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Switzerland: Instant Payment Will Become the Standard

GABRIEL IURI AND BORIS BRUNNER, SIX

Venue: Swiss Finance Museum, Time: 5:00 pm. The last visitor has just left the Gallery of the Past. He may have asked himself in puzzlement why a small crowd has gathered around a display case after closing time. The setting has been specially lit for the occasion. However, the members of the board of directors and the executive committee of SIX Interbank Clearing Ltd (SIC Ltd) do not want to look back at history, but instead forward into the future - to the rollout of

instant payment in Switzerland. The cluster of people present includes St. Galler Kantonalbank Chairman and Executive Board Member Patrick Graf, Professor Sébastien Kraenzlin, Head of Banking Operations at the Swiss National Bank, Michael Montoya, the Managing Director of SIC Ltd until 31 May 2023, and his successor Matthias Sailer.

Instant payments are processed and settled 24 hours a day, 7 days a week, and 365 days a year. What importance do you think consumers place on instant cash flow?

Patrick Graf In today's world, where I subscribe to a newspaper and can instantly access it, it makes sense for digital payments to be executed instantly as well. Seeing a transaction executed instantly and the money being received in

a flash, with the same going for refunds, brings peace of mind. Having an eye on the current state of one's finances at all times is a real advantage.

Sébastien Kraenzlin The consumer's perspective also plays a role here. A Whats-App message reaches me right after it's sent, but payment processing via e-banking, by contrast, can take several hours, and credit card transactions can take several days for the amount to be credited to the merchant. At the moment, only cash ensures final and irrevocable money transfer in real time. In the future, this immediate availability and finality will also be made possible by instant payment.

Huge Potential for Account-to-Account Payments

Matthias Sailer What Sébastien is alluding to here is end-to-end automation of payment processes and complete transparency with instant payment - not just between banks, but also between the payer and the payee. And don't forget counterparty risk, which vanishes completely with instant payment because the transaction gets processed immediately and irrevocably.

Small-value payments, for instance via TWINT, which in reality do not conform with instant payment rules at present, illustrate that bank customers have a need to quickly move money from one account to another at any time of day. What makes sense for private clients also works for corporate clients. This is precisely where the huge potential of instant payment lies. I'm thinking particularly of treasury payments, but also of deliveryversus-payment transactions, which are hugely important for corporate clients.

"Instant payment creates an opportunity to establish direct customer relationships at any stage of the payment chain."

What problems does the new real-time procedure solve?

Sébastien Kraenzlin I would rather speak of risks. Staying on the subject of TWINT, on one hand, there's the risk that although the payee receives the payment in real time, the money transfer between the two banks doesn't take place until two days later. The recipient bank thus advances money to the payee in actual fact. On the other hand, there's a comparable risk in the acquiring business for point-of-sale transactions. We thus have a certain fulfillment risk here, as well, which we can address with instant payment. Besides tackling those risks, we are also developing new prospects for service innovations.

What prospects?

Patrick Graf Banks today have to deal with financial intermediaries and thus cannot cultivate direct contact with customers. Instant payment creates an opportunity to establish direct customer relationships at any stage of the payment chain. This also helps customers to keep their finances in one place and organize them much better. In this context, instant payment also gives a boost to open banking because they can simplify interfaces and make them more transparent. Every transaction enables banks to get closer to customers and cater to their needs more quickly.

Michael Montoya Ultimately, it's also about adjusting the payment transaction settlement process to accommodate future innovations and new payment solutions. Today's payment transactions system works in the classic manner: I receive an invoice, I scan it or enter it manually on my e-banking portal and pay it, and the entire process takes days to complete.



From left: Patrick Graf, Matthias Sailer, Sébastien Kraenzlin, and Michael Montoya



Instant payment therefore is also about laying the foundation for new discoveries and inventions to be made in the first place. As for me, we create with instant payment new connecting points between the traditional payments world and the card and mobile banking world. At the same time, we are developing to a certain extent alternatives for the world that is now dominated by international card schemes like Visa and Mastercard. The account-to-account (A2A) connection will come more to the fore. As an "intermediary," we can view a card together with its underlying scheme. If we disengage from the scheme, we also leave out the card by using A2A. But both is possible - card and A2A. So the card is not prevented, there is just an alternative to it with A2A, which is in this sense a supplement to the card-based processes.

Optimizing Cash Flow

Patrick Graf There's another aspect worth bearing in mind: you can schedule a payment to be executed anytime you wish, down to the exact minute. This means that you can arrange – for whatever the reason – for salary payments to be disbursed to your employees at precisely 8:37 am on the 25th of each month, even if it falls on a weekend or a holiday. The payments are executed instantly at the specified time so that your employees see their money credited to their accounts at the exact same minute. This enables your company to optimally manage its cash flow.

Sébastien Kraenzlin We can broaden the framework even further. We have cash and digital money, and in the future we will probably have tokenized money as well. It is essential for these forms of money to be interchangeable, or fungible, at all times. Cash, of course, has always been instant, so to speak, and digital money will also become instant with the advent of instant payment. Finally, the tokenized money ecosystem is also expected to provide round-the-clock availability. The challenge now facing banks is to set up round-the-clock accessibility so that they can continue to play an active part in these three worlds.

To what extent is this round-the-clock availability an exertion for banks?

