



# MAKING REAL-TIME PAYMENTS A REALITY

USING AN APPROACH THAT SUPPORTS THE INTEGRATION OF THE NEW PAYMENTS SYSTEM INTO THE EXISTING SERVICE INFRASTRUCTURE IS KEY TO MINIMIZING THE COSTS AND RISKS OF INTRODUCING REAL TIME PAYMENTS

For more information, visit [ncr.com](https://www.ncr.com), or email [authentic.marketing@ncr.com](mailto:authentic.marketing@ncr.com).

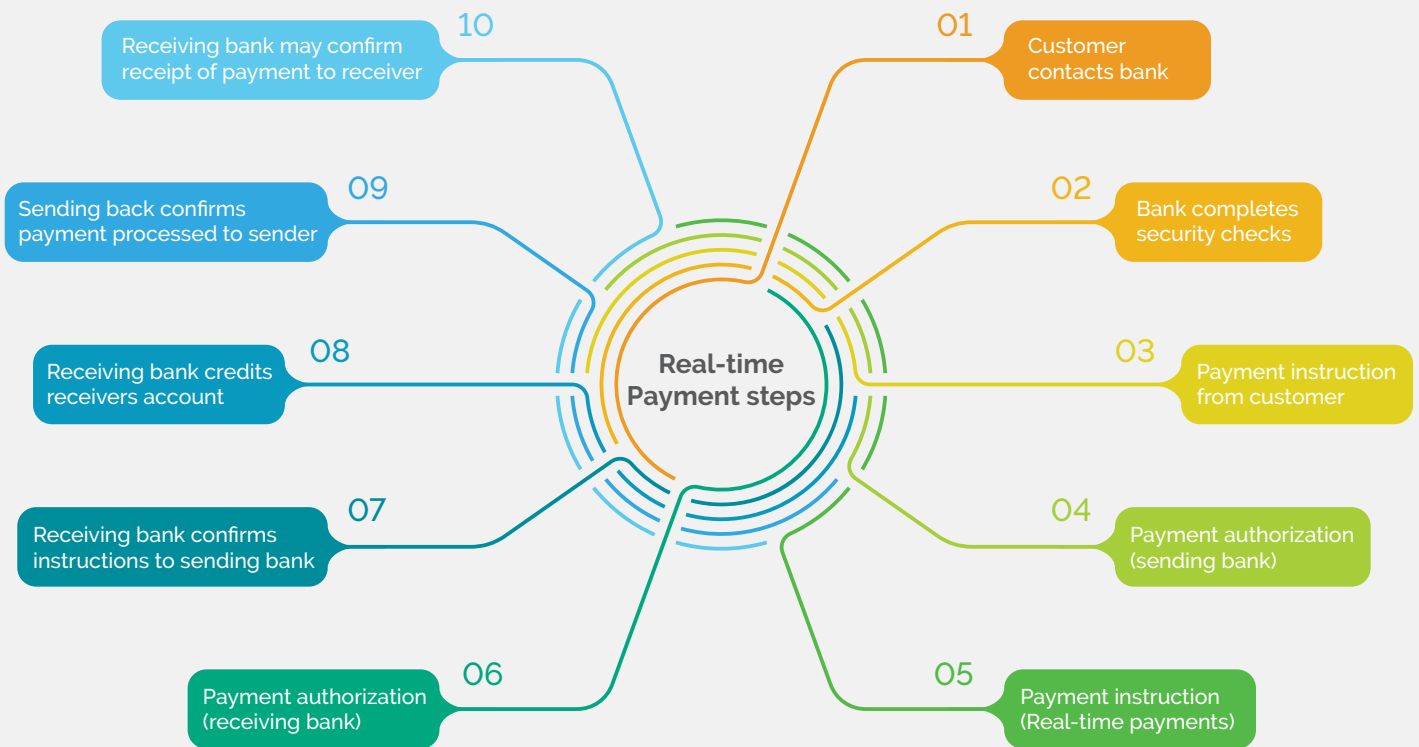


## WHAT ARE REAL-TIME PAYMENTS?

Real-Time Payments signify a major change to the way funds are moved between bank accounts. Until relatively recently, customers would have to wait up to three days for money to arrive in their accounts from being sent by the payer. Real-time payments dictate that transmission must be near-instant which allows customers to receive funds immediately. In addition, payments can be made at any time of the day and any day of the year.

