



SWIFT White Paper

In response to RBA consultation paper on
Innovation in the Payments System, June 2011

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IMPORTANT

This document is in response to issues and questions raised by the Reserve Bank of Australia (RBA) in its "Strategic Review of Innovation in the Payments System, Issues for Consultation, June 2011". We appreciate and thank the RBA for an opportunity to provide input and welcome any comments or questions. If you have any feedback please contact SWIFT through any of the indicated individuals.

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1 Executive Summary

SWIFT is associated with high value, cross border payments and market infrastructures. We view this submission as our opportunity to demonstrate the extent to which convergence in the payments field has enabled SWIFT to extend deeply in to the low value payments environment. Exposure to and experience in 209 markets around the world has given us a point of view on the issues facing Australia that is summarised below:

- Innovation is insurance against legacy getting the better of us. As such, it has a place in the goals and governance of the payments system.
- As an industry, we need to create an environment that fosters managed evolution. At the moment, our environment tolerates small changes at a snail's pace or dangerous and costly "big bang" projects
- The very thing that makes us safe and strong also makes us slow, making the legacy more invidious. We think a new model is required to find ways to reduce the cycle time in development
- Our current tools and frameworks are failing us even while technology and other markets offer examples of new tools and frameworks.

Our paper makes suggestions along the following lines:

- We outline steps to take to engender "managed evolution" that works faster than social Darwinism
- We identify "no regrets" steps to take now
- We acknowledge that the search for consensus takes longer than individual action and that leadership is required in each domain

We see a role for ourselves for the following reasons:

- SWIFT has tools and capabilities developed that can be taken "off the shelf"
- SWIFT has been working in complex environments engaging multiple stakeholders with competing interests for a long time
- SWIFT has demonstrated an ability and willingness to deliver services that meet the needs of local markets

This paper is designed to be a starting point for discussion. We are keen to discuss and debate with energy and commitment, even while suggesting that we begin framing an action program now.

2 Introduction

SWIFT is delighted to provide its thoughts on the issues raised in the Reserve Bank of Australia's *Strategic Review of Innovation in the Payments System, June 2011*. The consultation process provides a good opportunity to explore a broad range of issues and implications for the payments environment in Australia. The Payments System Board of the Reserve Bank is well placed to facilitate the discussion of these issues.

SWIFT is of the view that innovation is not just a "nice to have" in the Australian environment, but that it represents the most sensible form of insurance against the cost and rigidity of "legacy" in the business and technical architectures of both individual institutions and the collection of participants that make up the payments system. All complex, network systems suffer from the legacy of prior development and reform. Australia is no exception.

We see rigidity in the business architecture of the Australian payments framework that both engenders and is also the product of technical rigidity. This is a classic "legacy" problem and the temptation is to "work around it". This is actually a high risk strategy as it adds to the complexity and rigidity of the broad system, rather than tackling these attributes in a controlled fashion.

We believe the community should build a bit of new road and establish a roadmap that will give participants options for unwinding and re-working the business and technical architectures in a "managed evolution". The use of the term "roadmap" includes some very important elements: Signposts, terrain, distances, and alternate routes. Lots of different vehicles use both the roads and the map. The current environment is akin to a road network with potholes, uneven lighting, cloudy signals and inadequate signage, with too many "lollypop men" controlling sections of the road without an overall pattern of control for the entire network. It could be argued that the available maps on sale are also out of date.

"Managed evolution" requires a new way of thinking and working. The concept of innovation is helpful in describing this new way, but it is only part of the story. The purpose of this white paper is to share the perspective derived from SWIFT's experience in Australia and other markets and suggest key steps to begin a "managed evolution".

2.1 Themes underpinning our point of view

2.1.1 Innovation

Innovation is elusive. We know it when we see it, but organising for it is difficult. It is closely related to change, but it implies improvement and/or advancement. It has a slightly different connotation to "reform", and it includes an implicit element of "speed" or immediacy.

As a desired attribute for the Australian payments framework, innovation may perhaps represent the antithesis of the defining attributes of today's Australian payments system. Today's system is:

- Robust
- Secure
- Tested
- Resilient

Innovation usually comes from small groups of committed players (individuals or institutions) and needs an environment that tolerates failure, preferably fast failure. Innovation comes from flexibility that allows experimentation, often from new entrants. This contrasts directly with Australia's current payments environment that necessarily, operates in a disciplined framework that focuses on performance, reliability, safety and controlled risk. To pursue the road analogy a bit further, roads and vehicles need standards of road worthiness to be safe.

Ironically, innovation also requires an element of clarity and certainty in the environment. This is an important domain for the regulator. This clarity is akin to the signposts and signals on the roads. Terrain, distance, fuel are inputs to the "business cases" that the community and individual institutions must fit in to their investment cycles.

2.1.2 Convergence

If we turn to the basic frameworks of payment intermediation, whether we are talking about the traditional four-corner model, or a three-corner model, we find that all exchanges of value, regardless of size, underpinning economic rationale, channel, or instrument share common elements.

It is this universality, combined with enabling technologies (both technical and process), that creates opportunity for consolidation and convergence. One of the key convergence points is the settlement of retail payment risk through wholesale settlement systems.

This convergence means that many of the distinctions we've drawn (retail payments, wholesale payments, international trade transactions, securities settlements, cheques, cards, debit, credit) to manage these environments are no longer serving us well. New distinctions are presenting themselves: non repudiation, risk, timeliness. The nature of the end user, the channel being used and the size of the transaction no longer provide the only defining characteristics of a payment. Our management frameworks need to adjust to these changes.

2.1.3 Business and Technical Architecture

In yet another example of a chicken-and-egg problem, it may be worth asking, "Which comes first, business or technical architecture?" There is no doubt that the two impinge on each other at every turn. By business architecture, we mean the rules, processes, roles and responsibilities that use the various technical capabilities to deliver outcomes. In this case, the outcomes are the successful exchanges of value that underpin economic life, payments. The technical architecture is that assembly of computer systems, platforms, communications networks that support the processes. Legacy thinking in either domain affects the choices in the other. Time, the investment cycle and inertia conspire to create rigidity in both domains. Without the requisite attack on the business architecture, a shiny new technology is hobbled. Similarly, bringing new thinking, roles and processes to life without adjusting the technical underpinnings is a recipe for hollow rhetoric.

The consultation paper raises issues and questions in both these domains, with a unifying question, "what does the Payments System Board of the Reserve Bank need to do to foster innovation in Australia's payment system?"

Both the business and technical architectures supporting Australia's payments framework are complex. Participation, interest and risk are high. The network effects mean that everyone has an interest in, or opinion about, what everyone else is doing. And, issues of competitive advantage and leveraged cooperation provide an extra patina of excitement. Negotiated, committee outcomes moving at the pace of the slowest ship in the convoy are likely to deliver sclerosis, rather than innovation.

So, the Strategic Review raises important questions at a timely juncture. Even if the broad system "ain't broke", the technical and social drivers in the environment external to payments mean that the payments community should apply resource to ensuring that the current frameworks can keep pace. Having said that, the need for stability, security, reliability and performance means that introducing changes to the business and technical architecture needs careful thought and, to improve its likelihood of success, needs a strategic orientation that creates the right conditions and signals to engender change without necessarily mandating a "big bang".

2.2 A new model for "managed evolution"

2.2.1 Approach for the business architecture

The overarching element of this business architecture framework concerns roles, responsibilities and the data for evaluating the choices facing the community.

Logical separation of business architecture and technical architecture

We need to think of the elements in the payments system as building blocks that can be consolidated or combined in different ways. SWIFT has seen other markets, especially in Europe, separate the rules and governance, the "business architecture" from the platform and operations. At a minimum,

there is a “logical” distinction to this separation, even if the ownership and governance resides in the same entity. In Australia, of course, APCA is the business architecture for clearing and settlement in some streams, BPay now consolidates both the business architecture (scheme) and operating platform, ePAL is evolving to a new model and SWIFT bridges both domains.

Interbank settlement is a building block, communications is a building block and message and security standards are building blocks.

There are important roles and responsibilities in the business architecture, as well.