Michael Montoya The entire instant payment procedure is based on the endto-end automation of payment processes that Sébastien and Matthias mentioned before. If the rollout of instant payment nonetheless were to cause banks to move their working hours to the nighttime, it would mean that something has gone wrong. It goes without saying that new challenges would emerge. How, for instance, should a bank conduct itself if a payment gets held up overnight because it was flagged by a check against international sanctions lists? We need to gain more practical experience in dealing with such occurrences.

Positive User Experiences

How can we ensure that instant payment won't become the exception in payments?

Patrick Graf It's crucial to lend momentum to this system. We see it very nicely with TWINT: after a rough start with the search for users, this P2P payment mode eventually took root. Then things went more quickly and easily with the POS business, especially online. Instant payment is bound to experience something similar. What's needed first is a good offering followed by positive user experiences.

Michael Montoya The challenge that banks are confronted with is that generally they are not set up to operate around the clock. Although some individual trading, IT, and call center units operate 24/7, that isn't the case in a bank's accounting department, where day-end closings and batch processing are still part of the daily routine. Instant payment will give banks an opportunity to organizationally adapt their well-functioning 24/7 operations and convert them into customer offerings that go beyond normal business hours.

All payment transaction banks in Switzerland will have to be capable of receiving instant payments, but what is the vital spark to induce them to submit such payments?

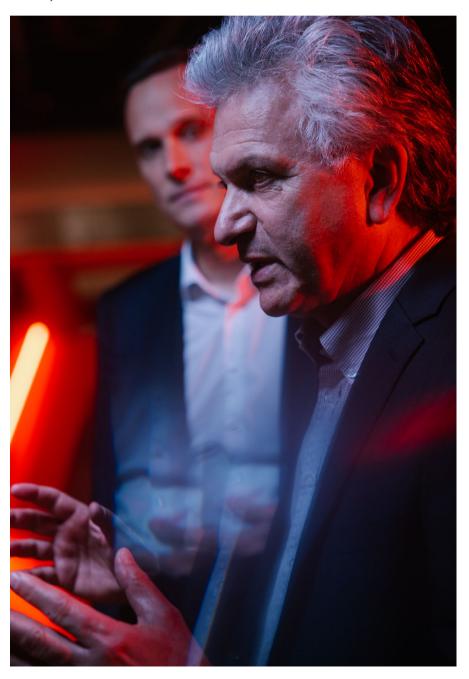
Michael Montoya When the Single Euro Payments Area (SEPA) was introduced, nobody used it, and there was no volume.

What did banks do then? They forwarded any payments that met the SEPA criteria as SEPA payments regardless of whether the payer commissioned the transaction as a SEPA payment. That got the whole thing rolling. Customers eventually adapted when they found out that thirdparty charges were suddenly lower in the SEPA. Analogously, I can picture banks routing credit transfers into the instant payment process without the payer having commissioned them as instant payments. The payee is pleasantly surprised by the quick crediting of the money to his account and thus has a positive user experience. Then perhaps a new service arises in the form of a receipt confirmation notice to the payer, which could be a company, for example, that appreciates this added service even if it didn't commission the payment as an instant payment. Each bank decides whether it wants to create new offerings and ultimately new user experiences for its customers via this new avenue.

Patrick Graf It's entirely to be expected that instant payment won't be a hit right away – it was no different with SEPA and TWINT. We just have to be patient. Meanwhile, it's important for everyone to use the same terminology for this new normal: "instant payment" in English, "Instant-Zahlung" in German, "paiement instantané" in French, and "pagamento istantaneo" in Italian.

Michael Montoya There's one more point that we haven't touched on yet. We have to draw a distinction between instant payment as an offering for customers and the instant payment process that takes place within the market infrastructure. This process will be utilizable for other use cases besides payment transactions. Take, for example, spot currency trading, where it currently takes two days after the closing of the transaction for the money to change hands. Or take securities trading, where settling a transaction involves settling the cash leg of the trade. The instant market infrastructure enables better solutions to be developed precisely for use cases of this kind.

Matthias Sailer The strength will lie in cleverly combining the different application areas. There is thus a lot of potential to create added value for all economic actors.





"Is Quantum Computing Suitable for Instant Payments?"

DR. DANICA MARSDEN, PRINCIPAL QUANTUM COMPUTING SCIENTIST AT THE BANK OF CANADA

TEXT GABRIEL JURI

* The staff research is produced independently from the Governing Council of the Bank of Canada and does not necessarily reflect the official views of the Bank.

Quantum computing seems to be the next big thing, Qubits instead of bits will shape the most complex payment processes. You recently co-published a research study* demonstrating the effectiveness of such a novel algorithm in terms of liquidity savings for settlement in the Canadian RTGS system. How is the reduction in opportunity cost calculated? Improving the efficiency of payment systems that need to settle on a gross basis, such as at central banks, requires optimization routines that can't currently be run in the real system time. Since future fully-fledged quantum computers are believed to excel at optimization problems, we developed an algorithm to tackle this problem. Running our simulation on currently available prototypes, we found a significant reduction in liquidity needed by the system to settle a fixed value of payments - about \$240 million dollars per day. The savings can be calculated from the opportunity cost of the collateral that is posted to the central bank in exchange for that liquidity. Since the eligible collateral is typically government securities, which in repo markets trades at a small

premium to other high-quality collateral, we estimate that the savings are between five and ten basis points per dollar of liquidity saved, or 240,000 dollars per day – divided among system participants in proportion to the value of their transactions.