The Euro Retail Payments Boards defines them as: 'electronic retail payment solutions available 24/7/365 and resulting in the immediate or close-to-immediate interbank clearing of the transaction and crediting of the payee's account with confirmation to the payer (within seconds of payment initiation)'.<sup>1</sup>

Organizations around the world are transforming their payments infrastructure with Authentic to ensure they can respond to changing market demands quickly and cost-effectively; scale to handle future growth; and reduce the ongoing cost of maintenance of their payment processing system.



<sup>1</sup> <https://www.ecb.europa.eu/paym/retpaym/instant/html/index.en.html>



## WHY ARE BANK PAYMENTS GOING REAL-TIME?

The key drivers for this change has been pressure from governments around the world to create national and regional payment systems that are relevant to today's business demands, meet customer expectations, and embrace the rapid technology enablement. The technological advancements in mobile technology and high speed internet networks have changed the way consumers interact with services, and are fueling the demand for speed in interbank systems.

There are significant benefits to moving to a real-time payments system. The removal of delays in payment gives surety of payment in any transfer, provides immediate accessible funds for the receiver, reduces risk of non-payment for services, helps cash flow for small businesses, and replaces other payment instruments like checks.

## TREMENDOUS OPPORTUNITIES

Real-time payments provide tremendous opportunities for financial service providers to create value added services for consumers in today's fast moving world. Real-time payments present opportunities for financial organizations to revitalize services and business models, and modernize their product and service offerings. This could be vital to compete with other third party providers and keep prominence in the market place. It is also a key enabler for new payment services being created by Open banking.

In the UK, Bottomline technologies has used Authentic to provide a gateway into the national Real-time Payments infrastructure as part of its aggregator service. Early Warning, in the US, have created a cross-institution real-time 'good funds' network where Authentic provides the central infrastructure switching transactions between banks.

