

Real-Time Fee Calculation and Settlement for a Real-Time World



As real-time payments become the norm, acquirers, PSPs and merchants are at risk of losing millions to fluctuations in scheme fees and interchange rates. Global banking infrastructure innovator RS2 has developed real-time fee calculations that optimize transaction routing and pricing, save money and improve profitability.

As we've covered elsewhere, real-time transactions will be the payments phenomenon of the next five years. By 2030, it's projected that one in three payments world-wide will be real-time.^[1] While this development brings in a new era of unrivalled consumer choice and convenience, merchant acquirers and Payment Service Providers (PSPs) today continue to operate on end-of-day interchange reporting and fee calculation, stuck in the "old world" of overnight settlement.

"While real-time payments now deliver unparalleled convenience and choice, fee calculation and interchange reporting are stuck in the "old world" of overnight settlement."

In practice, this means that fees are applied after transactions settle. However, while an acquirer or PSP charges a fixed mark-up to merchants, interchange fees fluctuate depending on the payment type used, the markets involved (if the transaction is cross-border) and adjustments made by the payment schemes in the case of card transactions.

This means that, since the acquirer or PSP fees are fixed, margins can be reduced or compressed if interchange rates change over time. For example, a 10 basis points (bps) change in scheme interchange fees can cause acquirer/PSP margins to be reduced by a third from 30 bps to 20 bps. If the acquirer/PSP is handling \$10M in daily transaction volume, this means they could be losing as much as \$3.65M in revenue every year.

RS2: AI-driven transaction routing for best pricing and optimal efficiency

As an innovator in global banking infrastructure, RS2 has developed an AI-led approach to transaction routing and pricing that delivers the best prices per transaction – as well as the most efficient settlement pathways. Before a transaction is submitted for processing, RS2 calculates the interchange and scheme fee amounts for that transaction based on the payment type, markets involved (in the case of cross-border transactions) and network rules during authorisation. Our decision engine then automatically selects the best routing path for the transaction.

In practice, this means that where a merchant uses multiple acquirers, RS2's decision engine will select the pathway with the lowest fees. In the case of cross-border transactions, our decision engine automatically chooses between domestic or cross-border processing. For instance, if a European merchant accepts a card transaction from a US customer and there is the option to route a transaction through an EU acquirer at 30 bps lower fees compared to a global competitor, that option will be chosen. Likewise, our system might choose to process a domestic transaction from Singapore via a Malaysian processor to save the PSP 20 bps in fees.

[1] Payments, Cards & Mobile, 23 October 2024: "Instant Opportunity: How Instant Payments Will Create New Products" <https://www.paymentscardsandmobile.com/instant-opportunity-how-instant-payments-will-create-new-products/>

Selecting payment rails based on price and efficiency

“Our decision engine seeks out the optimal payment rail for best pricing, and splits transactions between rail for the lowest price.”

As the example in the box below demonstrates, selecting the right payment rail can have a dramatic impact on the fees incurred – especially in a cross-border environment. RS2’s decision engine can seek out the optimal payment rail to deliver best pricing, and split transactions between rails to deliver the lowest possible price for clients.

How RS2’s AI saves up to €8.50 per transaction

Imagine a scenario in which a German merchant receives a payment for €500 from a French customer. While this transaction could be routed through a payment scheme’s transaction routing system, a combination of interchange fees (1.2%) and scheme fees (0.2%) plus a foreign exchange mark-up of 0.5% leads to total costs of 1.9%, or €9.50 for this €500 transaction. By contrast, RS2’s decision engine would route the transaction as a SEPA Instant Payment with a flat fee of €1.00 or 0.2% of total transaction value, saving €8.50 per transaction.”

RS2’s innovative system also allows for transactions to be split between payment rails to optimize costs while still giving customers the choice of payment rail they want. For example, if a German online merchant receives a cross-border payment from a French customer worth €1,000 using the customer’s scheme-branded credit card, this would usually cost €19, assuming a payment scheme’s typical interchange rate for cross-border credit card transactions of 1.9%. However, by splitting the payment between a scheme’s credit card transaction rail and a SEPA Instant payment, our approach saves the customer up to €18 on a transaction worth €1000.

“With RS2, customers can save up to €18 on cross-border credit card transactions worth €1000.”

