




Payment Services

# CLEARIT

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**Mortgage and registrar business in an e-world**

For the first time, beginning in early 2012, it has become possible to electronically process real-estate business between Swiss banks, notaries and registrar offices without software uniformity, thanks to Terravis. These transactions also include credit transfers between banks, which can be processed via the SIC interbank payment system. The Terravis platform was realized by SIX on behalf of the Federal Office of Justice within the E-Government Strategy Switzerland framework.



**Dear readers,**

If you read only the first two paragraphs of any random study on the future of payment traffic, one thing seems abundantly clear: We are standing on the threshold of a revolution. Soon, so they tell us, payment transactions will be dominated by e- and m- and other colorful innovations. In comparison, the efforts to streamline Switzerland's payment traffic instruments don't seem nearly as exciting. But unlike the suggested innovations, the Migration Payment Traffic Switzerland (PT CH) program, is very real. The schedule for this comprehensive and far-reaching change has been determined.

Payment transactions, like no other financial instrument, affect every element and process of a bank. And, as if that weren't enough, the payment transaction processes are deeply rooted in the processes of businesses in any and all industries, and even in private households. The structures have evolved over time. This is why any change at all is extremely complex, and why its impact goes way beyond the circle of the in-the-loop banks, service providers and large corporations.

This is also the reason why innovations in payment traffic may not be self-serving. The parties responsible for payments in Switzerland are committed to serving the end user, and not the other way around. In order to offer these end users the existing services with the same efficiency and automation, as well as cost effectively, the Swiss financial center must work in its usual cooperative model between banks, service providers and the Swiss National Bank.

With its aligning itself to European regulations and standards in the areas of credit transfers, direct debits, and payment slips, the financial center is demonstrating the required openness to compete internationally. This philosophy also proves important in relationship to the aforementioned innovations. Nowadays, the established finance-related players are also competing with internet service providers. These organizations could develop into serious competition in the market for standardized payment traffic services.

For the time being, the majority of payments still flow through the traditional banking system. The volume our systems process on a daily basis is truly impressive. This transaction volume, in combination with the fact that the payments ultimately are a part of virtually every economic act, makes security a very important issue indeed. Innovation may therefore never jeopardize the fundamental infrastructure principles: Stability, security and continuity. The considerable earlier innovations and investments in market infrastructure have reliably paid off, particularly in times of crisis. Our infrastructure must be cautiously safeguarded in future, too. In this spirit, I wish the Migration PT CH program much support from all participants.

**Daniel Wettstein**

Head Banking Operations, Swiss National Bank  
daniel.wettstein@snb.ch

## Operational risks in a regulatory context

The new international principles for financial market infrastructures (CPSS/IOSCO) were adopted last year. These involve more stringent requirements for the management of operational risks. The banks were also confronted with stricter standards regarding operational risks, particularly in terms of capital requirements. Dr. Renate Schwob, Member of the Executive Board of Swiss Bankers Association, sheds light on the regulations in the banking sector in the field of tension between the law and self-regulation.

**CLEARIT:** Ms. Schwob, can you explain to our readers what the  $\beta$ -factor of 18% in the "payment & settlement" business field specifically means to a bank in the Capital Adequacy Ordinance (CAO) of the Swiss Federal Council?

**Renate Schwob:** If you believe the CAO can be easily explained, then I'm afraid I must disappoint you. First, I have to go back to the models on which the capital calculation are based. The CAO provides for three modules: The simplest is the so-called "standard approach". This establishes eight predefined business areas – one of which is "payment & settlement". Each business field is given an earning indicator, which is calculated using a variety of components. This earning indicator must be multiplied by a set percentage rate for each business field, resulting in the

capital requirement sum for the respective business field. This multiplier is referred to as the  $\beta$ -factor, which for the payment & settlement business field is 18%, the highest among all the business fields. This means that payment & settlement is considered to be comparably risky in view of the operational risks. The  $\beta$ -factor expresses the legislators' risk assessment.

**Why or where should payment traffic be so risky for a bank, or to put in differently: Where are operational risks in payment traffic quantitatively measurable?**

For one, there are certainly technical risks that play an especially enormous role in payment & settlement. In addition, there is the risk of errors by people who operate this technology, and finally, there are legal risks. I think that the human error factor and legal risks play less of a role in the financial infrastructure sector, but the technical risks are naturally extremely high and when you see how everything is connected in payment & settlement, then it is understandable that this risk factor must be weighted rather highly. If you read about the principles for financial market infrastructures in the IOSCO paper, you will notice that there too the technical risks play a major role.

**Let's take an example from the area of settlement risks: If a bank executes a payment transaction manually or through a computer system or a combination of both, and there is a risk that the payment does not reach the intended beneficiary, let's say due to a wrong BIC or incorrect IBAN; which rulebook or rules of conduct would cover these risks?**

Particularly when it comes to infrastructure, we have a very wide range of self-regulation. I am talking about those rules and regulations that are stipulated for every system by the system owners and the system operators, and those "technical" instructions, which determine how such a settlement system is to function, and which also form the basis for the definition of the risks that are inherent to this system. No laws or ordinances cover these details. It would not be appropriate from a regulatory standpoint to place these risks on the legal level, which under certain circumstances would be subject to decisions by the parliament. The parliament would not be in the position to formulate these rules on the basis of the functional details.