Critical roles

By definition, interbank settlement risk can only be extinguished on the books of the central bank. This makes the business architecture for interbank settlement the unique domain of the central bank. Historically, central banks have been more concerned with the high value risks associated with large payments, cross-border, Herstatt-style risks and ensuring orderly financial markets. While the Global Financial Crisis engendered broad and detailed reviews everywhere of the role of the regulator, the incidental risks associated with low value payments have been easy to push aside. In the fine tradition of convergence, there is an opportunity to bring some of the thinking and discipline from the traditional, high value, cross border settlement issues to bear on the practicalities of interbank settlement for smaller value payments.

Competition occurs between participants in the payments system. Australia decided long ago that the Reserve Bank and the Payment Systems Board, as regulators, should not compete with the participants they oversee in the provision of services to end clients. There remain a few exceptions to this, but the principle is understood and agreed.

Fostering an environment for innovation isn't the same thing as managing innovation. The regulator has a role in creating an environment that fosters competition, success, performance and failure while the broader legal framework protects consumers. But, we could argue that it doesn't have a role in designing new products.

As a participant in the payments system, with an eye on its orderly function, the Payments System Board has an ability to decorate the roadmap with key signposts and may have an obligation to keep the roads passable. It doesn't have an obligation, however, to ensure everyone has a fast car or profitable trucks. And, building roads is a role undertaken by both government and by the private sector. As innovation requires a certain kind of clarity and certainty, there is an opportunity for the Payments System Board to clarify the circumstances under which it will and will not intervene.

Data to inform choices and drive cost efficiency

Performance, costs and associated price signals are powerful tools in evaluating which parts of the Australian payments system warrant attention, and in which sequence. Individual institutions know their costs and create price signals, as well as bundling offers to clients. Data on volume and costs in the “shared infrastructure” of the payments system is uneven and usually hard to come by. It does not have the quality of readily available metrics for decision making. This makes the kinds of choices about focus and priority facing system participants difficult.

Price signals are not always just a function of costs. They occur in a spectrum of consumer choices and allow incentives for behaviour. Price signals to end customers are, and should remain, the domain of individual participants in the payments system.

Occasional market volume and share insight, like that provided by the most recent Roy Morgan survey, needs to be tempered by associated insight into momentum and growth. Momentum and growth is a function of many things, largely the product availability, information, price signals, promotion and training delivered by participating institutions to their customers.

To that end, on-going data collection and review of system metrics need to be introduced and shared to provide a framework for making choices like the ones outlined in the consultation paper. Under what circumstances should cash be replaced? Are the costs of cheques too high to bear? Unless these choices are data-driven, the complexity of the environment will make them extremely difficult to implement.

Furthermore, without visibility and a shared understanding of costs in the common infrastructure, it is not possible to build the kind of coherent, cost/benefit cases (for the payments community or for

individual participants in the community) to drive take-up and migration to a different set of structures and processes.

Greenfield approach to managed evolution

There are two elements to our “greenfield” thinking for managed evolution. The first is the establishment of a flexible messaging platform, a hub, to provide interoperability using ISO 2022. The second is the creation of an associated “sandpit” that uses the hub to enable innovation.

The messaging platform can support a variety of communications formats and protocols. This capability enables the establishment of a “sandpit” which would allow flexibility for experimentation. Experiments can occur in the “sandpit”. Use of the “sandpit” and/or migration to the hub by new or established players can be handled over time, while watching the shared metrics to establish how the “mix” is evolving. This will inform ongoing policy and priority choices.

2.2.2 Approach for the technical architecture

Natural evolution of payments products and systems in Australia has resulted in multiple messaging standards, networks, interfaces and processes per payment mechanism. Over time, these technologies have become embedded in the ‘woodwork’ of the payment participants’ environments. Change within these legacy systems is extremely complex and costly and ultimately act as a hindrance to innovation.

Technical architectures should to be decoupled from business architectures and designed in a way to flexibly support the adoption of innovative new technologies and payment schemes. SWIFT recommends that the following technology architectures become guidelines for any new payments system innovation(s):

- **ISO 20022** – The ISO 20022 standard provides a common platform for the development and maintenance of messages. It, too, decouples business logic (in the form of UML) from technical syntax, thus affording flexibility at the system level. The XML language is frequently used for technical implementation of this standard, and it also is flexible (or eXtensible) and is able to carry much richer information, such as additional remittances info along with the payment instruction.

In Australia, APCA and other industry representatives have been working on an ISO20022 ‘template’ and market practice for Low Value Payments. The SWIFT Standards department also recently conducted a workshop with the same working group to capture the Australian requirements for an ISO20022 template in the High Value Payment (RTGS) space. There are already examples of ISO20022 payment implementations in Australia in the Corporate to Bank space. The move towards the ISO20022 standard gathers pace each year.

SWIFT strongly recommend that ISO20022 standards underpin any new payments systems in Australia.

- **Hub based models** – There are various definitions of what constitutes a ‘Hub’. SWIFT’s use of the term defines a flexible messaging platform that affords interoperability between a variety of formats and protocols. When taken in this context, SWIFT is a ‘Hub’. Hub connectivity allows for the centralisation of complex but standardised processing and this reduces complexity at participant infrastructures. A hub allows new participants to be added or removed without adversely impacting the existing community. This supports the process of fast and painless failure that is needed for experimentation and innovation.

SWIFT recommends that any new payments system in Australia be based on a ‘Hub’ model coupled with the use of ISO20022 standards to allow for interoperability with other systems, networks and standards.

- **Connectivity choice** –participants within a payments system do and should have multiple connectivity choices depending on their volume, security, resilience and cost requirements. In recent times, the RBA has facilitated choice for LVP clearing through its RBA Clearing Interconnector which enables payments traffic to pass between COIN and SWIFT.

As with other markets, Australia has disparate payments schemes and systems that speak different languages using different instruments. Each serves a specific segment and is designed with that purpose in mind. This results in a fragmented payments landscape that is

complex for the regulator, operators, participants and end users. Rather than mandating uniformity and integration, other markets look to provide an interoperable foundation through a messaging platform such as SWIFT. Typically, SWIFT is one of a financial institution's most critical infrastructures and as a result the connectivity in place is extremely secure and resilient. SWIFT also allows for multiple types of connectivity ranging from internet-based token connectivity through to multiple redundant leased-line installations.

With the use of ISO 20022 such a foundational messaging platform in Australia would support the early adoption, quick integration and least disruptive fast failure of innovative new systems and schemes.

2.3 Assembling the elements to deliver a new model

- Introduce “innovation” as a valid goal for payments systems governance, but don't wait for adjustments to the governance bodies to build a new bit of road
- Mandate ISO20022 as the message standard for new systems as a “no regrets” step for Australia
- Focus on developing rules for settling intra-day batches of payments as a priority (within the week and over the weekend, managing liquidity over the week-end by limiting values of batches)
- Create a green field physical mechanism to foster connectivity, standards and interoperability and call it the flexible messaging platform or “hub” (or the new highway bypass, to continue the road analogy)
- Introduce “sandpit” thinking. The interoperability of the flexible messaging platform enables innovation, experimentation and “fast failure” by delivering a “sandpit” that people can opt into or out of
- Costs of the hub and the sandpit are visible and shared with all participants. Straight Through Processing (STP) metrics are critical indicators. This allows on-going evaluation by participants of the cost/benefit of a migration program for their own activity
- Use “off the shelf capability” to get a physical mechanism into production as quickly as possible

2.4 SWIFT and the financial community

SWIFT, the Society for Worldwide Interbank Financial Telecommunications, is a member owned co-operative society formed in 1973. Our members include banks, financial institutions, central banks, clearing houses, broker-dealers and investment managers. More than 9,000 members and customers in 209 countries trust us every day to exchange millions of standardised financial messages and support their critical market infrastructures. Increasingly, these financial messages concern domestic exchanges of value, as well as international, cross-border payments.

Our role in the financial community is two-fold. We provide the proprietary communications platform, products and services that allow our customers to connect and exchange financial information securely and reliably. We also act as the catalyst that brings the financial community together to work collaboratively to shape market practice, define standards and consider solutions to issues of mutual interest. It is in this capacity, as a trusted partner and community facilitator that we respond to the issues for consultation raised by the Payments System Board in its paper.

Engaging the community

It is the involvement of our members and customers as part of a dynamic community that gives SWIFT its unique strength. SWIFT actively collects feedback from the broader SWIFT community to facilitate and bring to market solutions that benefit all. Traditional financial institutions, regulators and more recently corporates have been using SWIFT to discuss pressing

issues and resolve them. SWIFT has a new customer-centric organisation to be more in touch with the needs of the different geographical markets through its three regions – Asia Pacific, EMEA, and Americas, while still maintaining the global scale that is fundamental to SWIFT business.