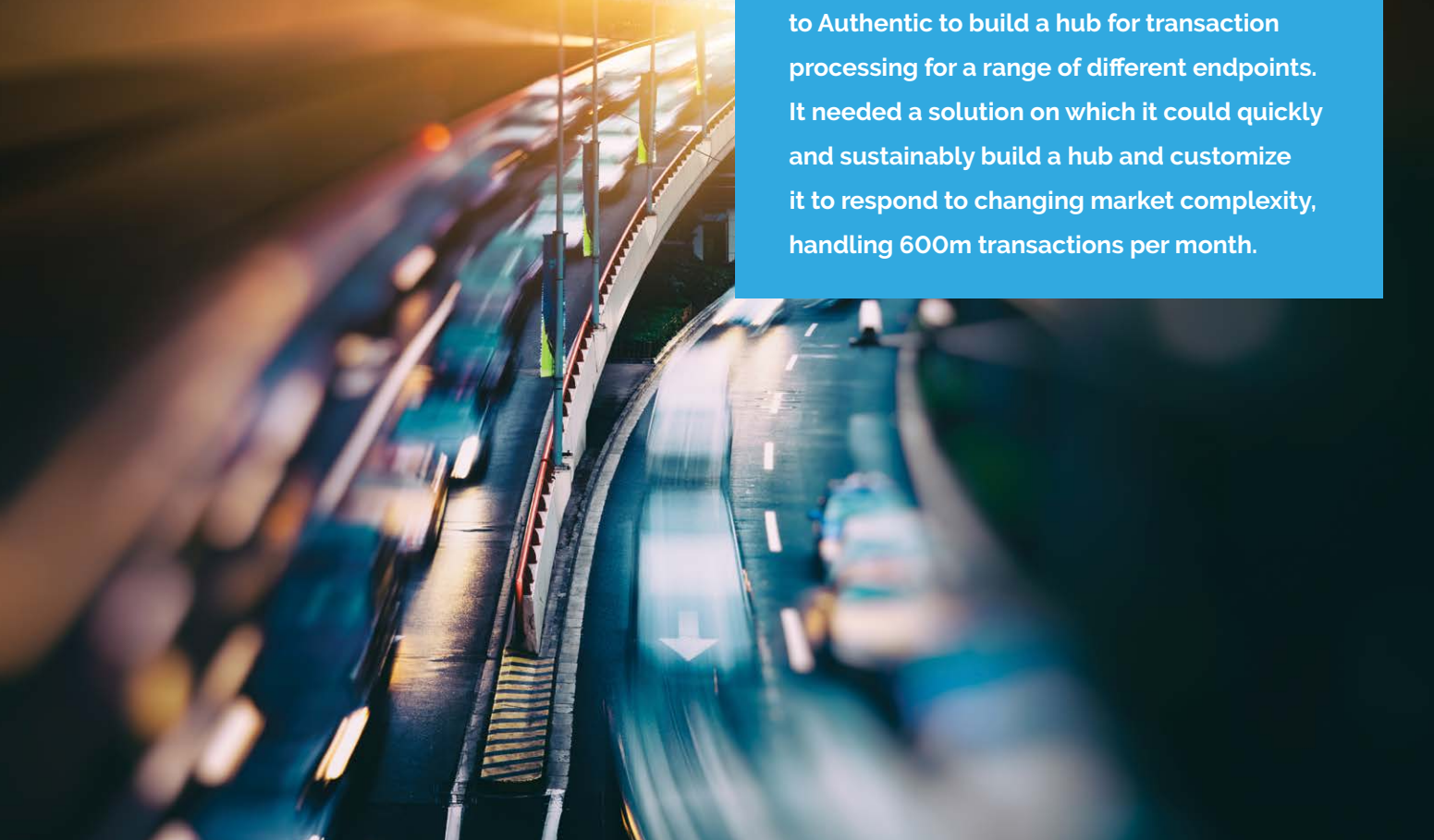
## IMPLEMENTATION

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Across the world a growing number of real-time payments schemes and infrastructures have been established and are being planned and rolled out. One of the earliest recent infrastructures was the UK Faster Payment service which was launched in 2008. Since then, schemes have launched around the world, in Poland, Singapore, India, Hong Kong Australia to name a few, whilst markets such as USA, have set up a taskforce to facilitate the rollout of their real-time payments system.

The adoption of ISO 20022 standards is recognized as a key element in delivering real-time payment transactions. ISO 20022 is a multi-part international standard designed to cover the messaging and processing requirements of all types of payments. ISO 20022 incorporates a rich

data set, which is required to meet the demand for more data with the payment instruction, and is more suited to today's communications environments. It has achieved considerable acceptance in the payments industry. For example, it was used for the new European wide payment infrastructures introduced by SEPA and SWIFT have deployed it for their gpi service. Countries such as Singapore and Canada have active projects to migrate their domestic payments infrastructure to ISO 20022. By providing a consistent set of standards it provides a common framework for interbank payment messaging will create a common and level playing field facilitating interoperability between different Real-Time Payment schemes.



**A top 10 US bank has migrated from BASE24 to Authentic to build a hub for transaction processing for a range of different endpoints. It needed a solution on which it could quickly and sustainably build a hub and customize it to respond to changing market complexity, handling 600m transactions per month.**

## CHALLENGES

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The move to real-time payments is a big change to any payment infrastructure and operations. It involves migrating parts of the banks clearing and settlement systems from generating and processing batch files with payments sent by overnight file transfer to an online, real-time messaging system. The technical architecture required to send and process these payments in real-time is quite different to the existing infrastructure as the requirements of system performance, availability and scalability become critical characteristics to the smooth operation of a 24\*7 service. Dealing with error situations is very different in a real-time environment, with immediate resolution needed if there is an issue, while coping with the monitoring of connection status or the liquidity position provide an additional complications.