**Back to the CAO; FINMA's new regime came into force on 1 January 2009. What do the banks have to say about it? What has been the impact of the changes in the capital requirements in general, and in particular, on payment transactions?**

The events involving the stabilization of UBS were taken into account in 2008 and beyond. The initial measures pertained to the two large banks; they were required to immediately adjust to the higher capital requirements by

### CAO

In the Capital Adequacy Ordinance for Banks and Securities Traders (CAO, as of 1 March 2013), according to article 89, operational risks are defined as the "risk of losses that arise through the inadequacy or failure of internal procedures, people or systems, or as a consequence of external events."

i	Business field	$\beta_i$
1	Corporate finance/advisory	18%
2	Trading & sales	18%
3	Retail banking	12%
4	Commercial banking	15%
5	Payment & settlement	18%
6	Agency services	15%
7	Asset management	12%
8	Retail brokerage	12%

The bank must apply methods for the allocation of capital for operational risks for all significant business fields and to create incentive for the improvement of operational risk management throughout the bank.



## Short biography

**Renate Schwob studied law at the University of Basel and qualified as a notary and attorney-at-law in the canton of Solothurn. In 1980 she took her doctorate at the University of Basel. Following many years practising law in government service she changed to the private sector and worked during 15 years in banking. There she**

**headed the Legal and Compliance Unit for the Trading and Sales and also Investment Management divisions at Credit Suisse from 1999 until 2004. Renate Schwob joined the Swiss Bankers Association in April 2004. She is a member of the Executive Board and heads the Financial Market Switzerland division.**

2013 and to introduce a leverage ratio. A new liquidity regime was also put into place. The Capital Adequacy Ordinance was also revised, through which the first stricter Basel III guidelines were implemented. No credit crunch has resulted from these measures so far. Then, at the beginning of 2013, the Basel III guidelines were fully implemented.

What is interesting about all this is that capital requirement for operational risks was already introduced with Basel II. When it came to this, particularly the asset management banks complained a great deal, because they were the first to be affected by the new requirement. As long as only market and credit risks had to be backed, they were able to relax, but when the operational risks came into play with Basel II, they were confronted with new requirements. Since the new Federal Council requirements came into force on 1 January 2013, and broad transitional conditions were provided with generous adaptation deadlines

for banks and securities traders, it is far too early to assess the impacts of this new regulation.

**During the approval process for altering the CAO, the Swiss Bankers Association commented on compliance with the anti-cyclical buffer as follows: "It would not be sensible, for example, to back operational risks with additional capital if, at the same time, the aim of the buffer is to strengthen the robustness of the banking sector against the risk of excessive credit growth." Can you please express this in layman's terms?**

This message arrived in a rather abbreviated form: The anti-cyclical buffer is explicitly limited to credit risks in CAO, and does not pertain to the market risks or operational risks. That's why we wanted to again underline this momentum; the sole and exclusive purpose of the buffer must be to strengthen the banking sector against the risks of excessive credit growth and to counter the same. There could be no other goal for this anti-cyclical buffer.



## "You never know just how a regulation will ultimately be designed."

If it explicitly involves credit risks, why did the Swiss Bankers Association bring operational risks into play in the first place?

The objective of Swiss regulation is to limit this anti-cyclical buffer to credit risks. They could have involved market risks as well, which have similar fluctuation frequencies as do credit risks. In the area of operational risks, this anti-cyclical nature is not as prevalent as it is in the credit or market areas. We wanted to establish right from the start that this objective applies only to the credit area in Switzerland and to nothing else. This was a prophylactic statement, but the intention of the authorities was not yet entirely clear to us at the time. You never know just how a regulation will ultimately be designed. We sought to counter right from the start a tendency to extend the scope of application as broadly as possible.

Some say that the regulatory waves are stemming from the practically inexhaustible creativity of politicians. How do you see that?

A politician must be creative, must be able to profile himself, and naturally he does this primarily in the area of regulation. What we are witnessing today is explicable as a consequence of the financial market crisis. And here we must admit that the financial market participants were not entirely innocent in this crisis, so this regulation is not entirely attributable to creativity or any inherent need for political profiling. I would like to add here that participants in the Swiss financial market were disproportionately less affected by the crisis than were those in other countries. Remember, only one bank here needed government intervention, while things looked quite different in other places. However, we are not being spared this flood of European, and especially American, regulation. If we want to participate in the respective markets, we are compelled to follow the rules that apply there. However, the rules are being

increasingly expanded to the extent that foreign market participants are just as regulated and supervised in their domestic market as are the local players. This principle is being zealously pursued particularly in the EU. And the Americans are no better. This, in turn, means that the Swiss regulators – be it the parliament or the supervisory authorities or the Federal Council – must react reflexively so that the market participants here in Switzerland are able to provide this proof of equivalent regulations and supervision.

