



White paper

Why it's time to modernize card payment processing

Unlocking the benefits of real-time clearing and settlement for acquirers



Time is of the essence for back-office payment processing

Card payment processing is entering a new era for acquirers and merchants. An era where timing is everything – not only at the front end of transactions but also at the back.

In the dual-message systems used by most major card schemes, payments are authorized instantly online. Issuers typically respond to authorization requests from acquirers – via card schemes – in under a second. And consumers can bank on a seamless instant payment experience.

But behind the scenes, payment processing soon hits a wall. Card transactions are still primarily cleared and settled in batches, so settlement can take two or three days to complete. This delay may have no impact on consumers but it can create risks for acquirers and leave them – or their merchant partners – temporarily out of pocket.

From agentic commerce to AI-powered fraud attacks, there are more reasons than ever to implement instant processing across the payments ecosystem. With competitive advantage, liquidity and resilience all at stake for your financial institution, isn't it time to consign batches to banking history?

The need for complete, rapid modernization

The current card payment processing model is under pressure and there's an urgent need for change. Merchants want faster access to funds, alternative payment methods are winning share from card acquirers, and real-time card clearing is already mandated in some markets.

For acquirers, it's no longer a question of whether to modernize clearing and settlement and bring back-end processes up to speed with the front. It's a matter of being able to deliver that transformation quickly, without disrupting the high-volume processes that acquiring businesses depend on.

Three steps to secure, accurate dual-message card payments

1. Authorization

When a card is used at the point of sale, the issuing bank must approve or decline the transaction by responding to an online authorization request. These messages carry no financial value – they simply ask the issuer whether enough money is available. If so, the issuer places a balance hold on the account to block those funds.

2. Clearing

Financial advice messages carrying the real transaction value are bundled into batch files and sent from the acquiring system to the schemes, which route them to the correct issuer. The issuer matches each authorization to its financial advice, debits the account and releases the hold. The value can differ from the original authorization – sales with tips and currency fluctuations are common reasons.

3. Settlement

The scheme moves money between the issuing and acquiring banks, while the acquirer separately settles with the merchant, minus a processing fee. Single-message systems combine authorization and clearing into one step, but dual-message remains the predominant model for international card schemes.

How clearing and settlement got stuck in the past

With sub-second authorization now standard, why have clearing and settlement remained on batch processing for so long? The answer is, largely, because it worked.

Batch clearing dates back at least four decades, and the “if it isn't broken, don't fix it” mindset has kept it in place. In a well-established routine, typically at the end of the day, transactions are pulled out of the online switching system, moved to a clearing system in large batch files, then processed and bundled off to the card schemes.

The most powerful acquirer systems may carry out this heavyweight process multiple times a day for dual-message transactions. But each cycle can still take hours – time that's too valuable to waste in the fast-paced world of near real-time payments.

And crucially, there's a knock-on impact on merchant settlement, which also takes place in batches – but can still happen before the acquirer has settled with the scheme. In this case, there's not only the chance of being out of pocket for a matter of days, but also the risk that the scheme rejects the transaction and never settles.

The limitations – and risks – of batch processing

Batch processing might linger, but the competitive context has changed. Alternative payment methods (APMs) and near real-time rails have reset expectations for how fast money should move, while merchants are increasingly willing to switch to acquirers that offer the fastest settlement times with the shortest delays.

Batch clearing is no longer just slow – it's a growing liability against faster alternatives. Acquirers who settle with merchants before the card scheme settles with them are out of pocket on a daily basis. But the alternative is a loss of competitive advantage.

Many APMs and real-time payment rails already settle with merchants far faster than traditional card processors. And although card volumes are still rising in absolute terms, cards' share of a fast-growing payments market is under threat.

Juniper Research forecast that instant payment transactions will reach \$129 trillion globally by 2030 – a 80% increase from \$72 trillion in 2026. Batch processing does little to ease the pressure on card businesses.

Plus, the bigger the batch, the greater the operational risks. When a large batch operation fails, it stalls every transaction within it, potentially worth tens of millions of dollars. Only one transaction may be faulty, or signal fraud, but it could prevent the submission of another 100,000 or more transactions for clearing and settlement.

Computing wise, there's also the considerable inefficiency of batch processing to consider. Batch clearing systems sit idle between runs, then spike hard when a file of a million transactions lands.

The risks soon add up for payment processing. Can you still afford to ignore them?



Near real-time clearing and settlement is on the cards

Ultimately, as an acquirer, you want to maximize the number of transactions you clear with your card schemes every business day, so you can settle with your merchants without increasing your capital exposure.

Now, technology has the answer – and is allowing card payment processing to move from a batch-era model, built for a slower market, to near real-time clearing and settlement.

With near real-time processing, you can stream transaction data across switching, clearing and merchant accounting in seconds. That puts you in a stronger position to compete for merchant partners with APMs and near real-time payment rails.