Close at hand

SWIFT Headquarters are established in La Hulpe, Belgium. It has a significant presence in the Asia Pacific region with currently 8 offices in the region, including a presence in Sydney since 1993. SWIFT has been serving the Australian financial community since Australia joined SWIFT, in 1981.

Pricing to maximise usage and benefits to the community

SWIFT's main business model is based on economies of scale. SWIFT and its members enjoy a virtuous cycle of clear price signals, increasing traffic and declining unit costs. Over the past ten years SWIFT message prices have been reduced by over 80%, and we are committed to driving down prices further in the next 5 years. High-volume customers are able to opt for a fixed fee pricing scheme which allows increases up to 50% of the current volume base without additional cost. This allows predictable planning and cost control.

Unique resilience, reliability and availability

SWIFT consistently delivers quantifiable business value and proven technical excellence to its members through its comprehensive messaging standards, the security, reliability and 'five nines' availability (99.999%) of its messaging platform and its role in advancing STP.

SWIFT prides itself on never having lost a message. With more than 40 billion messages since its inception, that's saying something!

The results of a recent customer survey confirmed that SWIFT customers continue to place significant value on the core strengths of SWIFT – security, reliability and resilience – and that SWIFT continues to deliver to their high expectations in these areas.

2.5 Our strong presence and history in Australia

Since 1981 SWIFT has been a critical service provider and partner to the Australian financial community. Since connecting the first group of banks in November 1982, the use of SWIFT messaging and standards services has increased considerably. There are currently 104 financial institutions in Australia connected to SWIFT that sent in excess of 79 million messages over the SWIFT network in 2010, a 6% growth over the previous year. Australia is currently ranked 11th globally in terms of FIN messages sent, and is second only to Japan in Asia Pacific.

SWIFT actively engages in the Australian financial community through the National User Group, National Member Group and with annual business forums and other events, where industry issues and trends are discussed and updates are given on SWIFT initiatives and developments in banking, securities, standards and technology.

Australia is also represented at the international Payments Market Practice Group, which holds regular SWIFT standards meetings in Australia. Finally, Australia is represented on SWIFT's Board of Directors by virtue of its ranking within the top 16 countries contributing to SWIFT's global messaging revenue.

2.6 SWIFT's contribution to further payments innovation in Australia

SWIFT has partnered with and supported several domestic and regional payments systems. The framework we propose uses the following elements from SWIFT's services:

1. ISO 20022 delivers a message standard that improves efficiency and enables interoperability. SWIFT has extensive experience in using the power of this standard to address local market practices.
2. SWIFT's agnostic and reusable end-to-end messaging platform supports the exchange of information with fit for purpose, state of the art technology. The platform supports information exchange organised as a hub and spoke, or a bi-lateral exchange..
3. Straight through processing (STP) is the key, universal metric, for cost control and efficiency. It applies equally to the broad spectrum of international bank payments and to domestic person-to-person payments. SWIFT's kit bag for STP contains international standards, integration and translation tools.
4. SWIFT has managed to foster and facilitate innovation in a streamlined and non-disruptive manner by leveraging experience and expertise in other markets. We are learning from our broader efforts with Innotribe and other innovation efforts (which also provide funding for innovative projects such as mobile payments, digital identity in the cloud, and others), and are keen to share this in Australia.
5. Similarly, SWIFT is a mechanism to export Australian payments innovations to the global financial industry through SIBOS and other events.

3 Evolution of payment systems

3.1 Retail payment systems

Retail (or low value) payments systems have traditionally been designed for large volumes of traditionally non time- critical payments and collections, such as salaries, pensions, bills, retail payments, debit card payments and cheques. Besides the specificities of each payment product in terms of business and operational scheme rules, low value payment systems in all countries target scale, efficiency and enhanced service levels in a business where payment margins are very low, but the role of payments is central to the value proposition to the end customer.

3.1.1 Scale and efficiency

In our experience, domestic and regional payments communities have followed a variety of strategies to reduce payment processing costs. The following table outlines these strategies, which are used in a variety of combinations, to drive outcomes.

<i>Volume scalability to reduce cost</i>	Low value payment systems are created with the objective of reducing the electronic payments processing costs for the financial industry and provide efficient and secure payments to consumers and small businesses.
<i>From bilateral to Multi-lateral clearing</i>	While some bank communities still clear low value payments bilaterally, many banking communities have adopted multi-lateral netting and clearing services through a central processing platform that routes payments, calculate net positions and even check for anti-money laundering (AML).
<i>Multi-scheme and multi-channel</i>	When volumes do not justify a payment system per instrument, countries opt for a consolidation of the payment systems across instrument schemes (credit transfer, cheques, m-payments) and values (retail and high value interbank payments) while ensuring the highest levels of liquidity risk management, security and resiliency.
<i>Unbundling of payment scheme and operations</i>	Regulators and operators have unbundled payment scheme management from payment system operations. Under competitive pressure, some domestic payment systems have been known to offer their services cross border at regional and international level. Furthermore, this separation allows scheme management to engender competitive tension in the provision of payment systems operations.
<i>Towards international standards</i>	The continuous increase of the global trading business and cross-border remittances have encouraged payment systems processors to seek out interoperable messaging solutions with common standard formats for both domestic and international payments.
<i>Membership extension</i>	Finally, countries have extended the membership and access to payment systems beyond the banks, to regulated payment services providers and corporates. Direct participation reduces intermediaries, complexity and costs for all, and ultimately provides better service to end customers.

3.1.2 Enhanced service levels

<i>Secure batch files exchange</i>	Low value payment systems have been designed to clear payments at regular time intervals, typically in batch files with low priority, but with a reliable settlement execution.
<i>Message-per-message Near real time</i>	With the modernisation of the communication and technology infrastructures, there is an increasing consumer demand and regulatory pressure for shorter settlement cycles (e.g. D+1) and even near real-time or immediate payment execution (e.g. debit card payments, urgent “high priority” payments).
<i>Transaction monitoring and control</i>	Payment systems processors are enhancing their services portfolio with enhanced transaction life-cycle monitoring (statement reports, cancellation requests, inquiries) and better liquidity and operational risk management (monitor and control the cash positions and liquidity).
<i>Richer transaction information</i>	Payment systems diversify revenue with new value-added services in the value chain (e.g. e-invoicing, daily and monthly statistical reports on business evolution) and in-source payments capture, accounting and warehousing for direct and indirect participants.

3.2 High-value payment systems

The purpose of an high value payment system (HVPS) is to provide irrevocable high value payment settlement with finality focusing on a) security and resilience to support time-critical payments; b) on cost efficiency to have the right trade-off between risks and cost; and c) on liquidity optimization by early finality, easy collateral coverage and better liquidity control through cash management services.

HVPS, administrated by central banks or bank associations, are modernising their payment systems, and looking to strengthen them and/or enlarge their scope to increase efficiency, reduce settlement risk and lower costs to their community. For High-value payment systems, **risk mitigation, legacy versus innovation management and cost efficiency** are the key challenges to eliminate credit risk and meet community needs.

<i>Business Risk Mitigation</i>	<p>HVPS look to eliminate credit risk with a focus on how to improve cash, liquidity and risk management. The baseline requirement for RTGSs is to continuously improve their efficiency in settling interbank payments and net settlement payments from ancillary systems.</p> <p>Growth in volumes or in values of high value payments, and exceptional situations such as the financial crisis, means more liquidity is required, but not necessary available, pushing HVPS to provide an environment where the liquidity will be used more efficiently without increased risks. On one side, modernisation of traditional gridlock algorithms and review of their frequency will be a response. On the other side, participants will seek additional reporting functionality to make funds movements fully transparent, with greater granularity, better timeliness, more real-time and with easier integration (e.g. through XML schemas).</p>
<i>Operational risk mitigation</i>	<p>Robustness is a key requirement of HVPS in maintaining and promoting financial stability. Ongoing objectives include increased resiliency and security to reduce the risk of operational down-time. This embraces contingency planning with the strongest service levels under extreme</p>

circumstances.

Cost efficiency

Cost efficiency is an on-going preoccupation of HVPS operators to guarantee fair, open and universal access but also ensure that high-value and urgent transactions have final settlement in an efficient way. A better balance between more risk controls and the need for cost-efficiency will underpin the trends that will impact the next generation of RTGS.