## "We must ultimately orientate ourselves to markets in which we are active."

In today's globalized world, we are no longer quite so free to design our own regulation and to regulate what we ourselves find necessary. We must ultimately orientate ourselves to markets in which we are active.

But the banks often complain that there are some regulations here that are stricter than those in competing markets.

You are referring to the so-called Swiss Finish, which played a major role particularly in the area of capital adequacy. This, in turn, pertains to the fact that the financial center comprises a comparably very large share of the entire Swiss gross national product. Therefore, especially when it comes to regulation, for which the objective was the stabilization of the financial system, the Swiss went somewhat beyond what was stipulated by the international organizations, because it is said that the financial sector in Switzerland needs more than what is dictated internationally.

This is thus a purely domestic issue that relates to the economic structure of our country. Sometimes it is not easy to make that comprehensible to the players in the financial market here. In other areas, it is quite unnecessary to go beyond what is required internationally. Take, for example, sales of financial services within the scope of the Financial Services Act (FSA), which shall be coordinated with the EU's Markets in Financial Instruments Directive (MiFID). In terms of consumer protection, in this area, here in Switzerland, we certainly do not need to do more than the EU does. The position of consumers is no different than in the EU.

With all the external and internal constraints – what leeway remains for the self-regulation of the Swiss financial sector?

Actually, we fight for our self-regulation and for its standing in all fields of the banking business. And while we are talking about the technical side of the financial infrastructure, I'd like to again mention that the system owners and system operators are allowed to practice self-regulation

### Operational risks

Differentiation is made between internal and external risks, and within the internal risks, further differential is made between process risks, personnel risks and system risks.

Elements of risk control:

- Internal control system (ICS):
- Risk-oriented structure and procedural organization
- Risk management and controlling processes for counterparty risks, market price risks, liquidity risks and operational risks
- Internal audit to review the effectiveness of the ICS

to a very large degree. Therefore, we need not concern ourselves at the Swiss Bankers Association. However, in the area of infrastructure there are issues, particularly compliance, where we can be thoroughly supportive, such as assistance with best practices, and with certain regulatory requirements on the technical level. The best known example for this is the regulatory requirement to name the instructing party in payment transactions contained in the Money Laundering Ordinance. On the technical level, we consequently had to solve the problem of how we should handle the implementation. Governmental regulation cannot deal with the details, such as who is to be considered the instructing party for a joint account or for payment order submitting by authorized persons. The implementation of regulation guidelines on the self-regulation level absolutely makes sense here.

## Technical Rules and Regulations – the Swiss rulebook

**In the so-called Technical Rules and Regulations Payment Systems, the Swiss banking committee in charge sets mandatory requirements that are to be met by every system participant and operator.**

**Apropos joint accounts: Why would anyone want to regulate a joint account if each account holder has access to this account without the participation of the other account holder, and may even appoint other authorized persons? Are there rules of conduct concerning this from the Swiss Bankers Association?**

No, our self-regulation fundamentally does not deal with the contractual relationship between banks and customers. How a bank behaves towards its customers – such as with the handling of joint accounts – is regulated through corresponding contracts between the bank and its customers and also under private law, such as in the Swiss Code of Obligations from 1936. Even if this law remains in the landscape unchanged and actually does not fully apply with the contemporary banking business, we fundamentally do not get involved and do not issue codes of behavior for the relationship between the banks and their customers.

**We are all aware of FINMA's fundamental principles for restructuring and liquidation strategy for globally active, system-relevant banks in Switzerland. They contain a reference to a potential compulsory restructuring and what would happen if such a procedure were to fail. With the aim, among others, of ensuring the smooth functioning of payments. Would this perhaps be an issue for self-regulation?**

Hardly anymore. FINMA has issued a very detailed ordinance regarding the restructuring and liquidation



of banks. We were involved in the formulation of this ordinance in the framework of a mixed working group. It thus has democratic support. As a potential liquidator, FINMA has retained very extensive competencies for itself. We do not have much to say about this, because no leeway is left to the banks if they must be restructured or even liquidated.

**But where do things stand with the emergency plans? They are defined by the bank.**

That's right. These emergency plans depend upon the business model and on the business structure of the respective bank. And these differ greatly from bank to bank. That is a task that the banks must individually take care of for themselves. I do not see any standardization here in terms of self-regulation.

Interview:

**Gabriel Juri, SIX Interbank Clearing**

[gabriel.juri@six-group.com](mailto:gabriel.juri@six-group.com)



## Operational risk management: Compulsory or elective?

“Operational risk” is a sensitive topic, at best. One’s personal ambivalence toward the issue can be determined by answering two simple questions:

1. Do the terms “risk management,” “business continuity” and “security” trigger positive emotions?
2. Is (operational) risk management important?

If we assume that the majority will have answered question 1 with a “not likely” and question 2 with a clear “yes,” phrases like “integrated risk culture” or “every staff member is asked to deal with operational risks responsibly” take on a fascinating dimension.