The time to run your algorithm is five seconds before the transactions are executed. Is this algorithm also suitable for instant payments? Currently, many RTGS systems use liquidity savings mechanisms which are based on rules of thumb, such as bypassing larger payments if there is insufficient liquidity. Since they don't check all possible payment orders, this results in suboptimal solutions. Delay costs are often increased, too, by an order of minutes to hours.

Our method evaluates every possible reordering for a batch of payments and finds one that settles every payment, while also minimizing the liquidity cost. This takes about 90 seconds – the same amount of time to accumulate the batch of payments in the system – of which about five are spent running on the quantum annealer. This type of pre-processor, quantum or otherwise, is not suitable for payments that need to be carried out instantly, such as retail payments, but is appropriate when the benefit of the efficiency gain significantly outweighs the delay cost.

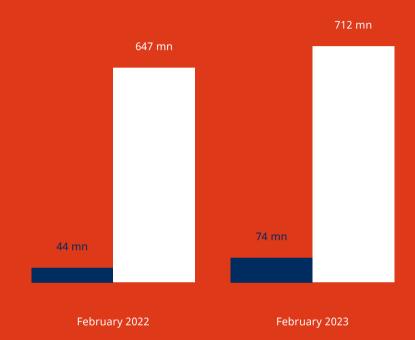
What other use cases could see big changes in the quantum age? Wherever similar transaction settlement optimization problems arise, such as in finding netting sets, securities settlement, trade matching, foreign exchange settlement, arbitrage, etc. In addition, quantum computing combined with machine learning could be used for real-time monitoring to identify patterns and detect anomalies in payments.

The transaction figures for global instant payment systems are seeing one prevailing trend: upward. But is what's inside what's on the label?

Much Room for Improvement in Europe

SEPA Instant Credit Transfer is the scheme that has formed the basis for processing retail payments via the RT1 and TIPS instant payment systems. Both are seeing a steady increase in the number of transactions. However, with a share of less than 15% of all transfers, instant payments are still not the new norm today. Especially when looking at other international markets such as Hong Kong and Australia, Europe is lagging behind.

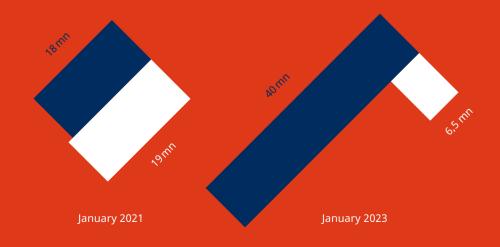
- instant (RT1/TIPS)
- non-instant (SCT)

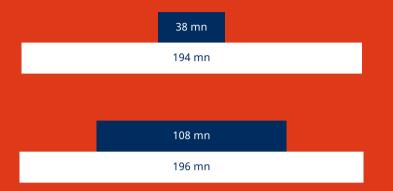


Hong Kong's Key to High User Acceptance

The Faster Payment System (FPS) is extremely popular. Batch payments (ECG), on the other hand, are declining significantly. Prior to its launch, Hong Kong's central bank had developed a series of educational and promotional materials for television, radio, and digital platforms.

- instant (FSS)
- non-instant (ECG)





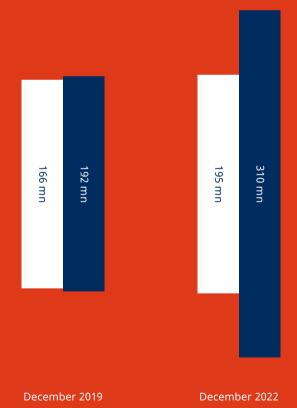


Down Under Ticks Differently

In Australia, the transaction flow for instant payments works via two system-relevant platforms. In simple terms, clearing takes place on one platform (NPP) and settlement on the other (FSS). Nevertheless, this does not hold back the rising trend. Batch transactions continue to account for the largest share of retail payments.

instant (NPP/FSS)





Almost Immediate in the UK

Currently, the British Faster
Payments Service (FPS) has 40
direct participants. FPS confirms the sending bank's transaction to the receiving bank
within 15 seconds. However,
crediting the payee's account
can take up to two hours. FPS's
competition is Bacs Direct
Credit, through which over 90%
of British employees receive
their salary payments.

instant (FPS)

non-instant (Bacs)

"So en Gätsch" or a Refreshing Away-Day in the Great Outdoors

A VISIT WITH MATHIAS PETRIG, HEAD OF FINANCE AND HR. ALETSCH ARENA AG

TEXT
SIMON BRUNNER

he landscape is wild, the people speak gibberish and it's a far cry from the cities of Switzerland. Those are the common clichés about the Valais region. But the last point is no longer true, at least: Brig is just over two hours by train from Zurich. Fifteen minutes later, we're being welcomed to the Aletsch Arena.

What is the Aletsch Arena, exactly? This term refers to a part of the Jungfrau-Aletsch UNESCO World Heritage Site. Aletsch Arena AG takes care of all the tourist needs of six municipalities in Valais, south

of the great Aletsch Glacier.