Market harmonisation and regional consideration

Market harmonisation increases the demand for cross-border and offshore systems or a convergence of infrastructures. HVPS accordingly need to ensure interoperability by acting as a facilitator and supporting the implementation of best practices and standards (i.e. SWIFT MT or ISO20022).

The HVPS community and their participants around the world have begun discussions on adoption of ISO20022 standards. Although no HVPS today uses ISO20022 for payment transactions or confirmations, it is an imminent evolution of systems globally. This trend will affect Australia and such a migration should be considered and aligned with evolution of the low value payment systems.

Interlink with other FMs to secure finality

A growing need for payments with immediate finality is increasing and leading to an ecosystem relying more and more on corresponding HVPS. Such demand is not only seen from direct and indirect participants but also ancillary systems such as other payment market infrastructures (e.g. clearing net settlements) or securities market infrastructures (e.g. DvP) for the cash leg.

Interlink of ancillary systems on a real-time payment-per-payment basis or on a more frequent net settlement basis is a clear trend that we observe. As an example, ACH net settlement frequency is increasingly moving from end-of-day to multiple intra-day net settlements, This is the case in India and elsewhere.

Regulation pressure

In the wake of recent financial crises regulators have increased pressure for better liquidity and credit risk management. This has in turn put pressure on HVPS to provide immediate finality to its community with optimum risk mitigation and cost efficiency. Enhanced gridlock algorithms, their increased frequency, enhanced liquidity management and reporting features are some of the ways in which HVPS are meeting the demand.

4 Response to consultation questions

4.1 Objectives of an efficient Payment System (Section 2)

We think the list of attributes for both end-users and payment systems is a good one.

4.2 The decline of traditional payment methods (Section 4)

Our thinking on the cost and metrics management elements of our framework for a managed evolution drives much of our response to the questions related to the decline of traditional payment methods (section 2)

As a general comment, the amount of time and energy to be spent on declining instruments is largely a matter for the participants themselves. In the case of both cash and/or cheques, the payments community should choose a target level for the share of each in the payments mix.

When the share reaches that target level, a detailed look at whether or not it is time to “end” or “substitute” the instrument would be useful.

Under a scenario where the collective judgement is that an intervention to “finish” the instrument should be undertaken, the Payments System Board, as regulator, has an important role to play in provided needed “air cover”, explaining the rationale and supporting the messages from institutional participants.

1. *Are there aspects of cheque usage that are unlikely to be dealt with by industry initiatives currently underway or likely to be undertaken in the next five to ten years?*

We think the industry initiatives will deal with the key aspects of cheque usage. The reduction in the clearing cycle and the exploration of truncation align Australia with other markets.

2. *Could the decline in cheques be managed by pricing cheque use in a way that provides better signals to users?*

Yes, in some countries, the availability of cheaper and easy-to-use substitutes has provided key incentives to users to switch away from cheques. This is the case for Belgium, The Netherlands and Finland, among others, where banks offer debit cards at a very low and competitive price. An alternative price signal is to raise the price of cheques.

3. *Can a case be made for reforms to make cheque processing more efficient and therefore sustainable at lower cheque volumes?*

Cheque truncation in other jurisdictions has reduced the transportation and processing costs between banks in some countries. Following the reduction in the clearing cycle for cheques, Australia’s path has been to outsource cheque processing to specialised service providers on a “shared service” basis.

4. *Could institutions unilaterally withdraw from the cheque system, leading to specialisation by a small number of institutions?*

This is a question of competitive posturing. When Australia de-regulated the banking system, individual institutions surprised many people by opening branches on upper floors of buildings and not handling cash. This was an example of an institution unilaterally withdrawing from a payment system.

5. *Is there a case for phasing out cheque clearing over time? How could that be managed while ensuring that satisfactory alternatives are developed?*

Is phasing out cheque clearing the most important policy initiative? A framework for making this choice would include good cost data at the industry level and the availability of substitute instruments.

As mentioned earlier, in countries like Belgium, the Netherlands and Finland, cheques are progressively being phased out with success. By contrast, in a recent initiative, the UK

Payments Council made the public statement in July 2011 that "*cheques will continue for as long as customers need them*" and confirmed that the closure of the cheque-clearing facility in 2018 "*has been cancelled*"¹. The decision was made based on the conclusion that there is "*no other paper-based solution that has the flexibility and ease of use of cheques*".

If there is agreement that eliminating cheques is a desired outcome for the community as a whole, a coordinated approach between all key stakeholders is likely to deliver the most coherent transition for the community at large.

6. *Should government agencies' policies on payments be used to influence cheque usage?*

There is no doubt that, as large users of payments, government agencies have a role to play in modelling choices that deliver efficiency and cost effectiveness to the taxpayers they serve. As government agencies work through issues of identity and fraud in some of the systems they manage (Medicare and Family payments, for example), there will be good opportunities to shift from issuing cheques to crediting bank accounts or issuing prepaid cards. The Payments System Board and the individual institutions delivering banking services to these agencies should encourage this development.

7. *Should the approach to cheques be determined by individual institutions, determined collectively by the industry or determined by the Payments System Board?*

Individual institutions always have the option to re-price or withdraw a particular product or instrument from their competitive offering. As the industry will have to execute and pay for a collective change, the industry should determine the approach. If the timing for the decision-making and implementation appears to be drawn out, it can be concluded that the business case for the change is not overwhelmingly positive. This highlights the need for shared data on volumes and costs in the domain of the broader, shared system.

8. *Are there any impediments to the development and adoption of products to replace cash?*

There are few impediments to the development and adoption of products to replace cash and we have seen the rise of prepaid and stored value cards as cash substitutes both here in in other markets. However, one could argue that the cashless society is still a long way off.

9. *Is there any case for public intervention in cash replacement?*

Cash occupies a special place in the array of payment instruments. As the most basic way to effect an exchange of value, it carries measurable cost, but rarely, if ever, attracts a price levy on the consumer user (ATM fees notwithstanding). Merchants, of course, pay cash counting fees and/or secure carrier costs, but often offer a discount for cash, rather than requesting a surcharge for handling cash. Banks incur opportunity cost in holding cash, transport costs and security costs. Shared service utilities have been established to manage these costs, but a price signal to the consumer is uneven at best, more often confusing. As "legal tender" cash could, of course, be replaced. The question is whether or not doing so represents the highest and best use of the payments community's resources.

Technology and social change will drive adjustments to the relative importance of cash in the payments mix. As noted above, a target "share" should be a sufficient indicator to justify a review of the position.

¹ Source: <http://www.printweek.com/Business/article/1079985/Cheque-clearing-2018-phase-out-plan-scrapped/>

4.3 The Environment for Innovation in the Australian Payments System (Section 5.1 to 5.5)

Our comments, below, are informed by the views we outlined in our introduction. In addition, we've added some insights from our experience with SEPA. In general, our view would be that if we are serious about keeping pace in a time frame that is not calibrated in decades, we should establish a new way of working and thinking about the industry. This may include some additions or changes to the existing governance frameworks.

10. Do current governance arrangements adequately promote payments system innovation?

Current governance arrangements were not established with a goal of promoting payments system innovation. Introducing an "innovation" goal will require a new thinking and a new model.

11. Are the needs of payments system users and non-ADI payment service providers adequately considered in decisions about the direction of the payments system?

There are lots of ways to solicit the views of and communicate with participants on the "outside" of the governance framework. Including them in decisions is the last way. Payments providers and ADIs have a vested interest in bringing these perspectives with them to the table.

12. Are there ways of altering current governance structures to make innovation easier?

We think there are ways to create an innovation and evolution "sandpit" which would allow flexibility for experimentation. In this sense, innovation takes place "outside" the existing governance framework, in a new construct. The green field is composed of ISO 20022 message standards and a network platform that delivers interoperability. It will exist as an operational capability and will need the right kind of business architecture, or governance framework.

13. Are there ways of altering current governance structures to take more account of the views of end users?

It is less about the governance structures than the practices that have grown up around them that may need to be adjusted to ensure good insight into the views of end users. Social networking, including internet surveys, public forums, new techniques of "accelerated solution development" all offer additional channels that can be pressed in to service to widen the net of ideas and information. These ideas are then inputs to the governance frameworks.

14. Could a new decision-making body with broad representation of payments system participants, service providers and end-users provide a better strategic focus for the payments system, taking adequate account of costs and the public interest?