Looking at the overall risks faced by an organization, it becomes apparent that many of them, such as market risks, come from the outside. To recognize and reduce them early on is both an art and a challenge. With operational risks, the overall situation is somewhat less exacting, particularly since the majority of operational risks are “homemade” risks that an organization can address pro-actively.

When it comes to operational risk management, I consider it important to differentiate between “requirements” and “electives.” It isn’t the goal of operational risk management to limit oneself to electives. Rather, it should be the stated goal to know exactly the specific elective elements and, in building on that, to set a risk-focused ambition level – some places higher, some lower – based on one’s own skills. Starting from this ambition level, the organization’s processes can be ideally focused on that level. And this swiftly brings us to “electives.”

The financial center is breaking new ground with its “Migration Payment Traffic Switzerland” program. Some of the processes, technologies and business processes are changing from the ground up. In its role as system operator, SIX Interbank Clearing Ltd is especially challenged by the parallel operations. The organization, processes and instruments need to be structured in such a way that both the old and the new world can be ideally supported over an extended period of time. This increases the danger of losses due to unsuitability or the failure of internal processes, people and systems, or of external events. Within this context, the development and expansion of automated early warning indicators take on a significant role. Realizing this, especially during times of limited funds, turns out to be a formidable task – a task that needs to be embedded within the processes and depends on the goals being understood and supported by all levels of the organization.

In spite of expansive precautionary measures, operational losses can never be totally avoided. It is the SIX Interbank Clearing Ltd Board of Directors’ responsibility to ensure that the balance between “requirements” and “electives” is maintained at the best possible cost/benefit ratio, and that the Board meets future demands with respect to the handling of operational risks within payment systems. All this with the declared goal of keeping losses due to operational risks as low as possible and to upholding its reputation as an excellent service provider on a daily basis, in order to minimize the ambivalence between emotions and the significance of risk management.

**Markus Beck, Manager BTO Front-Services,  
Raiffeisen Switzerland**  
markus.beck@raiffeisen.ch



## SWIFT's contribution to handling operational risks

**SWIFT provides services to a wide range of organizations and a fundamental tenet of its governance is to continually reduce the costs and risks borne by the industry. SWIFT is a critical service provider to many financial market infrastructures (FMIs). It is, however, neither a financial market infrastructure nor a bank, nor should its core messaging products and services be considered as outsourced services for FMIs.**

As a critical service provider (CSP), SWIFT has long recognized the need to provide security and resilience commensurate with its critical role in the financial ecosystem. SWIFT has implemented effective controls to meet their customers' expectations. The status of the related control activities is reported as follows:

- For the *Overseers* (G-10 Central Banks, and an expanded group of Central Banks under the SWIFT Oversight Forum) and *Regulatory Bodies* across the world, SWIFT performs since 2007 an annual self-assessment against the Overseers' High Level Expectations. The High Level Expectations cover risk management, security management, technology management, resilience and user communication. Further information can be found in the National Bank of Belgium's Financial Stability Reports (see [www.nbb.be](http://www.nbb.be)), in particular, the report from 2007, which includes a description of the High Level Expectations.
- For *FMIs*, SWIFT has published a white paper in which we confirm compliance with the expectations for CSPs as outlined in Annex F of CPSS/IOSCO's Principles for Financial Market Infrastructures. The white paper can be downloaded from [swift.com](http://swift.com) (see About SWIFT | White Papers | October 2012).
- For all *SWIFT Users*, SWIFT publishes annually (since 2004) an ISAE 3402 Type 2 Report on Security for our FIN and SWIFTNet services. This report contains our External Security Auditor's opinion on the design and

effectiveness of the controls SWIFT has put in place in the areas of governance, confidentiality, integrity, availability and change management. We have consistently received an unqualified opinion from the External Security Auditor. This implies that we overall have effective controls to achieve the control objectives in each of the five areas covered by the report.

We believe the combination of these documents effectively provides assurance that SWIFT is supporting its user community in helping to address operational risks, predominantly from a technology perspective. There are, of course, standards that address non-technology related operational risks, such as Basel III.

Basel III as a global, voluntary regulatory standard for bank capital adequacy, stress testing and market liquidity risk does not really apply to or impact SWIFT, as SWIFT is not a bank. However, SWIFT is working on mechanisms to help banks, particularly concerning liquidity risk management (see June 2011 white paper of SWIFT for more information). As an example, the intraday liquidity reporting solution consists of:

- Intra-day reports which help build a liquidity dashboard, meet payment and settlement obligations, manage intra-day credit line usage, and enable early identification of exceptions;
- FINInform supports a central view of liquidity flows on a company-wide level, a very cost-effective alternative to a long/expensive integration project; and
- Business Intelligence services provide tactical reporting and help build a strategic solution. More information is available at [swift.com](http://swift.com) (see Products & Services | Liquidity Risk Management).