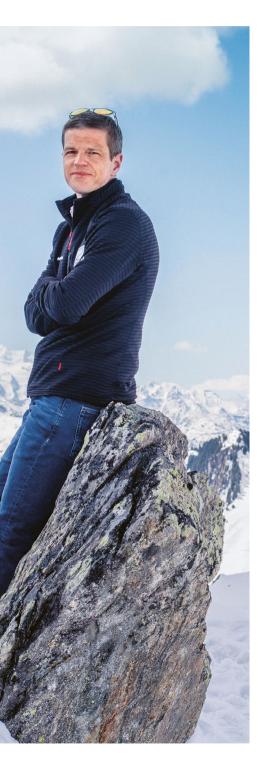
The back office is in an elegant wooden house in Mörel-Filet. But today we don't want to see the office; we want to enjoy the "most liberating nature experience in the Alps" (brand positioning). Together with Mathias Petrig, Head of Finance and HR at Aletsch Arena, we take the cable car from Betten valley station to Bettmeralp. "So en Gätsch," he says, meaning the snow that lies boot-high on the ground at the end of March. Fortunately, an impressive snow taxi with caterpillar tracks is waiting for us. The situation is much worse for a tour group

from Taiwan, who have to wade through the "Gätsch" in sneakers. Later, we meet them again on the summit – neither the walk nor the nasty weather seems to have dampened their good mood.

We are on the Bettmerhorn, 2,647 meters above sea level. The vantage point next to the mountain station would offer a spectacular view of the Aletsch Glacier, "much more impressive than that from the Jungfraujoch," says Mathias Petrig. Google rates this view 4.9 out of 5. Unfortunately, today you can hardly see your hand in front of your face* – a big exception for the "sunroom of Switzerland," as Mathias Petrig describes it. We have no choice but to retreat to the summit restaurant, where the dish of the day is "cholera" – the name of a Valais cheese specialty.

Mathias Petrig, 45, begins to tell us the company's story. With one million overnight stays, Aletsch Arena is now one of Switzerland's tourism heavyweights. "Going digital is a very important strategic direction for us. For several years, we've been working with Aletsch Bahnen AG and other partners from the destination to build a sustainable digital transformation," says Mathias Petrig. Several strategic milestones have already been set, including a project supported by the Swiss government (Innotour) to ensure





continuous communication with guests. A new online shop has been set up to book accommodation, excursions, and cable car tickets, with an annual turnover of around 10 million Swiss francs. A partner model supports smaller players, creates a level playing field, and increases service quality. Last but not least, the tourist tax regulations of the six destination municipalities have been harmonized.

"We already send a quarter of our tourist tax bills via eBill, and the trend is growing," says Mathias Petrig. The digitalsavvy CFO believes that today, even as an SME, you have to offer this invoicing process, because "it's coming anyway." It also brings many benefits. "It's cheaper than mail. Payment morale is higher, and it's perfectly integrated with our ERP system."

As soon as "ERP" is mentioned, Mathias Petrig starts to beam and praises the solution from Abacus, a provider from eastern Switzerland. "The software is modular, so we can assemble it according to our needs, and the interfaces in the ERP system work perfectly." The ERP also covers multiple means of payment. "Many people want to redeem their Reka money with us. This can be done without any issues, even in the online shop," he adds. However, the most popular payment method has long been TWINT. "I am pleased that a Swiss solution has prevailed," Mathias Petrig says.

Mathias Petrig grew up in Sierre and worked for a long time in Zurich as an auditor for one of the large accounting firms. After the birth of their two children, he and his wife, also from Valais, returned to the mountain canton. "Now I work in a place where others go on vacation," he laughs. Mathias Petrig is very athletic. He even takes part in the 21-kilometer Aletsch Half Marathon in the UNESCO World Heritage site, ascending from the bottom of the valley to the top of the mountain. Last time, he completed

the 700-meter climb in about 2.5 hours.

As in many mountain regions, having a year-round strategy is crucial for Aletsch Arena AG: What can the region offer guests in addition to the snow experience? In the gondola back to Bettmeralp, Mathias Petrig shows what this means in concrete terms by looking out of the window. "Biking is the new skiing," he says. There are more than 100 kilometers of mountain bike trails, special pump and flow trails, e-bike charging stations, and other options for every biker's taste. There are hiking trails and a golf course, too. You can also paraglide, do stand-up paddleboard yoga and much more. And there's something for kids in almost every activity. With a touch of self-criticism, he says, "We need to better target our audience. We've developed a new marketing strategy for that purpose - we want to attract more quests to visit us in the off-season."

Aletsch Arena AG employs 30 people and currently has three vacancies. "With 10% vacancies, we're still in a good position," says Mathias Petrig, who oversees the human resources department in addition to finance. "There's practically full employment in Upper Valais at the moment, and the unemployment rate is just 0.8%." This has a lot to do with Lonza, the booming manufacturer of active pharmaceutical ingredients. Or, as Blick, the popular Swiss daily newspaper, puts it, "Valais is becoming a pharmacy for the whole world." As much as the region is benefiting from the economic upswing, there is a shortage of workers: "Filling vacancies is incredibly difficult at the moment," says Mathias Petrig.

We finish our meal, take the train back to Betten valley station and board the train to Zurich. Arrival: 5:14 pm. A day out in Valais with lunch at the summit restaurant comes highly recommended.

* The photographer traveled to the Aletsch Arena on a sunnier day.



EPI Enters a New Phase

The European Payments Initiative (EPI), originally intended to compete with Visa and Mastercard with a pan-European card, has scaled down its ambitions. The project now focuses on a digital wallet and instant payments. For example, EPI has developed a complete payment process that enables instant payments in retail.