There are two questions here. Do we need a new decision-making body? Does it need to include a broad representation of payments system participants...? Our answer to the first question is, "maybe".

The response to the second question is, "probably not". Mechanisms for coming to decisions become difficult as the size and diversity of a group increases. New "accelerated solution" techniques help address this complexity, but they are usually designed to answer big, strategic questions in a process that involves a three day commitment of time and focus by a carefully selected, broad range of participants. The Australian Payments Council of the 90s in Australia and our experience with SEPA suggests that wide solicitation of input and ideas is critical to getting facts and perspectives, but a smaller body with a shared purpose is required to make decisions.

How could such a body have the capacity to reach decisions across a diverse group of members?

SWIFT, of course, has a diverse group of members from various domains in the financial system. SWIFT has found that the key to reaching consensus is an energetic program of stakeholder engagement. The key to reaching decisions is a clear framework and common interests.

Could such a group make binding decisions and how could they be enforced?

The payments context is endowed with a wonderful form of self-regulation, Straight Through Processing (STP). STP rates reward and punish in the pocket book, which is helpful. Where one party does not adhere to the standards that deliver straight through processing, it is immediately apparent. As such, it can be addressed through some system of penalties.

15. *Could formalisation of a broader mandate for APCA, coupled with broader representation, provide better industry-wide outcomes?*

A different mandate for APCA that includes fostering innovation, simplicity and a search for convergence may be all that is required to drive different industry-wide outcomes.

16. *What role should the Reserve Bank and the Payments System Board play in setting the reform agenda for the industry?*

The Reserve Bank and the Payments System Board has a leadership role in the domain of the settlement of interbank risk and providing mechanisms to ensure that functionality is provided at clear and predictable levels of cost. This is its unique contribution. A focus on this domain is highly likely to engender response and adjustment in other domains. Beyond that, the Payments System Board and related teams are key participants in the payments system and contribute as such.

17. *Have concerns about breaches of the Competition and Consumer Act (formerly the Trade Practices Act) prevented the industry from achieving greater co-operative innovation? What approaches are suggested to deal with this in a way that does not undermine the intent of the Competition and Consumer Act? What are the advantages and disadvantages of each?*

The competition rules have been an additional (but only one among many) hurdle to creating new entities to work on new payments arrangements. It may be helpful if, in thinking about an industry “sandbox”, the legal framework were adjusted to define the sandbox as being outside the Competition and Consumer Act “net”.

Structure of Clearing and Settlement Rules

18. *Does the current structure of clearing and settlement adequately allow for the introduction of new payment products? How could this be improved?*

The current structure is confusing and, depending on the nature of the new product being contemplated, a payments participant may have to speak to and/or receive sanction from APCA, PSB, ePAL, BPay and the credit card schemes. Each identity in the current structure grew up from a different business model and technology. Similarly, APCA’s five clearing streams evolved from different instruments. There is a lot that is common to each, which suggests some functions could be collapsed across the streams and entities.

19. *Is the current structure of rules applied to payment systems, including the five APCA clearing streams, the most appropriate?*

There may be an opportunity to collapse the five clearing streams by focussing on the common functions within each one. SWIFT’s experience in this regard has shown that finding the common functions and defining appropriate standards is hard work, but delivers efficiency and scale as a reward.

20. *How should clearing and settlement rules change to take best advantage of upcoming functionality in RITS for same-day settlement of bilateral bulk payment files (and existing functionality for same-day batch settlement). Could rules be established for individual “settlement*

streams”, including, for instance on the timing of availability of funds and the individual transaction values eligible for that stream?

The new functionality in RITS is a crucial step in helping to bridge the divide between “wholesale” and “retail” payments thinking. The focus should be on rules to facilitate the settlement of these batches. The timing and availability of funds and the individual transaction values eligible for the stream should be a matter for participants in the competitive domain.

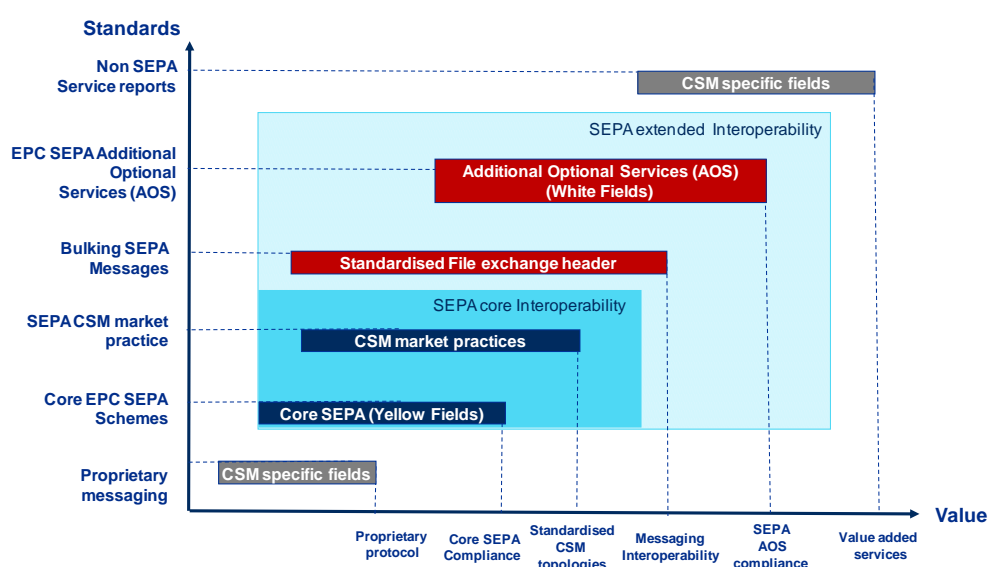
4.4 Structure and clearing of settlement rules (Section 5.6)

23. Are there alternative models for clearing rules? For instance, could a set of generic (but narrowly focused) clearing standards cover multiple payment systems, with more detailed system rules applied at the individual system level?

Should such clearing arrangements be mandatory for all payment systems, including those not currently party to APCA arrangements?

This is the approach followed by the European Payments Council (EPC) in the context of SEPA. With SEPA, the EPC working groups had the objective to harmonize the clearing rules among the different euro payment systems and between the banks to achieve interoperability. This bottom up approach required a substantial effort to align business practices across countries, with different behaviors, and create a common set of rules and practices for the different payment instruments. As a pre-requisite, the harmonization required a common set of standards and rules based on common technical standards such as the ISO 20022. However, the harmonization effort has to consider the existing context and the cost and complexity of a potential change. For example, the EPC has defined core business rules and implementation guidelines based on a common ISO 20022 standard for credit transfer and direct debit, but has also defined variants with “additional optional fields” (AOS) to cope with different business practices. The ultimate objective in terms of interoperability consists in extending the limits of the scope of the core mandatory framework in line with the competitive forces. So, in our views the harmonization of the clearing arrangements will need to balance the costs and efficiency implications for all parties involved, and this may result in a combination of generic and specific clearing rules. Finding the right balance, that gives cost benefits to the community while preserving the business competitiveness, is the key issue.

The following figure illustrates the scope of the SEPA core and extended interoperability frameworks:



Source: SWIFT, 2007

Figure 2 – SEPA core and interoperability frameworks

This work has taken a long time. An alternative is to establish a green field framework and let cost and complexity improvements drive adoption.

24. *What other ways are there of allowing providers of new payment products or systems easy access to clearing and settlement arrangements? Is there a case for establishing a standard minimum payment message type that participants are obliged to accept from agreed counterparties?*

The adoption of ISO 20022 and the creation of a common, inter-operable message platform would allow players (new and established) easy access and controlled migration to a simpler, more cost effective element of common functionality.

25. *Do existing clearing arrangements allow sufficiently easy access for new participants? If not, what could be done to improve this?*

While “easy” is in the eye of the beholder, our view is that the establishment of the RBA Interconnector service for low value payment activity has provided a new path for participants (new and established) to access clearing arrangements in Australia.

4.5 System architecture (Section 5.7)

26. *Could greater use of hubs improve efficiency, access and innovation in the Australian payments system?*

Hub models typically help to achieve economies of scale and ease the integration through a common set of standards and guidelines. It facilitates the adoption by new participants, as it does not impact the existing customer base. It may also help to control and manage efficiently technical and functional changes. It facilitates a smooth migration of existing participants towards new innovative services and minimises the impact on existing service levels.