**Peter De Koninck,**  
Deputy Chief Auditor, SWIFT  
[peter.dekoninck@swift.com](mailto:peter.dekoninck@swift.com)

**SWIFT is a member-owned cooperative society that provides its community of banking, securities, market infrastructures and other regulated organizations, as well as corporations, with a comprehensive suite of messaging products and services. SWIFT's user community exceeds 10,200 connected firms across 212 countries. In 2012, SWIFT's Users exchanged, on average, more than 18 million messages per day. The peak processing day was 28 March 2013, when more than 21 million messages were exchanged.**

Technology  
Speed  
Precision  
Teamwork

# SIC<sup>4</sup>

Neue SIC-Architektur  
New SIC Architecture  
Nouvelle architecture SIC



## SIC<sup>4</sup> – Ready to take off

Right on schedule, the “New SIC Architecture” (NSA) project reached a milestone towards the end of 2012: Straight-through customer payment processing. With that goal accomplished, the basic structure of the new SIC system, SIC<sup>4</sup>, is in place. An overview.

A recently executed external evaluation, produced by IBM, attests to SIX Interbank Clearing Ltd that the New SIC Architecture project is well-structured and put together. As the evaluation report author wrote, the company is well on the way to attaining the targeted goals. In late 2012, SIX Interbank Clearing, along with project board members and representatives from the Swiss National Bank (SNB), celebrated reaching the first major milestone. Since then, customer payments can be submitted using the three formats – SIC, SWIFT or ISO 20022 – via the Finance IPNet communication service. These payments are processed straight through, meaning that they are validated, pre-booked, acknowledged, settled if there is sufficient liquidity, converted to

### SIC<sup>4</sup>

SIC stands for Swiss Interbank Clearing and is the interbank payment system for Swiss francs operated by SIX Interbank Clearing Ltd on behalf and under the supervision of the Swiss National Bank. In order for SIC to remain a state-of-the-art system worldwide in terms of quality, the “New SIC Architecture” (NSA) project team has been working on the design of SIC<sup>4</sup>, the new SIC system that is aligned with future technologies and standards, such as ISO 20022. The schedule calls for participating institutions in the payment system SIC to migrate to SIC<sup>4</sup> in the fall of 2015. The institutions will have from March 2016 until fall 2017 to adjust their payments transactions to the new ISO 20022 standard. After the second quarter of 2018, the current SIC standard will no longer be supported.



## New functions for participants

Upon completion of SIC<sup>4</sup>, the following new functions will be available to the participating financial institutions, facilitating efficient payment transactions management:

- With “queue management”, participants can place payments that have not yet been executed at the end of the respective queue and thus control the sequence of settlements. This means that it will no longer be necessary to elaborately cancel these payments and then have to resubmit them again.
- Payments specified with “earliest settlement time” are only lined up in the respective queue once this time has been reached in consideration of the first-in-first-out principle.
- In the future, participants will have the option of reserving liquidity on their SIC settlement account for execution-critical payments. If payments are delivered marked as “payment with liquidity reservation”, then they are managed in consideration of this reservation.

the beneficiary bank’s preferred format and delivered to the beneficiary bank. The next major milestone will be reached during the third quarter of 2013; As of end of August, all pre-requisites will be met by SIC<sup>4</sup> to handle an entire processing of a clearing day, including daily start-up and day-end processing.

### Systematic quality control

Right from the start, the project team is investing considerable effort in the areas of continuous integration, automated testing and quality assurance. New software components are adopted several times a day, and the complete system is complemented and fine-tuned. Each night, approximately 2500 test cases are executed automatically within the testing system, automatically reconciled with the desired results and the findings reported back to the software engineers. In doing so, the project team achieves a high level of test coverage of business-relevant user cases. In parallel with this process, there is daily performance testing, simulating entire settlement days, measuring the throughput and comparing it with targeted values. A settlement output of 2 million payments per hour, synchronized data mirroring over 80 km without data loss and a 99.97% availability are mandatory non-functional requirements.

### Well underway

Statistics show that only 32% of all IT projects of this magnitude are successfully brought to conclusion in

reference to time, budget and use. In light of those numbers, it is not self-evident, that this project is doing so well.

If one takes a closer look at why IT projects fail, the same reasons seem to surface. The five most prominent reasons are “communications difficulties,” “unclear requirements,” “no teamwork culture,” “underlying conflicts,” and “lacking trust.” With the understanding that these perils may crop up anywhere, SIX Interbank Clearing has invested a lot into the project setup. The general and detailed concepts were developed in cooperation with the SNB and staff members of the financial institutions represented on the SIX Interbank Clearing Board of Directors.

**SIC<sup>4</sup>**  
 Neue SIC-Architektur  
 New SIC Architecture  
 Nouvelle architecture SIC

The requirements SIC<sup>4</sup> has to meet are thus clearly defined. The company underwent an internal (structure) change, supervised by an external consultant, since the entire development department had to be turned upside down. The intention was to introduce the new software development framework “Scrum”, and to integrate external developers into the newly defined Scrum teams. During bi-weekly meetings with the management members, questions covering the widest array of project-related topics are discussed openly. In round-table discussions, a solid solution is developed jointly for every problem; this solution is then appropriately dealt with by project communication – in-house and externally. A working group founded specifically for the NSA project meets regularly with banking representatives in order to guarantee customer focus at any given time, while a monthly bilateral meeting with the SNB was introduced. And finally, the NSA project is a permanent agenda item for the quarterly Board of Directors meetings, thus guaranteeing that necessary decisions are made quickly.

