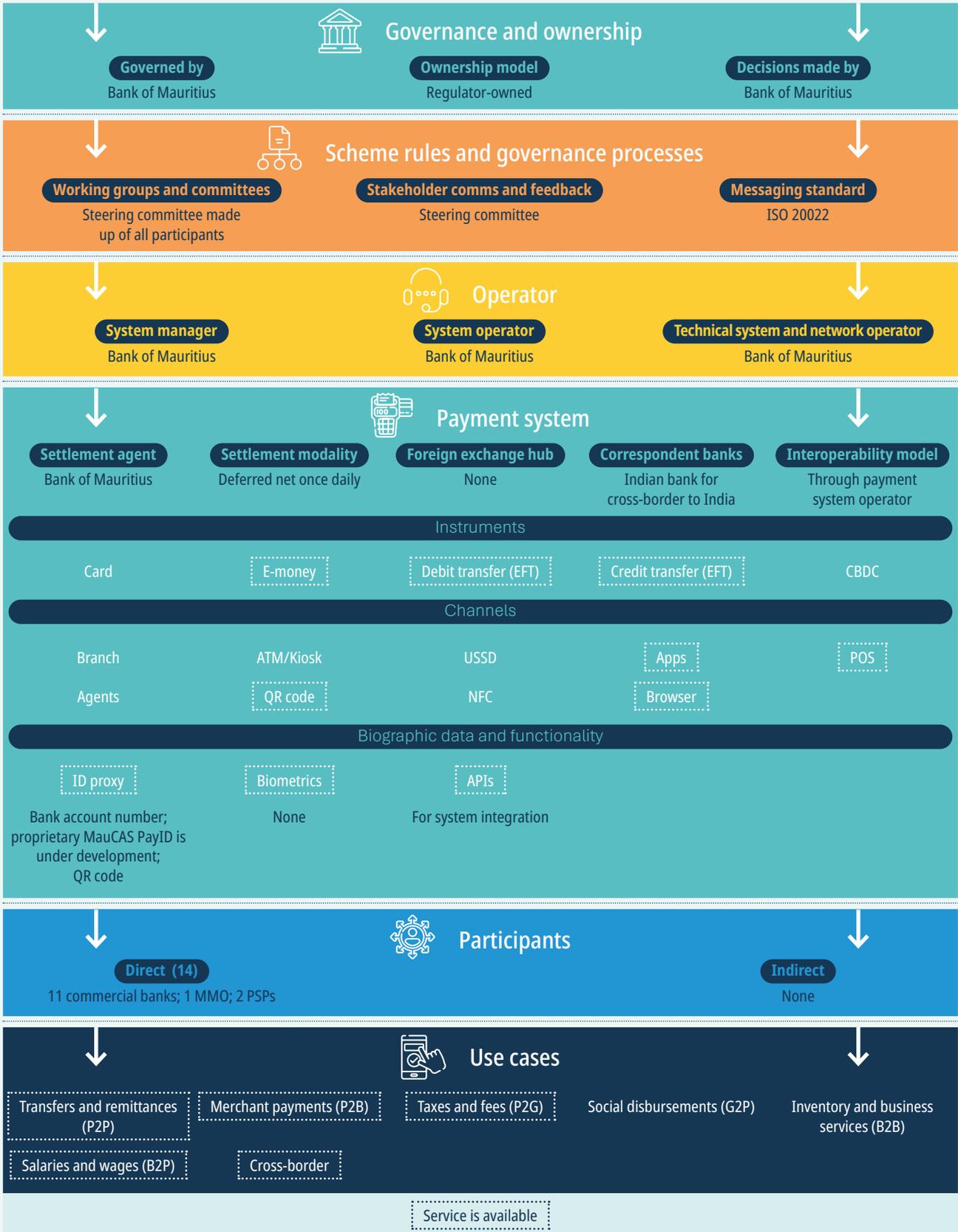
Source: Bank of Mauritius, 2024

¹ EMV specifications ensure that payment products are designed to function smoothly and securely across all platforms. This is important for delivering the level of safety and reliability that merchants, businesses, and consumers worldwide anticipate in their payment transactions (EMVCo, 2024).