Further information

More Security for Mobile Transactions

The Bern University of Applied Sciences (BFH), UBS, and Google are working on the standardization of a new security function for mobile devices that will go beyond the financial sector. BFH has made an APC Demo App available in the Play Store, which can be used to test the security function on a Google Pixel device. UBS plans to pilot the security feature in its UBS Access App this summer. The new technology makes it easy to use security-critical applications in a secure environment – for example, for confirming financial transactions.



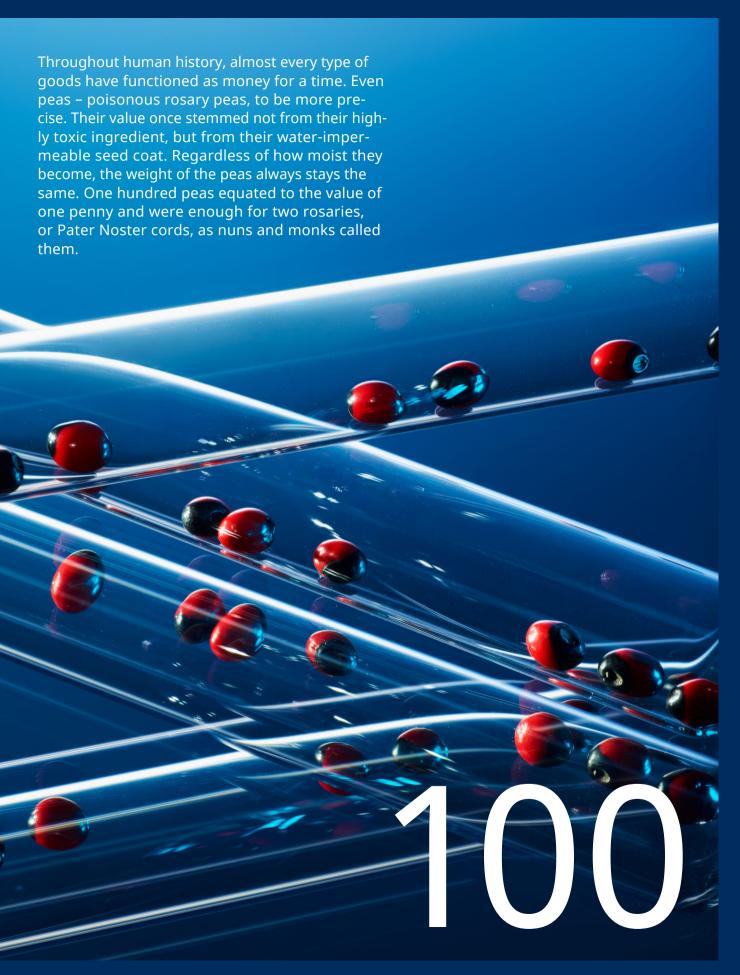
Further information

The introduction of instant payment in Switzerland also has an impact on an indispensable tool for daily payment transactions: the Bank Master. The new specifications are available on the SIX website.



Further information





On the Home Stretch – Test Environments for SIC5

Knowledge required:

- Familiarity with interbank payment processes
- Knowledge of the SIC IP Service Manual

3 July 2023 is the big date. The SIC5 project provides the first evidence that instant payment is coming to Switzerland – not yet for end customers, but for system participants and core banking software providers in the test system. For months, internal tests at SIX ran at full speed to reach this important intermediate stage.

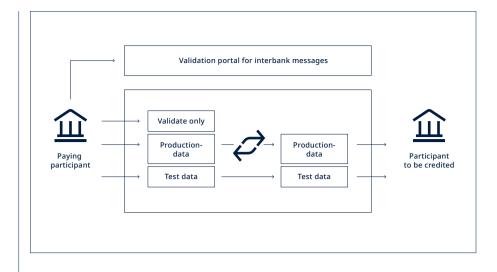
The biggest challenge for participants in the SIC IP service is the very short life cycle of an instant transaction. The recipient must clarify within a few seconds whether it accepts a payment or not, and at the same time trigger a confirmation. This is challenging when combined with 24/7/365 operation. However, feedback from the participants shows that appropriate solutions are available.

The Virtual Participant

A new function of the test system assists the recipient banks by providing a virtual participant for running through different test scenarios at any time, if required. This is particularly helpful if no test partner can be found for bilateral coordination – when it comes to confirming an accepted payment to the sender bank, for instance.

A possible test sequence:

- Conformity check of messages The validation portal for interbank messages is used for the offline technical validation of instant payment messages.
- Ensuring accessibility Many participants focus on primarily testing the specified availability. To do this, they must have test partners that can send



payments to them. If no test partner can be found, the virtual participant can help. This sends the required test payments – and is also individualized. This allows the recipient bank to feed the virtual participant with its own IBANs, customer names or other elements via CSV upload. As an instructed participant, the participant can trigger individual payments to itself and thus set up corresponding test scenarios.

 Sending instant payments The virtual participant can also be useful for outgoing payments. It accepts an instant payment and responds to it, as requested, with a positive or negative IP feedback, a reason code. If necessary, it does not respond at all.

Whitelisting

A frequently identified problem in testing is the use of production data in the wrong test environment. A whitelisting ensures that this can no longer happen. If a participant wants to send a customer payment to another participant, this participant must enter in its master data that the other may send payments to it. This significantly reduces the risk of unintentionally receiving incorrect data.