**Jean-Pierre Groner, NSA Project Manager**

jean-pierre.groner@six-group.com



## Migration of Swiss payment traffic: Implementation started

The Board of Directors of SIX Interbank Clearing Ltd (BoD) gave their definite approval of the migration of Swiss payment traffic in December 2012 and have begun the implementation measures. Financial institutions should plan their budgets this year.

Europe is standardizing its payment traffic to SEPA by 2016. Consequently, the national schemes, standards and formats in the EU and EEA will become obsolete. With the harmonization of its payment traffic, European policy makers anticipate promotion of domestic economic activities, greater transparency and competition as well as around 50% in cost savings among the parties involved. In this context, the Swiss financial center has analyzed solution options for the past three years regarding modernization and standardization of national payment traffic. After commissioning a study, the BoD made a fundamental decision at the end of 2011 regarding the harmonization of Swiss payment traffic and its convergence with the European rules. Detailed concepts for the sectors credit transfers, uniform payment slip with QR code and direct debits were subsequently created. Based on these, the financial center approved the implementation at the end of last year.

### Credit transfers based on ISO 20022 as of 2016

The implementation project for the preparation of the

infrastructure necessary for operation of the Swiss credit transfer scheme based on ISO 20022 are in full swing. The goal is to switch the system participants to the new SIC<sup>4</sup> infrastructure in autumn 2014 (euroSIC) and SIC and PostFinance a year later (see the article on page 10). From March 2016 to mid-2018, all financial institutions must migrate their payment traffic to the ISO 20022 message standard, a requirement that is independent of the start-up of SIC<sup>4</sup>. System participants can begin their institution-specific preparation work and implementation projects on the basis of the Implementation Guidelines for interbank messages, which will be completed by the end of 2013. It is important that the banks requisition the necessary IT budgets and resources for this in 2013.

### New uniform payment slip with QR code as of 2018

After the Swiss financial center decided last year to replace the current orange and red pay-in slips with a new uniform payment slip with QR code, implementation work has also begun in this area. Towards this end, a prototype of the new slip was created which will be tested extensively in the third and fourth quarters of 2013. The dimensions and design template will be published by the end of the year. Also in progress is the revision of the general conditions and rules for the new bank-specific procedural handbooks and the affected text passages in the Technical Rules and Regulations for payment system applications. Information

Empfangsschein / Récépissé / Ricevuta	Einzahlung Giro / Versement Virement / Versamento Girata
<p>Einzahlung für / Versement pour / Versamento per</p> <p><b>PostFinance</b> 3030 Bern</p> <p>Zugunsten von / En faveur de / A favore di</p> <p><b>Robert Schneider SA</b> Grands magasins Case postale 2501 Biel/Bienne</p> <p>Konto / Compte / Conto</p> <p>CH28 3000 0000 0100 0162 8</p> <p>CHF</p> <p>3949 . 75</p> <p>Einbezahlt von / Versé par / Versato da</p> <p><b>Rutschmann Pia</b> Marktgasse 28 9400 Rorschach</p> <p>Die Annahmestelle L'office de dépôt L'ufficio d'accettazione</p>	<p>Einzahlung für / Versement pour / Versamento per</p> <p><b>PostFinance</b> 3030 Bern</p> <p>Zugunsten von / En faveur de / A favore di</p> <p><b>Robert Schneider SA</b> Grands magasins Case postale 2501 Biel/Bienne</p> <p>Konto / Compte / Conto</p> <p>CH28 3000 0000 0100 0162 8</p> <p>CHF</p> <p>3949 . 75</p> <p>QR Code</p>
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Prototype of the new Swiss uniform payment slip with QR code

material for financial institutions and software providers shall also be made available. On this basis, the banks can prepare the necessary adaptations – e.g. in their scanning infrastructure or in online banking.

The uniform payment slip contains an array of innovations. Only the IBAN of the ultimate creditor will now be printed on the slip. This also replaces the former ISR participant number. A defined section of bank clearing numbers will be used for recognition of the ISR procedure. The former encoding line will be replaced by the new QR code, which contains more characters and information (including the payer's data). This information will be transmitted to the ultimate creditor during the payment preparation. Instead of the former 27-digit ISR reference number, the international standardized alphanumerical ISO reference will now also be used.

The new slip cannot be introduced to the market in 2015, as originally assumed, but in 2018. The reason for this is the incompatibility between the new slip and today's commonly used messages and formats. Correspondingly, before the uniform payment slip is launched, all financial institutions will have to convert the customer payment channels and the connection to SIC and PostFinance to the new ISO 20022 messages. Only in this way can they be prepared for the new fields and formats necessary for the end-to-end processing of the new slip. Alternatively, customers and financial institutions would have had to make adaptations to the current infrastructure with an intermediate release, which was deemed to be uneconomical by the financial center.