Governance and operations

Payment system overview

MauCAS model overview

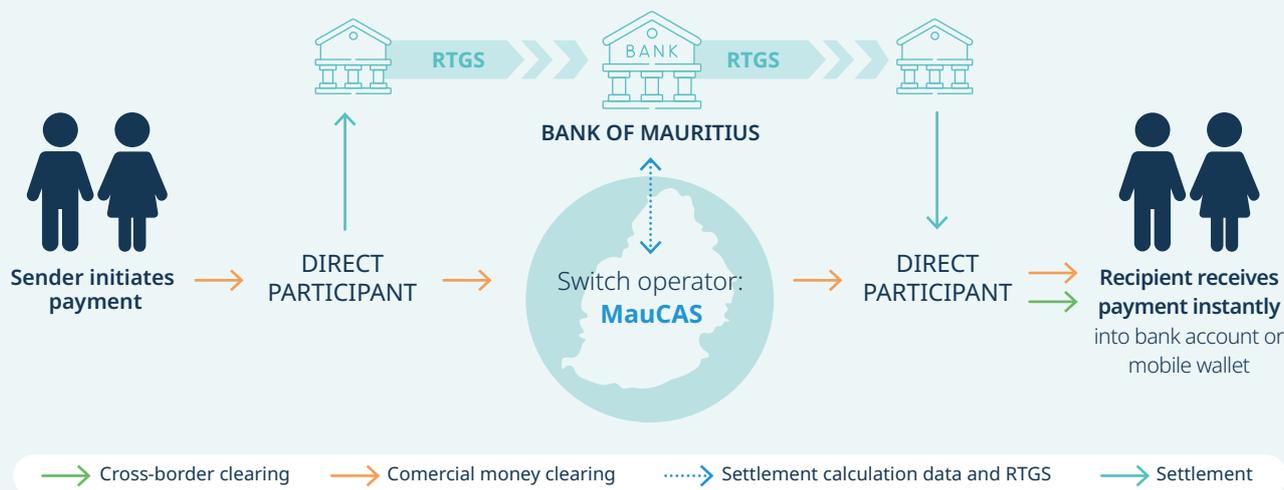


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The MauCAS cross-domain IPS, operated by the BoM, directly links all licensed PSPs and banks for clearing. It currently has 14 participants, with more in the integration pipeline. Participation in MauCAS is

compulsory for all retail banks. All licensed PSPs hold a direct settlement account on the BoM's RTGS, meaning that all settlement is done with central bank money.

MauCAS transaction flow



MauCAS settles transactions on a net deferred basis via the RTGS. Settlement occurs once daily, and transactions made on weekends and public holidays settle on the next business day. Every participant is required to maintain a settlement account on the RTGS to streamline the process and eliminate dependency on a sponsor bank.

In the case of cross-border payments to India, the BoM has established a network-to-network agreement with the National Payments Corporation of India for integrating MauCAS IPS with UPI. Settlement occurs in Indian rupees (INR), facilitated through a designated settlement bank that also has branches in Mauritius. Domestic settlement is done in Mauritian Rupees (MUR).



Governance

The BoM fully owns and governs MauCAS as the system operator, scheme manager, and the overseer. The IPS is therefore regulator-owned and operates under a central-bank governance typology. MauCAS' steering committee, led by the head of payment systems at the BoM, includes representatives from all IPS participants. The payment systems' technical team

manages the day-to-day operations, while the BoM's IT team oversees infrastructure management. The banking committee, chaired by the Governor of the BoM and consisting of Chief Executive Officers of all commercial banks, discusses major developments. The governance is therefore collaborative, with all participants allowed to directly integrate with the system and to provide input into decisions at the system level.



Functionality

MauCAS facilitates browser, app, QR code, and point of sale (POS) transactions. Unstructured supplementary service data (USSD) is notably absent, as the IPS focuses on smartphones as the main payment device. Although the percentage of households with access to smartphones is notably high at 81.4% (Statistics Mauritius, 2021), the exclusion of USSD is a potential inclusivity barrier. Both static and dynamic QR codes, based on ISO standards, are available in the market. End users can make transfers using an account number or a QR code. Account-to-account transactions are the most popular, followed by QR payments. The BoM is working on the introduction of aliases for payment on the IPS for enhanced customer experience.

Case study: MauCAS Mauritius

Recognizing that end users' digital journey would not be complete without digital onboarding, the BoM established a bridge between its licensees and government and utility service databases to facilitate end-to-end know-your-customer (KYC) verification. This is unique on the African continent and could provide learnings for other IPS stakeholders. Although separate from MauCAS, the bridge project will link all participants to facilitate digital identity verification.

The BoM intends to leverage its regulatory sandbox to allow participants to test open banking features and to thereafter finalize the framework on open banking currently under development. This approach aims to instill trust in open banking among participants, while providing an opportunity to identify and mitigate risks.



Technical standards and use cases

MauCAS operates using ISO 20022 for payments messages. An application programming interface (API) integrates participants that have not yet transitioned to the standard. Technical readiness is a prerequisite for participation, with the BoM assisting with integration but not providing financial aid.

Currently, the IPS enables all use cases apart from government-to-person (G2P) payments and business-to-business (B2B) payments. The person-to-government (P2G) payments include taxes, license fees, penalties, judiciary fines, and customs payments. MauCAS plans to include payments to other government agencies and utility service providers in the future. Although G2P payments are not yet enabled, they are part of the IPS roadmap.