Dynamic fee and routing adjustment for maximum value

As mentioned above, payment schemes operate a dynamic pricing model for interchange fees, meaning that costs for PSPs and acquirers can vary dependent on the time of day at which a transaction is processed. To ensure these dynamics are reflected in their pricing to merchants and protect their margins, RS2’s transaction routing system gives PSPs and acquirers the option of changing pricing to match switches in interchange fees over the course of a day.

“As acquiring becomes increasingly commoditized, RS2’s smart AI-led transaction fee and routing services represent a real value-add to merchants.”

To deliver best value to merchants, our system also enables PSPs to proactively suggest alternative transaction routes if a merchant’s transactions are found to skew towards higher-cost interchange categories. At a time when acquiring is becoming increasingly commoditized, this service represents an important value-add and benefit to merchants which helps to cement their relationship with their PSP. By taking advantage of RS2’s dynamic price calculation, acquirers and PSPs can add value to their merchant relationships, charging lower fees on cheaper transactions while increasing their margins on higher-cost transactions.

Protect margins, save millions and grow revenue with RS2

At one level, PSPs and acquirers can protect their margins by moving from fixed margins of 0.30% (for example) to a dynamic pricing model enabled by RS2’s AI which increases margins when interchange costs rise (see table below for an example).

Protect your margins – no matter what happens to interchange

Without Real-Time Fee Calculations (Static Model)

Transaction Type	Real-time Interchange Fee	PSP Markup (Dynamic)	Total Fee to Merchant	PSP Margin
Domestic Debit Card	0.50%	0.35%	0.85%	0.35%
Domestic Credit Card	1.40%	0.35%	1.75%	0.35%
International Credit	2.60%	0.40%	3.00%	0.40%

Credit - RS2

At another level, RS2’s smart transaction routing and pricing engine can help PSPs and acquirers stop losing up to \$10,000 daily on fees (or losses of \$3.65M based on US\$10M of daily revenue) and instead increase their revenues by up to US\$1M annually by switching to RS2’s dynamic pricing service. All told, this could create a delta of around \$4.65M between losses incurred using the old, static overnight transaction fee calculation approach, and RS2’s new, smart AI-enabled dynamic approach.

Beyond fee benefits: Fraud reduction, flexible pricing and regulatory reporting

Aside from saving costs and delivering optimal fees to merchants in real time, RS2’s model has the potential to enhance fraud protection. This works by identifying cost anomalies, creating a new parameter for risk-scoring models and improving authorization decisions.

For example, if a travel merchant in Germany that typically processes domestic debit transactions with an average total cost of 0.5% per transaction sees a transaction with interchange and scheme costs of 2.95%, this unexpectedly high fee could indicate fraudulent activity. While this transaction could be consistent with a US-issued corporate credit card used in a cross-border environment, it could also be fraudulent – depending on other factors such as region or time zone, or device used for payment initiation.

RS2’s system would flag this transaction as a “cost anomaly”, which is then fed into a real-time risk scoring model, alongside other contextual factors such as device risk, geolocation via IP address and behavioral patterns. If the overall score crosses a dynamic threshold, the transaction could be paused for step-up verification, routed to a secondary acquirer with more robust fraud screening, or declined outright, if other fraud indicators are present.

Summing up: save money, enhance service, reduce risk and cost

As instant payments grow, demand for real-time BNPL options and instant lending via payment cards will grow. As these new product types go live, RS2's Smart AI makes it possible for providers to offer dynamic pricing for these loans based on real-time interchange fee assessments.

In the regulatory arena, reporting now focuses heavily on transparency (consider, for instance, the requirements of the EU's second payment services directive, PSD2 and its successor PSD3 – or global interchange regulations.) By providing full breakdowns of fees charged, RS2's system enables acquirers and PSPs to enhance their capabilities in dispute resolution, streamline their regulatory reporting and provide regulators with full transparency in the event of investigations or disputes.

Real-time payments will usher in a new instant era of convenience and choice for consumers, benefitting many groups such as “gig” workers and others. However, fee structures remain stuck in the world of overnight settlement. By optimizing transaction routing and deploying smart AI to pricing structures, PSPs and acquirers can save millions and grow revenue while adding additional value to their relationships with merchants.

Looking ahead, as new product types such as instant BNPL and lending via card emerge, enabled by Open Banking, RS2 will enable providers to offer dynamic pricing based on real-time interchange fee assessments. Our system also helps detect fraud through fee anomalies and enhances regulatory reporting in the fast-emerging, fully-digital world of instant payments.

For more on how RS2's dynamic routing and fee management AI can save you money, enhance client services and reduce risk and costs, contact RS2:

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