With the introduction of the new slip, the banks can further improve their scanning rates, which are already very high, and implement the anticipated regulatory requirements. Payers can scan the slips with their smart phones which transfer the data directly to the mobile banking application, where they can be approved for payment with the press of a button – as long as the bank offers the appropriate infrastructure. Corporate customers, in turn, can improve their logistics by using the space available to the biller in the QR code, such as for dispatch information to control their output. This represents added value for customers and the financial center alike, which justifies replacement of the orange and red pay-in slips.

#### Harmonization of direct debit schemes in 2017

The decision regarding direct debits proved to be the most difficult one right from the start. On the one hand, there was already a need for harmonization measures in this area

because the financial center currently operates five different direct debit schemes. Convergence with the European standards was considered sensible because there are major differences between the SEPA Direct Debit scheme and the current LSV<sup>+</sup>/BDD schemes. On the other hand, LSV<sup>+</sup>/BDD and the SEPA Direct Debit Service were only recently introduced.

At the end of 2012, the BoD decided that, in addition to the approach involving migration to the SEPA Direct Debit

### The two solution options

With the *CH-DD approach*, the three domestic direct debit schemes would extensively converge with the SEPA standards and adopt its rules and processes for direct debits in Swiss francs. With one major difference – particularly regarding the Swiss banks' direct debit schemes – mandates will be retained among creditors and new rights to object and reversal process will be introduced. In this approach, the focus lies on the harmonization of all direct debit schemes used in Switzerland. The e-billing schemes operated by SIX and PostFinance will continue to exist unchanged in parallel operation.

With the *E-bill/Direct Payment approach*, e-bills and Swiss direct debits will be combined in a single system. Billers can deliver them to the e-billing system. If the payer chooses an e-bill, it will be presented to him as accustomed in his/her online banking system. There, the payer can approve or reject it, or even automate the approval using self-defined criteria (standing release). If the payer chooses Direct Payment, he will be informed of the amount owed by the biller just as with the current direct debit procedure (e.g. with a written notification), and the bank will debit the payer the amount owed on the due date from an account defined when he signed up for the service. If he chooses Direct Payment with right to object, he is then entitled to object as is now possible with the current LSV<sup>+</sup> and Debit Direct. with Business Direct Payment (similar to today's BDD), the payer has no right to objection. The focus of the E-bill/Direct Payment approach is on harmonization of the Swiss e-billing and direct debit schemes. The SEPA Direct Debit Service (for euro) will remain in parallel operation.

scheme with Swiss flavor (Swiss Direct Debit or CH-DD), they would review a further solution based on the e-billing scheme (E-bill/Direct Payment). Consequently, in the first half of 2013, the financial center evaluated a potential migration of the current direct debit scheme to E-bill/Direct Payment.

Selected bill collecting parties were surveyed to get a sense for the acceptance of the two approaches. When choosing those to be surveyed, care was taken to ensure that relevant companies from the widest possible variety of sectors with wide-ranging needs were included.

Based on the positive feedback received, the financial center decided to further elaborate the E-bill/Direct Payment approach. Through the summer, in-depth legal clarifications will be undertaken, cost estimates made and a detail concept created. The goal is to present the two approaches in comparable detail for the BoD meeting in September. The BoD will make its decision on this basis.

## ISO 20022

The International Organization for Standardization (ISO) defines the message standards for the wide-ranging needs of the financial industry worldwide, including payment traffic and cash management. The European Payments Council (EPC) uses the ISO 20022 standard as the basis for the SEPA Credit Transfer and Direct Debit schemes. The country-specific characteristics are taken into consideration in the respective national implementations. In Switzerland, the use of ISO 20022 in the customer/bank and interbank areas is determined by interbank committees with experts from the Swiss financial institutions and draws heavily on the SEPA definitions. Technical rules and processes for credit transfers, direct debits and cash management are set in the so-called Business Rules. SIX Interbank Clearing and PostFinance will gradually prepare the infrastructure in the interbank sector on the basis of ISO 20022. Upon completion of the conversion phase, all Swiss proprietary standards (e.g. DTA, EPO) will become history.

### Consequences for the overall system

The migration of the Swiss payment traffic initiative will significantly change the overall system. With the use of ISO 20022 as the new technical foundation, the harmonization of schemes, the standardization of formats and the introduction of the new payment slip, no stone will remain unturned. Financial institutions must ensure processing of ISO 20022 in their core payment traffic and peripheral systems (e.g. account system) and upgrade their customer interfaces (e.g. online banking) and their financial market interfaces (e.g. SIC and PostFinance interfaces).

Consequently, customers must update their ERP software in the course of the migration and place new interfaces into operation. Software providers are developing new versions that support ISO 20022 in Swiss payment traffic. This is not taking place as an end in itself. Through the migration of the Swiss payment traffic initiative, redundancies will be eliminated, complexity reduced and thereby costs will be significantly lowered.