In addition, payment systems are fed from multiple channels involving different work flows that touch all areas of the business. There are many moving parts in this chain and changing these to implement the requirements of a new real-time payment system is a huge undertaking. An approach that supports the integration of the new system into the existing service infrastructure is key to minimize the costs and risks of introducing real-time payments.



**We wanted a global solution that could provide seamless connectivity to the Real-time Payments network**



**said Ed Adshead-Grant, General Manager,  
Payments and Cash Management  
at Bottomline Technologies.**

## NCR SOLUTION—AUTHENTIC

Authentic is the ideal solution for handling the fast response time high-volume, and high availability characteristic of real-time payment transactions.



### Payment System Functionality

- Message Protocol & Session Management
- Workflow Orchestration—Rules & Regulations
- Authorization & Risk Management
- Transaction / Liquidity Monitoring

### Non-functionality

- High performance
- High availability
- Fail-over / alternate processing options
- Security & Data Integrity

Authentic can:

- Act as a gateway service, interfacing with the central infrastructure to send and receive transactions using ISO 20022
- Integrate with bank's internal channel systems to receive faster payment requests
- Authorise payment requests including integrating with core banking and fraud detection systems, submit into the central infrastructure and handle completion processing when the confirmation is received
- Process transactions received from the central infrastructure, including carrying out fraud checks, integrating with core banking for posting to the receiver's account and any notification system for alerting the receipt of funds
- Support session management, and monitoring messages being sent and received, picking up any failures quickly
- Process rejected or failed requests ensuring the reversal of account debits, if required
- Track liquidity position to ensure alerts are generated before payments are blocked
- Handle the full processing of the transaction or purely the central infrastructure functionality as required for the individual organization through the flexibility provided in the workflow engine
- Be used by financial institutions, as well as processors serving multiple financial institutions

## ARCHITECTURE

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Authentic has the ideal architecture to support real-time payments with two key capabilities: Message Mapper which allows for handling the diverse message formats required for internal and external connections and Action List processing which provides a UI based method for defining the processing of transactions and events.

Message Mapper provides a configurable message validation and transformation layer that allows the integration of payment systems to conform to messaging standards (including ISO 20022) with ease. No expensive coding is needed, making integration a straight forward process.

It translates messages to and from a system's interface format and can handle any message standard, protocol or specification. It has a straightforward 'point-and-click' user interface so can quickly and easily define message formats, validations and transformations—generally without coding. If a data element requires complex transformation, Message Mapper allows a Java plug-in into the mapping process.

Thus, Message Mapper enables the integration of Authentic, acting as the real-time payments gateway, with both internal systems, such as digital banking, core banking or sanction list validation, and the external real-time payments core infrastructure.

Any part of its message can be used to determine the way a transaction is routed, enabling features such as channel, account, transaction or payment instrument routing. The selected routing may also include some level of processing within Authentic, which is delivered by the workflow engine. Routing to external systems for activities such as balance checking, fraud detection or additional data collection can also be interspersed with processing within Authentic.

Authentic's workflow engine, known as action list processing, defines the functions to be applied to a transaction at each stage. Authentic includes an extensive library of standard functions, such as eligibility check, liquidity monitoring, hot list check, shadow balance tracking, reversal generation and transaction logging. Action lists can also include requests to external systems such as a fraud detection engine to provide additional data that can be used in processing the transaction. Action lists are also used to define the processing of events such as handling session management with the real-time payments core infrastructure.

This combination of routing and action lists gives a rich orchestration capability with the flexibility to determine how each transaction should be processed. The same technique is also applied to batch file processing and extracting data.

In summary, real-time payments represent the bit big shift in payments, driving many more into immediate real-time execution. To remain competitive in this dynamic landscape it is vital that financial institutions have payment systems that can meet the demand of quick, efficient instant services from customers and the regulatory pressure from governments across the world. Authentic is the ideal solution to deliver requirements for real-time payments due to the ease of integration with other systems and the flexibility in configuring transaction processing, as well as its proven ability to handle high volumes with high availability.





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