In order to be able to trigger messages in principle, SIX offers the "Validate only" option. All participants in the SIC IP service can be addressed here, as the settlement is only simulated. The response to a correct payment is a confirmation of execution – as if the payment had been settled.

Figure 1: Test options

Software Companies as SIC Participants?

In order to enable core banking software manufacturers to directly test the capability of their products for instant payment, they are approved for the test environments. They are activated as default participants in the same way as for financial institutions, which allows them to initiate and receive all instant payment types (including customer payments). A suitable SIC interface and proof of the need for testing are required.

Bank Master and Deselection of Customer Payments

Information on participation in the SIC IP service will of course also be published in the bank master in the new Version 2.1. This will apply from 18 November 2023. At the same time, the somewhat outdated bank master is being dusted off and re-released as Version 3.0. This version will replace Version 2.1 in November 2025.

The SIC IP service ushers in another innovation. Until now, a SIC participant could always assume that it could send all types of payments to other participants. This will change from November 2023, as participants will be able to opt out of customer payments. However, this function does not only affect participants that activate it. As a result, all other participants will no longer be able to send customer payments (whether instant or not) to such participants. This information is also published in the bank master or in the master data messages (reda.017) of the SIC RTGS service.

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Onboarding

The registration window for participation has almost closed. At the end of June, the deadline will also expire for participants who voluntarily use instant payment in Phase 1 (as of August 2024). The registrations show that these institutions process over 98% of customer payment traffic. This means that from August 2024 instant payment will be available on a nationwide scale. It is very encouraging that more than half of the participants are already planning to send instant payments in the near future.

BRUNO KUDERMANN
SENIOR PRODUCT MANAGER, SIX

Most Important Challenges of Instant Payment

Knowledge required

- Processing instant payments in the SIC IP service
- Basics of the SIC protocol

The key challenges in implementing instant payment are 24/7/365 availability and guaranteed processing time. Both aspects affect the SIC IP service in the SIC system and the participants connected to it in the same way. After all, instant payments can only run smoothly if the system and its participants are constantly available and processing times are met. Large maintenance windows, where IT systems are shut down, maintained, and restarted over an extended period of time, are no longer possible in this mode. We need to make adjustments to the system and turn on new features while it is running. This can hardly be done in a

globally coordinated manner. All of these aspects require adjustments in the operational scenarios as well as in the architecture of the IT systems involved in order to enable this type of operation at all.

Technical Availability Through Redundancy

On a technical level, IT systems may require updating components with new software, restarting processes, and rebooting machines. In addition, you can never completely rule out the possibility that components will simply break or otherwise fail. Therefore, continuous technical availability of an IT system can only be achieved if its individual components are designed redundantly, i.e. with multiple availability. If one component needs maintenance or fails, the remaining component can seamlessly take over.

However, a redundant and always available system is useless if the connections to it are not redundant as well. The SIC protocol relies on long-lived, persistent network connections that participants must initiate each time. If one of the end points of such a connection – either in the SIC IP service or on the participant's side – fails due to maintenance work or an error, it results in a connection being interrupted and the participant can no longer be reached. This scenario is indistinguishable from a system failure.

What does this mean in concrete terms? The SIC IP service is already technically designed for uninterrupted operation due to the necessary redundancies. However, system participants must also design their IT systems in such a way that planned or unplanned failures of sub-

components do not cause any interruptions in processing and that the connection to the IP service is available at all times. **EXPE**

To keep the connection uninterrupted, the SIC IP service provides the participants with two independent connections, ensuring that at least one of the two accesses is always available. Participants are required to connect to at least one communication interface with each of these accesses. If the connection to one of the accesses is interrupted, the other access is still fully available.

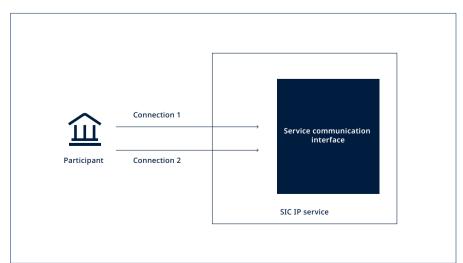
Professional Evolution Through Compatibility

In terms of functionality, the SIC IP service will evolve over time with new or adapted functions. For such functional adjusments, the service provides migration mechnisms for a seamless transition.

In principle, any new externally visible adaptation of the SIC IP service will be rolled out in a manner that is compatible with the previous version. Participants are therefore not forced to respond in a coordinated manner to a system adjustment.

A typical example is the transition to new message versions. The SIC IP service will support the current and the new version in parallel for a certain period of time. Furthermore, the SIC IP service is able to convert messages to the version currently used by the participant. This makes it possible to migrate the service and the various participants to new message versions independently of each

Figure 2: Redundant connection



other. This eliminates the need for a coordinated simultaneous migration of the system, including all participants.

Processing Time in Milliseconds

The processing of an instant payments takes a maximum of ten seconds from order placement to crediting. If this process takes longer, the SIC IP service cancels the processing of the payment. For the benefit of participants, SIC ensures that payment processing time within the SIC IP service is as short as possible. Typically, in-system payment processing will take less than 200 milliseconds per payment. The remaining 9.8 seconds are thus available for processing on the participant's side and for communication.