The financial center is convinced that the long-term competitiveness of Swiss payment traffic can be ensured with this initiative, a future-oriented technical foundation can be created and the needs of customers and regulators can be met.

## Brief roadmap

By autumn 2015, SIX Interbank Clearing and PostFinance will place their new infrastructures for credit transfers based on ISO 20022 into operation. In spring 2016, the banks will begin migrating to ISO 20022 and should be finished by autumn 2017. The new uniform payment slip will be placed in circulation after that. Both the current orange and red pay-in slips and the new slip will be processed during an 18-month parallel phase. As of the beginning of 2020, only payments with the new slip will be possible. The new infrastructure for direct debits will be prepared by 2016. Once it is placed in operation, the migration of the financial institutions will also begin in this area, and be complete by 2018. See [www.migration-pt.ch](http://www.migration-pt.ch) for further information.

Roger Mettier, Credit Suisse, Head of the WG. Migration PT CH for the Swiss financial center, Swiss representative in the EPC's SEPA Payment Schemes WG  
[roger.mettier@credit-suisse.com](mailto:roger.mettier@credit-suisse.com)



## Mortgage and registrar business in an e-world

For the first time, beginning in early 2012, it has become possible to electronically process real-estate business between Swiss banks, notaries and registrar offices without software uniformity, thanks to Terravis. These transactions also include credit transfers between banks, which can be processed via the SIC interbank payment system. The Terravis platform was realized by SIX on behalf of the Federal Office of Justice within the E-Government Strategy Switzerland framework.

Banks, insurance companies and retirement funds process approximately 100,000 credit transfers or refinancing transactions on mortgage loans annually, and a similar number of real estate sales. Before this, the paperwork was processed manually and was not standardized. Some of the reasons for this have their basis in the complexity of the transactions, regional characteristics at the legal and/or the procedural level, and the lack of electronic connection between the parties involved. Last year, with the introduction of electronic business processing for mortgages and registrar transaction processing in the first three cantons (Thurgovia, Uri, Basle-Country), lasting change started ushering in a new era. As of 1 July 2013, the canton Berne will be connected as well.

Patterned after financial transaction processing and automated payment traffic, the Terravis platform processes mortgage refinances between financial institutions electronically, step by step, and in real time. As soon as the specific requirements are met, such as obtaining the hard copy of a deed of trust or promissory note, or the subrogation of a registry promissory note in the title register, a value date-SIC message (MT F10) corresponding to the irrevocable payment order is sent to the SIC system. Using



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the SIC transaction process confirmation the participating banks can internally post the transaction to the mortgage accounts. Starting in 2014, the same concept will be used for change in ownership.

The Terravis processing platform structure is extremely multi-faceted and complex. The design of the appropriate legal and technical bases within the federal environment alone was very time-consuming and intensive. Additionally, definitions of cross-canton processes and implementation of the corresponding interfaces at banks and registrar offices posed significant challenges for all parties involved. As a result of this, not all cantons could go live at the same time, which, in turn, made for another challenge for everyone during the design phase. These circumstances lead to the modest volume of SIC transactions that will be processed via Terravis until 2014. On the other hand, with Terravis acting as the interface between the state and the economy, the potential in the area of E-Government is clearly demonstrated – on behalf of the Federal Office of Justice and in close cooperation with the cantons. Already, several other stakeholders have voiced their interest in processing existing business transactions via Terravis in the future.

**Dominique Rohrbach, Manager Financing Processing, Thurgauer Kantonalbank:**

"After processing a relatively small number of transactions with Terravis during the original pilot phase, the number of electronically processed business transactions has increased steadily since the area-wide rollout for the Canton Thurgovia. Our staff recognizes the benefits and the potential in electronic day-to-day business. The processes can be streamlined and designed more efficiently than with the old hard-copy system. Thus, certain steps can be omitted, such as manual monitoring of reimbursements, when using the automated payment release via SIC."

**Werner Möckli and Walter Berli, SIX Terravis**

werner.moeckli@six-group.com

walter.berli@six-group.com

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## **Council**

Patrick Bürki, PostFinance, Boris Brunner, UBS AG, Susanne Eis, SECB, Martin Frick, SIX Interbank Clearing Ltd, Andreas Galle, SIX Interbank Clearing Ltd, André Gsponer (Leiter), Enterprise Services AG, Gabriel Juri, SIX Interbank Clearing Ltd, Roger Mettier, Credit Suisse AG, Jean-Jacques Maillard, BCV, Silvio Schumacher, SNB, Rafik Yezza, Liechtensteinischer Bankenverband

## **Editorial Team**

André Gsponer, Enterprise Services AG, Andreas Galle, Gabriel Juri (Leiter) und Christian Schwinghammer, SIX Interbank Clearing Ltd

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## **Contact**

SIX Interbank Clearing Ltd  
T +41 58 399 4747

Additional information about the Swiss payment traffic systems can be found on the Internet at [www.six-interbank-clearing.com](http://www.six-interbank-clearing.com)



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