First, however, you need a technology provider you can trust to deliver a solution that lasts and keep vendor risk to a minimum. In today's market, acquirers require full confidence that their core processing platform is run by a partner with the financial stability, investment capacity and roadmap clarity to support modernization, resilience, scheme readiness and merchant expectations over the long term.

Near real-time processing – the strategic payoff for acquirers

The acquiring industry is intensely competitive. Near real-time clearing and settlement offers four ways to differentiate your business.

1. Merchant settlement as a premium service

An acquirer can offer high-volume merchants settlement every 30 minutes, every 15 minutes or within seconds of a transaction being approved – potentially for an additional fee. That's a retention tool for the largest merchants who still process the bulk of card volume.

2. Reduced capital exposure

Streaming transactions throughout the day, rather than crunching them in an end-of-day batch, can shrink the processing window before the clearing cut-off. That enables an acquirer to push more

transactions to the scheme and settle more of them the same day, reducing how much capital is tied up.

3. De-risked processing

Processing transactions individually, as they arrive, isolates a problem to a single transaction rather than the whole run.

4. Compute efficiency

Batch clearing systems sit idle between runs, then spike hard when a file of a million transactions lands. Spreading that workload evenly across the day means less peak compute for the same volume.



Regional payment processing priorities

South America: acquiring modernization, local support, regulatory complexity and reconciliation

Europe: managed services, cloud readiness and modernization away from legacy processing

APAC/IMEA: national-switch scale, resilience and cloud or SaaS readiness

Are you ready to accelerate payment processing in three dimensions?

For large acquirers, the strategic prize is real: growth, control and resilience.

When card-initiated payments are not only authorized in a sub-second but also cleared and settled in near real time, you can offer merchants a revenue-generating service, shrink your capital exposure and help stamp out batch-related operational risks. You'll also be ahead of the game as schemes continue to roll out real-time card clearing around the world.

With FIS®, all of these advances are in your grasp.

The FIS solution

The FIS® IST suite provides three solutions for acquirer processing: FIS IST/Switch for real-time transaction switching; FIS IST Clearing for clearing processing; and FIS IST Merchant Accounting System (MAS) for merchant accounting and settlement readiness. Together, these components help institutions shift from moving transactions in batch files to streaming them for clearing and settlement in near real time.

Rather than waiting for end-of-day batch extraction, transactions can stream out of IST/Switch into IST Clearing as they complete. IST Clearing immediately prepares each transaction for clearing to the scheme and enriches it with the data that IST MAS needs to calculate merchant fees. IST MAS then computes the fee for that merchant, in seconds rather than hours.

Whereas transaction once took hours to become ready for merchant settlement, the numbers are now available almost as soon as the transaction completes. The fee an acquirer charges the merchant is derived from how the transaction clears to the scheme, and that derivation happens in near real time. This allows issuers to settle with merchants within seconds of transaction approval, instead of at the end of the day.

With the IST suite's off-the-shelf support, you can also help futureproof your payments capabilities fast, through the delivery model of your choice – on-premise or in the cloud. This helps enable faster processing and speed to market.

Unlock modern card payment processing with FIS

The time is now to make near real-time clearing and settlement a reality for your acquiring business. Get in touch today to learn more about how FIS can help.

The Mastercard program

Mastercard is turning parts of the dual-message environment into a hybrid model and is heavily promoting plans to roll out real-time clearing globally.

When a transaction amount is final at the time of authorization – a supermarket purchase, for example, as opposed to a restaurant bill that may change with a tip or a payment made in an overseas currency – the transaction can be cleared in real time alongside the authorization. Mastercard calls this Clear Now.

For transactions that don't clear during authorization, Clearing on Demand offers a second path. Once a transaction arrives in the clearing system, it can be assessed and, if it qualifies, cleared via an individual online message to Mastercard – again with no batch file. Between the two, only a small subset of transactions still needs traditional batch handling.

Unlock more

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Our **technology** powers the global economy across the money lifecycle.

Money at rest

Unlock seamless integration and human-centric digital experiences while ensuring efficiency, stability, and compliance as your business grows.

Money in motion

Unlock liquidity and flow of funds by synchronizing transactions, payment systems, and financial networks without compromising speed or security.

Money at work

Unlock a cohesive financial ecosystem and insights for strategic decisions to expand operations while optimizing performance.

About FIS

FIS is a financial technology company providing solutions to financial institutions, businesses and developers. We unlock financial technology that underpins the world's financial system. Our people are dedicated to advancing the way the world pays, banks and invests, by helping our clients confidently run, grow and protect their businesses. Our expertise comes from decades of experience helping financial institutions and businesses adapt to meet the needs of their customers by harnessing the power that comes when reliability meets innovation in financial technology. Headquartered in Jacksonville, Florida, FIS is a member of the Fortune 500® and the Standard & Poor's 500® Index. To learn more, visit FISGLOBAL.COM. Follow FIS on LinkedIn, Facebook and X (@FISglobal).



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