STEFAN FERSTL LEAD ARCHITECT SIC PLATFORM, SIX

Progress in Cross-Border Payments Harmonization With ISO 20022

Required knowledge

- Familiarity with ISO 20022 international standardization
- In-depth knowledge of ISO 20022 message elements

The big day came on 20 March 2023, when banks exchanged ISO 20022 payment messages over the standard SWIFT network for the first time. After a delay of about half a year, the migration from MT to MX messages has started and is scheduled to be completed in November 2025. In keeping with the parallel phase, there are still some trade-offs in the underlying CBPR+ market practices. For example, conversion can often only be performed using truncation and mapping.

However, in order to truly benefit from the ever-increasing use of ISO 20022 as a messaging standard once the migration is complete, the Committee on Payments and Market Infrastructures (CPMI) of the Bank for International Settlements (BIS) and the Payment Market Practice Group (PMPG), representing the banks, have compiled a list of requirements for cross-border payments. The BIS published the draft on its website for comment on 1 March 2023. As far as the Swiss financial center is concerned, the Payments Committee Switzerland issued corresponding feedback at the beginning of May.

Guiding Principles

The key points of the report "ISO 20022 Harmonization requirements for enhancing cross-border payments" are the end-to-end process of a customer payment order through different banks, if necessary via a central infrastructure such as the SIC system, the crediting of

the beneficiary party, and the messages used for this purpose (pain.001, acs.008 or camt.053).

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In developing these requirements, the PMPG has been guided by the following principles:

Focus on G20 goals

The harmonization requirements focus on achieving the four goals set by the G20 countries for improving cross-border payments. These goals include reasonable cost, high speed, ease of access, and full transparency. Therefore, the CPMI has only proposed requirements that address at least one of these objectives.

Platform and network neutrality
The CPMI has been careful to remain neutral with respect to the solutions used by financial institutions to process cross-border payments. No preference is given to specific cross-border payment platforms, messaging networks or specific service providers.

Alignment with potential future developments

The harmonization requirements will apply from the completion of the SWIFT network migration in November 2025. In the meantime, many payment system operators and financial institutions will have to make compromises.

Ambitious but realistic

The PMPG is making proposals that take into account both the G20 goals and the effort and timeframe needed for CPMI harmonization requirements. The PMPG considers some ambitious goals to be too costly or not mature enough and therefore does not pursue them.

General and Specific Proposals

The requirements that have now been formulated include a defined catalog of 17 ISO 20022 messages and specifications for the use of the respective components and data sets. For example, using the message that corresponds to the use case, using official code lists, or using a restricted character set are suggestions of a more general nature. In addition, there are some very specific proposals. Thus, to improve transparency, a Unique End-to-End Transaction Reference (UETR) should always be included and the date and time of the effective debit on the paying party's account should be passed on to the beneficiary party. Other

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An important part of this harmonization is the use of structured components and standardized identifiers. This includes specifying the account number as an IBAN whenever possible, consistently using the BIC for the financial institutions involved, or the Legal Entity Identifier (LEI) for other parties to the payment. Of course, the specification of the address using individual, clearly defined elements – the "structured address" – is also mentioned.

Finally, the PMPG deals with remittance information, such as payment details and other business case information.

Again, the use of structured elements is recommended. Although it goes without saying that this information is passed on unchanged along the entire processing chain to the beneficiary party, the PMPG again explicitly states this.

All these proposals are explained in the PMPG report with justifications, implementation notes and detailed tables for the respective components and for the elements of the corresponding ISO 20022 messages.

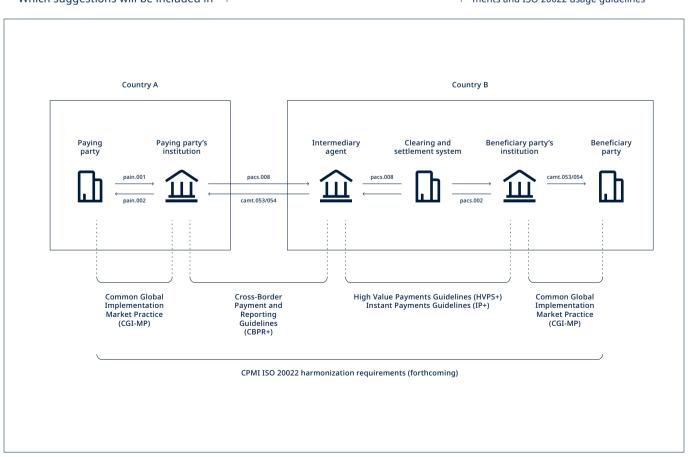
Which suggestions will be included in

the first version of the CPMI requirements and how they will be implemented in the markets will become clear after the feedback has been evaluated. Central banks, regulators, financial institutions, and market infrastructure operators can be expected to support this endeavor if it brings benefits to all market participants and, in particular, to banking customers worldwide. Such harmonization is the ideal complement to the global use of ISO-20022 messages or APIs based on ISO-20022 resources.

MARTIN WALDER, HEAD BILLING & PAYMENTS STANDARDS, SIX

Figure 3: End-to-end cross-border payments and ISO 20022 usage guidelines

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Samba to the Beat of Digital Currency

The Central Bank of Brazil is set to launch a suite of digital tests for its Central Bank Digital Currency (CBDC) with a focus on privacy and security. This follows the introduction of the PIX instant payment platform in 2019, which swiftly found widespread usage in Brazil. Instant payments and CBDCs are very similar. Both would provide instantly available good and final funds.