Business model

The BoM fully funded the IPS and operates it on a not-for-profit basis. In line with the objective of the BoM to promote digitization of payments in Mauritius, the BoM does not apply any fee to participants of the IPS for processing of the transactions. Currently, fees for participants are waived, though there are nominal charges to end users. The BoM does not directly regulate participant fees to the end user, though it does actively monitor them to ensure fairness and transparency. To prevent fee abuse, the BoM established participant and merchant interchange fees, set at 0.2%

and 0.3% of the transaction amount, with a cap of US \$0.39 (MUR 17) and US \$0.57 (MUR 25), respectively. Effective June 2024, MauCAS has eliminated fees for account-to-account transfers within the IPS in an attempt to further incentivize digital payment adoption while maintaining equitable conditions for all participants. Eliminating fees is a big step towards establishing a digital public infrastructure (DPI) for payments.



Scheme rules

The scheme rules constructed by BoM outline operational guidelines and compliance requirements. MauCAS scheme rules are available to all participants and establish the framework for the IPS, addressing participant types and their management, including admission, suspension, and removal. It outlines governance, confidentiality, compliance, and amendment procedures. The document details transaction processing, account and system operations, security controls, and fee structures. It also includes provisions for dispute management, business continuity, and the finality of payments, emphasizing security and regulatory compliance. Since consumer protection and trust in payment systems are critical for the financial system and user adoption, the BoM gives high importance to these factors. The MauCAS IPS Operating Rules mandate full confidentiality between MauCAS and its participants. The Rules also provide for Dispute Management of transactions routed through the IPS.

Before issuing PSP licenses, BoM requires participants to establish an end-user recourse mechanism that outlines dispute resolution procedures and provides an escalation matrix. As part of its oversight function, the BoM has a close monitoring of user complaints and takes appropriate actions where required. Aggrieved customers may have recourse to the ombudsperson for financial services.



Volumes and values processed by the payment system

Over the past four years (2020-2023), the BoM has closely monitored transaction volumes and values processed by the payments system, distinguishing between on-us transactions within the same bank/PSP

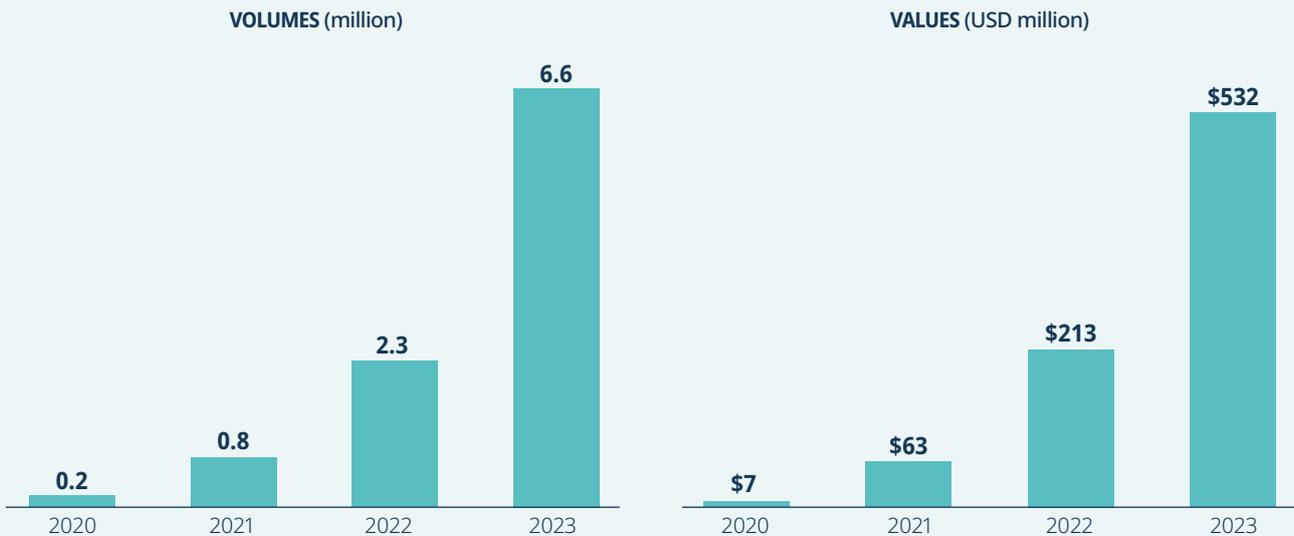
Case study: MauCAS Mauritius

and not-on-us transactions involving different banks and routed through the IPS; on-us transactions are the most prevalent.

MauCAS has seen an exponential increase in annual transaction volumes and values since its first full

year of operations in 2020. Notably, between 2022 and 2023, there was a significant surge in activity attributed to increased digital payments adoption. MauCAS has an average transaction size of around US \$80.

MauCAS transaction volumes and values



Source: Bank of Mauritius, 2024



Regulation

The MauCAS IPS and Card Payment System Operational Rules issued under the National Payment Systems (NPS) Act, operational since 2019, governs MauCAS operations, ensuring transaction confidentiality. MauCAS utilizes transaction

data solely to fulfill its objectives. The MauCAS IPS Operating Rules mandate the participation of banks offering retail payment services in the IPS. While the NPS Act provides an enabling environment for new entrants, it also contains provisions to safeguard the interests of consumers (Bank of Mauritius, 2020).



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