As we think of the hub as a “flexible messaging platform”, the hub also enables “sandpit” thinking, preserving the safety and reliability of the payments networks without stopping the experimentation that will drive innovation.

27. *In what areas would a hub or hubs be useful – for instance, for transmission of clearing files, or for real-time individual transactions?*

Hubs are useful in domains that require complex but standardised transaction processing as it avoids the replication of this complexity in each participant’s infrastructure. Hubs are particularly useful for business transactions that have a lifecycle and involve multiple players. Typically hubs implement from simple to sophisticated workflow engines that control the transaction processing steps and interactions with the participants.

There are hubs for the clearing of files as well as single transactions. The choice between files and single transactions is historically linked to the high cost of processing and transmission, and does not really impact the decision for a hub.

New hub architectures in the payments area tend to be designed around near real-time transactions though integration with the legacy applications and existing processes at the banks often imposes a “batch-oriented” file transmission. The choice for real-time versus file transfer will depend on the actual end-user requirements.

For example, in any card payment authorisation process, the response time to the consumer to conclude the transaction is key. Settlement with the merchant does not need such timely transaction time response, although timely availability of funds is key.

The choice will also be constrained by the level of sophistication of the processing required, the distance between the players and the existing processes and systems. For example, in the debit card authorisation process, the data size, security and routing processes have been optimised to meet the response time requirement.

With the constant increase of technology capacity and reduction of cost, we can assume that the distinction between real-time and file will become more blurred.

For what type of payments would a hub be useful?

Hubs are useful for any type of payment that requires a set of harmonised non-core technical services for a large community of players. These exclude services that can expose information or processes that are proprietary, or sensitive. A key example of this might be customer information that is private or sensitive.

What functions could a hub or hubs provide? Could a hub be available for use by multiple payment systems?

Hubs provide different levels of non-core standard services such as:

1. Interoperability layer

- Network operations (availability and resilience service levels)
- Security services such as digital authentication, encryption and integrity
- Data safe storage
- Archiving and backup facilities
- Format translation, for example from domestic format to international format
- Rule validations, for example payment scheme validation
- Routing reference data, for example linking account numbers and card numbers
- Enrichment, for example adding address details for a BIC code
- AML support

2. Payment system

- Bulking and de-bulking of files
- Clearing account maintenance
- Liquidity management
- Case management and reporting

As an example, the following diagram shows the functions of the two main layers using SWIFT services as an interoperability layer:

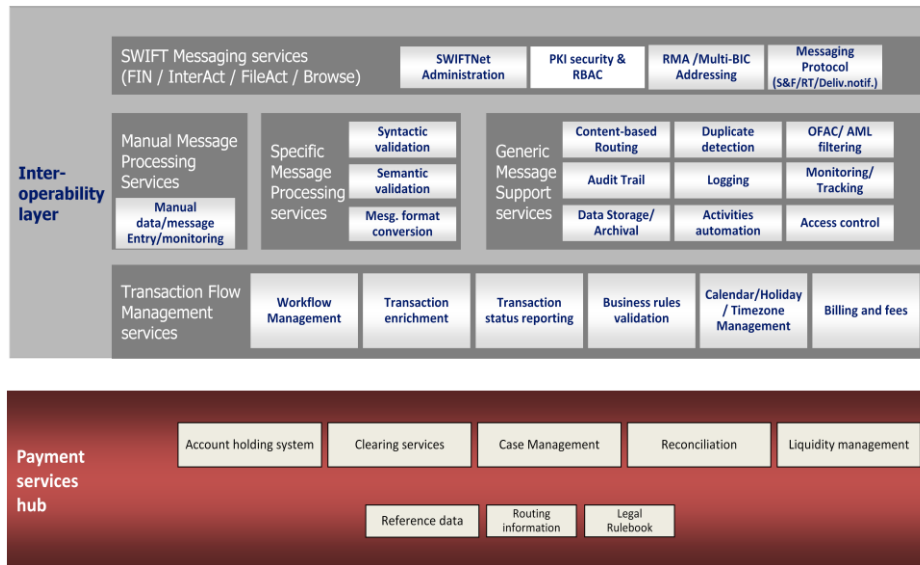


Figure 2 – Interoperability provided by a SWIFT messaging layer in a hub-based payments service

28. *Should hubs be considered best practice for new payment systems? Should existing systems be migrated to a hub? Could hub services be offered in a way that allows participants to opt in, while providing full services to new entrants?*

Hubs are typically considered according the criteria mentioned above:

- High level of standardised non-competitive processing
- Large community of players
- Scalability and economies of scale

The migration to the hub is considered based on different factors:

- Meeting customer needs and guaranteeing the same or better service levels
- The growth and lifecycle of the instrument (e.g.: some instruments are declining such as cheques)
- The costs of the new infrastructure and the migration cost.
- The risks of the migration in terms of integration, training, operations and processes

Rather than think of hubs as “best practice for new payments systems”, we think they should be viewed as critical infrastructure that would allow the creation of new payments systems. The availability of a flexible messaging platform (hub) would mean a new payment system or instrument would not be obliged to establish one itself. With less to establish, new payments innovations will arrive faster.

29. *What type of ownership, governance and management arrangements would be desirable for a hub?*

A typical arrangement starts with an association that has common interest. It may evolve over time with the increase of competition and participant membership. The common element in typical examples in the markets SWIFT has seen is a separation of scheme management and operation of the platform.

4.6 Innovation Gaps (Section 6)

The following table summarizes our views on questions 30 to 32 for the innovation gaps identified in the Australian Payment System:

Innovation gap	How widespread is the demand?	Impact	Key impediments	Public intervention
Transmission of data with payments	High	High	Format and processing system incompatibility	No proven case, except recent mandate from the US department of treasury on e-invoicing
Timing of funds availability	High for some urgent messages	High	Legacy system	Possibility to require more transparency
Real-time confirmation of payment			Constrained by account verification for debit or collateralisation otherwise	No proven case – industry led initiatives (IDEAL in NL and Giro in DE; EPC e-payments model)
Ease of addressing payments	High	Low if 3-corner model; High in case of 4-corner open model	Common reference data for parties identification and payment routing	No proven case – industry initiative for m-payments (Mobey)
Person-to-person payments	Medium	As above	As above	As above
m-payments	Medium	High on banking channel	Tightly coupled distribution and production systems at banks Sharing customer mobile number with 3 rd party provider	No proven case in mature countries – successful cases of collaboration between banks – MNOs and merchants
Electronic purse system	Medium – Cash / cheques	High on POS / terminal infrastructure	Cost of replacement	No proven case Industry driven initiatives
Standards	Very High	Medium	Legacy payment infrastructure	Federal Reserve and EPC: recommendation for use of international standard ISO 20022

4.6.1 The Transmission of Data with Payments (Section 6.1)

33. *Possible solutions to the transmission of additional data with payments include: the use of existing free data fields in the DE system for a referencing system; the reconfiguration of the DE system to accept much larger quantities of free-form information; or the use of another system for payments requiring the carriage of additional data. Are there other alternatives? What are the advantages and disadvantages of each? Which option is preferred? How should that option be implemented?*

There are other alternatives such as the transmission of the data via two different flows. This is specifically the case with old data format structures that cannot be extended with data (e.g. remittance information in existing domestic formats) or does not support the transmission of different data type (e.g. images). This alternative is used when the impact of a change in the standard is too high and an alternative flow conveys the additional information, either through the same channel or through a more efficient channel; for example, the transmission of cheque truncation data along with the scanned image of the cheque. This requires the definition of a unique reference identification that will be transmitted with each data flow and will serve for reconciliation purposes.

In the case of very large amount of information, transferring the information along with the payment might not be efficient as it may delay the processing time. An alternative in this specific case would be to “safestore”, in a central repository, the large amount of information under a reference identifier. The latter will be transmitted with the payment so that the recipient can use the identifier to download the information from the database, whenever required.

The work to date to create ISO 20022 standards for high and low value payments represents a practical, green field approach for managing the limitations of Australia’s Direct Entry system. As an early example of low value automated clearing, Direct Entry is so thoroughly embedded in the participants’ (financial institutions and corporate users) architectures that an attempt to re-engineer it would be prohibitively costly and would represent a real risk to the stability of the payments system. A much better approach is to establish a new message format and allow the controlled migration to it by players as they work through the investment cycle renewing the systems that use Direct Entry.