The digital real is being deployed in various areas and functions during the trial phase. Third parties, including banks, can conduct pilot tests for the digital real once they meet certain requirements by 24 April 2023. The test environment may continue beyond 2024, if necessary.

The digital real is expected to encourage banks to tokenize their assets, which will improve settlement, audit, and funding costs. This will be achieved by exchanging tokenized deposits for the digital real. Tokenized assets used as digital currencies could lead to a shift in the way we think about money and revolutionize making payments and financial transactions. CBDCs have the potential to improve the efficiency, security, and privacy of such transactions, which could be a game-changer for the financial industry.

However, the success of CBDCs depends on their ability to maintain the core principles of non-digital currencies, including the governmental guarantees of its value and widespread acceptance as a medium of exchange. Digital currencies enable central banks to issue alternative money, rather than relying solely on bills and coins.

While at least 27 countries are working on formulating regulations for digital currencies, Brazil has already passed a bill that regulates these assets. This allows the country to introduce concepts and principles to guide the provision of services in the era of digital assets and payments, while empowering Central Bank of Brazil to fine-tune the regulation.

JULIAN BARAZI (WORLD BANK) AND YOANN FOUMANY (SECB SWISS EURO CLEARING BANK)

FURTHER INFORMATION:



BANCO CENTRAL DO BRASIL



Will SEPA Instant Payments Finally Become the "New Normal"?

Some banks have been offering SEPA instant payments in the euro area for five years. Today, one in four banks in the EU can be reached via the SEPA Instant Credit Transfer Scheme and a good 13% of transfers are paid immediately. As a result of the slow growth in market penetration, the European Commission decided to adapt the existing regulation in view of the EU Retail Payments Strategy. The currently proposed regulation requires most payment service providers to offer their customers instant payments for euro transfers. The implementation should be gradual but swift. The requirement to receive instant payments in euros will apply from 6 months, the requirement to send instant payments will apply from 12 months after the regulation comes into force. For payment service providers outside the euro area, including Liechtenstein, transitional periods of 30 and 36 months respectively apply. This is ambitious and represents a major challenge for the payment service providers involved.

Of course, payment service providers must continue to take necessary and appropriate measures to combat money laun-

dering and terrorist financing or to prevent fraud. The biggest challenge is that it now has to be done in ten seconds. To achieve this, payment service providers need to break new ground. For example, under the current draft regulation, payment service providers will no longer be required to perform transaction-based screening on individuals and entities on European sanctions lists. Rather, the receiving bank can rely on the fact that the sending payment service provider has already performed this check. This will be achieved through consistent sanctions screening specifications across the customer base.

Another major challenge for payment service providers is the new requirement to match the payee account identifier (e.g., IBAN) with the name of the payee (Confirmation of Payee). This verification shall be performed by the paying party's payment service provider immediately before the payment is authorized. The provider must inform the paying party of the result ("close" or "no match") and at the same time allow it to execute the payment even if there is no match.

It is clear that the integration and implementation of such an additional payment channel is time consuming, costly, and technically challenging. In order for SEPA instant payments to achieve the desired reach, the fees must not be higher than those for traditional euro payments. For the banks, the EU's timetable for implementation is very ambitious. For customers, instant payments mean faster and more efficient cashless payment transactions.

SUSANNE HÖHENER, LIECHTENSTEIN BANKERS ASSOCIATION

FURTHER INFORMATION:



PRESS RELEASE OF THE EU COMMISSION



Instant Payments in the Experience of a European Payments Provider

In addition to the requirement to be able to both receive and send real-time payments, the introduction of instant payments includes further verification obligations for banks, such as matching the IBAN with the account holder and sanction screening. In addition, real-time credit transfers should not cost the end customer more than a conventional transfer in the future. While many banks fear considerable additional expense, the SEPA Instant Credit Transfer Scheme is already an established payment standard in the Netherlands.

There, the outsourcing of process structures has proven its worth: In cooperation with their service providers, banks are increasingly relying on modular solutions that can be linked to existing infrastructures and flexibly expanded with value-added services.

As critical as these infrastructures are, they should be optimized in terms of efficiency and costs in the future by exploiting all economies of scale. As a distinction to the mere execution of a payment, efficient access to these and successful integration into existing corporate processes can be a competitive differentiating factor. For financial institutions in Switzerland, which will also have to offer instant payments from August 2024 or 2026, the Dutch approach could well be a model.

Large retail chains stand out as the most likely beneficiaries. They have the critical mass to add new payment methods to their loyalty apps and reduce their default risk through instant payments without relying on a scheme. This is because while recall is possible with both card-based methods and a direct debit, real-time credit transfers are final. For the merchant, there are thus advantages at this point of an instant guaranteed payment. But it's not just retailers; big tech companies also have the opportunity to gain new data by integrating payments.

For banks, it means gaining a clearer picture than ever of their own future position, whether through an active approach at the customer-bank interface or a rather passive approach in the background for third-party service providers. In any case, the future lies in offering data- and service-driven value-added services.

JACQUELINE GOOD ZILTENER WORDLINE SWITZERLAND

FURTHER INFORMATION:



DUTCH PAYMENTS
ASSOCIATION

When you work, you don't have time to earn money.

Jewish proverb