34. *What role should messaging standards, such as ISO 20022, play in any solution for transmission of additional data?*

For the community, the adoption of ISO2002 XML standards payments will help to:

- a) Adopt a proven business model
- b) Reduce ambiguity
- c) Re-use the data elements for the underlying trade transaction, for example, a securities, funds, trade finance, and others.
- d) Define a central repository of reusable data elements
- e) Focus on end-to-end-business process
- f) Reduce standards implementation effort
- g) Improve change control
- h) Communicate with legacy systems

ISO 20022 encompasses the business process definition and the use of XML as the technical representation. XML-based standards allow a more convenient change management approach as it (extension of data and fields) supports any type of data and characters set. XML has become, very quickly, a powerful meta language providing information about the structure and meaning of all sorts of data, in a neutral way so that it can be interpreted both by humans and by any machine.

As an open standard, it benefits from the support of tools that are portable across architectures and commercially available offered by the major part of the software industry.

XML has become naturally the internal format used by financial institutions to streamline and automate intra-organisation communication between multiple legacy systems.

The use of ISO 20022 for e-invoicing reduces the reconciliation effort required on the receiving side because the payment and the invoice use a unique end-to-end identifier. In this context, U.S. Department of the Treasury has recently issued the mandate that all of its bureaus implement an electronic invoice processing solution by the end of 2012.

Another example of this approach is currently being implemented in the context of EBAM (Electronic Bank Account Management) where the account management instruction embeds the scanned image of the actual, “wet” signature of the account authorised persons and the PKI certificates of the institution.

XML has been adopted as the inter-company messages in the logistics supply chain through the ISO 20022, SEPA, EACCHA, RosettaNet initiatives, to name a few.

Within the Asia Pacific region, a number of large economies are in the process of adopting or investigating ISO 20022 payments systems. These include China, India and Japan.

35. *The superannuation industry is working to address issues associated with transmission of data related to superannuation accounts and payments. Is there a contribution that can be made by the payments industry beyond the proposals discussed above?*

The superannuation industry is a good example of our points on convergence. Some of the participants in this industry, particularly those associated with banks, have engineered their processes around the capabilities of the payments system and have delivered relatively convenient contribution mechanisms that leverage BPay and internet banking offerings. Others work back from the contribution details to issue payments references that change with each contribution.

The development and implementation of CHES, for the broker community in Australia was characterized by active engagement between the payments community, through APCA, and the Australian Stock Exchange. In this example, there was a clear “voice” from the broker community driving agreements to standards and performance targets.

In other markets served by SWIFT, the Payments Market Practice (PMPG) and the Securities Market Practice Groups (SMPG) have developed business models that describe the roles of each player and addresses the transmission payment information and the related transaction data, such as the purchase of securities, funds and foreign exchange currencies but also the export and import of trade goods.

This is also the case for the funds business where European Fund and Asset Management Association (EFAMA) have recommended the use of ISO 20022 messages to cover both legs of the business transaction.

This enables investment managers to carry out activities (payments, treasury, settlement, reporting, collateral management, financing) with all their counterparties and service providers. The standards help all parties to:

- Reduce errors and risk related to manual matching of information
- Scale a solution to enable business growth and peaks
- Improve further the matching automation rate (STP)
- Increase transaction visibility
- Reduce costs for the consolidation of accounts and paperwork

4.6.2 The Timeliness of Payments (Section 6.2)

36. *To what extent will systems already underdevelopment or discussion address issues related to the timeliness of payments? What gaps will remain?*

The intra-day batch settlement capability in RITS offers a powerful opportunity to address issues related to the timeliness of payments. Furthermore, the extensive re-engineering programs occurring in Australia’s financial institutions also provide opportunities to adjust the current limitations regarding timeliness of payments settled in batches.

37. *What new systems or enhancements to existing systems would be required to achieve more timely payments? How could these innovations be achieved?*

The question of whether or not the payments system will or should evolve to a point where it delivers real time inter-participant settlement of small, retail payments is an interesting one that will involve costs and benefits. It is too early to tell whether this development will be worth the investment.

38. *Would multiple same-day interbank settlements be sufficient to facilitate faster availability of funds?*

We strongly believe that, same-day interbank settlement has proven in many existing payment infrastructures, to be beneficial and sufficient for the retail business. The key requirement, from a payee's perspective, is the confirmation of the payment for the retail business. As real time or near real time settlement of retail transactions evolves, the relationship between irrevocability and non-repudiation, as well the ability to provide good auditability will need to be tackled.

39. *Is there a case for a real-time settlement system for low-value payments and how should it be provided?*

Disaggregating the elements of low value payments will allow the costs and utility of each "feature" to be examined and linked. It is unlikely that there will be a case for real time settlement for all low value payments, but we can certainly see a time when the size of the transaction will no longer be a defining characteristic for real-time settlement. The requirements of a variety of markets, from house purchases to securities to the purchase of automobiles will continue to drive the evolution of our thinking about real time settlement.

This evolution is a reason why good data on transactions and costs is critical to the on-going evaluation and management of the mechanisms used to deliver payments capability. As we discuss below, the technology isn't a barrier. The cost and control of liquidity and the project costs to implement are likely to be more important factors.

From a communication perspective, near real time settlement can be provided using a combination of the FileAct file transfer mechanism with a new SWIFTNet feature called FileAct Y-Copy. This is a similar setup to the RTGS FIN-Copy service and is being implemented in New Zealand for intra-day settlement prior to bi-lateral interchange.

Existing or future "green field" payment channels may also require real-time or near real-time settlement on individual payments.

To operate in real-time, this model requires that the central payment and bank systems are able to process transactions in real time as well.

The following figure illustrates the communication flows:

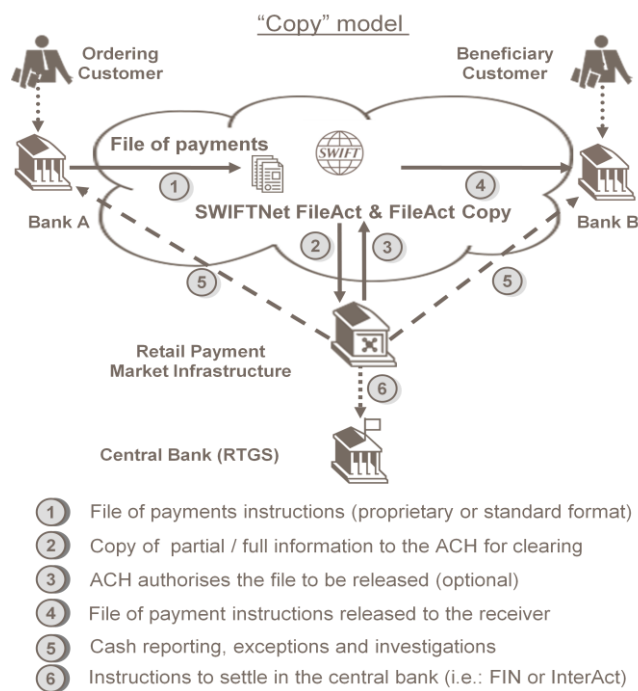


Figure 3 – Settlement using a Y-copy model

40. *To what extent would financial institutions' own systems need to change to allow faster access to incoming payments to customers' accounts? What would this involve and how could it best be achieved? Could the desired improvements be achieved by competitive pressures if financial institutions were forced to publicly disclose information on the timing actually achieved on payments? Would some form of mandated time limit for availability of funds be appropriate?*

The key issue for banks in general remains the ability to check account balances in a few seconds in the customer accounting systems. Another concern for banks is the pressure that the payment irrevocability puts on risk management processes and controls (fraud control and AML processes).

In addition, banks' systems face interoperability and integration issues between the customer channels and the back offices, both at the infrastructure and at the operational level. While back offices rely often on legacy infrastructures oriented towards transaction execution on the market infrastructures, the front-offices and customer channels infrastructures have evolved more quickly to adopt newer and faster communication means, such as web and phone communication.

Therefore, banks have undergone major re-engineering projects to re-design the payments operations with a clear-cut separation between the distribution and production systems. The two-tier approach gives banks the flexibility and responsiveness to enhance rapidly the client-facing channels to meet customer demands for innovative services while consolidating and rationalizing the production side around minimum market places connectivity.

A regulatory mandated time limit has put pressure on the financial industry in Europe for the consumer's benefit. As most institutions in Australia have a method for posting to customer's accounts before back office processing is complete, we believe the competitive landscape will drive changes faster than a mandated performance standard would do so.

41. *How strong is the demand for payment options that will provide availability of funds 24 hours a day, 7 days a week? What would need to occur to achieve this?*

This seems to be a growing expectation.

From a consumer perspective, the key requirement remains the ability to pay 24 hours a day, 7 days a week. The other criteria are the “ease of use” and the ubiquity: this is why m- and e-payments are convenient alternatives to existing debit and credit cards. Consumers might be concerned by the irrevocability of the payment in the case of immediate clearing and settlement.

Whether the funds are immediately available or not, is a major concern for the merchants: In this case, a payment authorization and guarantee are sufficient, as in the case of credit cards and e-payments (see EPC e-payments model and IDEAL initiative in NL)

To achieve funds availability 24 hours a day, 7 days a week, the payment authorization shall trigger the payments clearing and settlement in a multi-party environment (4-corner open model). Alternatively, immediate payment execution can be achieved on closed platforms, such as e-wallets, mobile network operators (3-corner closed model), where transactions are “on-us” transactions.

4.6.3 Mobile Payments (Section 6.5)

42. *What form are mobile payments likely to take in Australia over the next five to ten years – SMS-based, mobile internet, contactless or some other form?*

In mature markets like Australia, there are many convenient and well-established substitutes to m-payment, such as debit and credit cards.

Using remote m-payments or contactless (proximity) payments would also require a substantial investment to replace the existing terminal infrastructures (POS, ATMs) at the merchant side or bank side.

An alternative that would require limited infrastructure changes, concern the extension of the existing on-line banking services for mobile devices (iPhone, iPad), with an appropriate and standard security module that relies on the bank issued credentials.

43. *Are there impediments to the development of mobile payments in Australia? If so, what type of payments are being impeded, and how?*

We are not aware of any impediments to the development of mobile payments in Australia and would have characterized Australia as a fast adopter of these technologies, although not a leader.

44. *Are there security issues particular to mobile phones that may impede adoption of some types of mobile payments in the future? Are there likely to be issues with interoperability of mobile payment systems?*

Mobile payments have been defined in closed loop models with proprietary formats typically designed for local or regional scope. However, with the growth in e-commerce and cross-border payments, the local or regional ecosystems face interoperability issues. In this perspective, SWIFT is actively participating to the Mobey forum², a banking, mobile and payment industry led initiative, to define a sustainable multi-party ecosystem for the exchange of mobile payments (mPayments) and mobile wallets (mWallets). As for other payment instruments, it is essential to distinguish between the technical channel or support that conveys or capture the payment data and the actual financial payment instrument, governed by a set of business contractual rules. Though the support and channel will be subject to technology evolution, the rules of mobile

² www.mobeyforum.org

payments between stored value accounts on the other hand are very similar to existing payment instruments between deposit accounts. Therefore, the group has been focussing on leveraging the existing payment developments and infrastructures and has issued:

- implementation guidelines for the use of standard ISO 20022 payment instruments such as credit transfers, card payments and transfers between stored value accounts
- recommendations to use the mobile phone number as "mobile identifier" - or MID - to identify the transacting parties and route the payment routing different mobile network providers. The model implies the setup of a Common Infrastructure Model (CIM) reference database which links the mobile phone number with existing payment instruments such as bank accounts, payment cards, or stored value accounts.
- generic process flow diagrams for implementing secure and interoperable mobile remote payments, and a definition of core processes and common requirements for a mobile payment ecosystem.

Some bankers have concerns regarding the need to share the mobile number of their customers with 3rd party providers.

As far as SWIFT is concerned, the SWIFTRemit solution developed for cross border person-to-person remittances supports the exchange of m-payments and w-payments in the interbank space along the guidelines we've described.

The guidelines have also been supported and promoted by the European Payments Council³.

45. Are there adequate standards to support the development of mobile payments in Australia? If not, what standards are lacking, what types of mobile payments are affected, and who should be responsible for setting them?

See question 44 above.

4.6.4 Standards and Future Trends (Section 6.7 and 6.8)

46. What is the case for moving to ISO 20022 compliant standards for Australia's retail payment systems? What is the preferred process for doing so?

As mentioned earlier, adopting ISO20022 for retail payments will pave the way for future innovations in an open multi-bank environment, more specifically in the new areas such as mobile payments, e-invoicing and securities trading.

The preferred approach consists of defining the rulebooks and standards with sufficient space for future innovation. The migrating of the services will be planned in a phased approach per instrument and as per the layered architecture (network, messaging, and payment clearing).

Though there is no strong business justification to adopt ISO 20022 to replace the ISO8583 card industry standard now, there is an industry trend on the long run to consider alternatives that would provide a better change control management and extended purchase information, such as the ISO 20022.

³ www.europeanpaymentscouncil.org

47. *Should all new payment systems be required to adopt ISO 20022? Should existing systems be required to do so?*

SWIFT believes that new payment systems shall consider the advantages of implementing new ISO 20022 standards, which have proven to be successfully implemented in SEPA, e-invoicing and cross-border person-to-person remittances (SWIFTRemit) as well as in other business areas such as funds.

Besides the technical standard, there is a need to re-consider the market and business practice rules for each individual instrument in order to optimise the implementation. This will need to be defined independently of the payment channel.

48. *To what extent are other standards, such as device standards, an impediment to competition and innovation? Is this justified?*

As mentioned earlier, new payment architectures would benefit from de-coupling the (channel) device standards from the actual payment instrument: this will ease migration, change management control and faster adoption of channel innovations.

49. *How should compliance with industry standards, both by new entrants and incumbents, be monitored?*

In the SWIFT context, compliance is managed through the network validation rules and there are mechanisms for adding fields to be validated or using the Closed User Group to agree a different, usually more stringent, set of validation agreements

The validation framework, in effect, provides a minimum standard. Messages that do not pass validation are returned to the sender.

In addition to field and message validation, SWIFT publishes rule books and facilitates the on-going development of market practice.

50. *Is there a case for greater industry co-operation on the setting of security standards for retail payments? If so, how should this be achieved?*

We see extensive industry cooperation between financial institutions and card players to secure the card payment transactions over the Internet . This has included a mandate for the use of EMV technology. This engenders serious issues of service availability in cross-border card payments, as the pace of adoption varies from country to country.

For e-payments and corporate to bank payments, initiatives around digital identity and signature are also emerging.

In this context, SWIFT has developed a PKI framework (3SKey) to secure the transactions in the corporate to bank space for communication over SWIFT and the internet.

51. *Are there any significant changes in the payments landscape in prospect that have not been considered by this paper, for instance in terms of architecture or significantly different payment products? What will be the implications of these changes? Are there actions that should be taken now to take full advantage of these changes?*

The big changes are likely to come from outside the payments landscape. The payments community must watch the [evolving technologies and associated social networking developments](#) to predict the next chapter in the development of payments.

5 Conclusion and next steps

We understand that the next step is a series of discussions using these responses as the starting point. We look forward to participating actively in these discussions.

This paper outlines key steps that can be taken by the industry “without regret” to introduce a degree of flexibility and innovation to the Australian payments legacy:

- Mandate ISO 20022 for new systems. It eliminates uncertainty and avoids wasted effort.
- Drive the implementation of intra-day bulk settlement in RITS hard
- Think “green field” and experimentation and establish business and technical architectures to support it
- Think “off the shelf” to reduce cycle time

These steps still require answers to difficult questions that are answered best through the right kind of stakeholder engagement. And, the stakeholders are diverse. As such, as an industry, we should be prepared to debate vigorously, but not forever.

Thank you for the opportunity to submit our views. We welcome questions, comment and feedback. Please contact:

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6 Appendix – How does SWIFT contribute to payments markets around the world?

6.1 SWIFT’s offering for Payments Market Infrastructures

In addition to our original cross-border business, SWIFT is also the chosen standards and messaging services provider for more than 60 domestic and regional high value payments systems worldwide, exchanging 210+ million high value payments annually; and more than 17 domestic and regional low value payments systems, exchanging 5.5+ billion bulk retail payments annually.

In Australia, SWIFT and COIN deliver to RITS via the Interconnector service provided by RBA. Large and complex market infrastructures including both payments and securities settlement systems rely on us to provide a secure and reliable platform, at cost-effective prices and with world-class support for their systemically important payments systems. SWIFT’s role in the provision of services for domestic and low value payments systems highlights the increasing convergence in these activities.

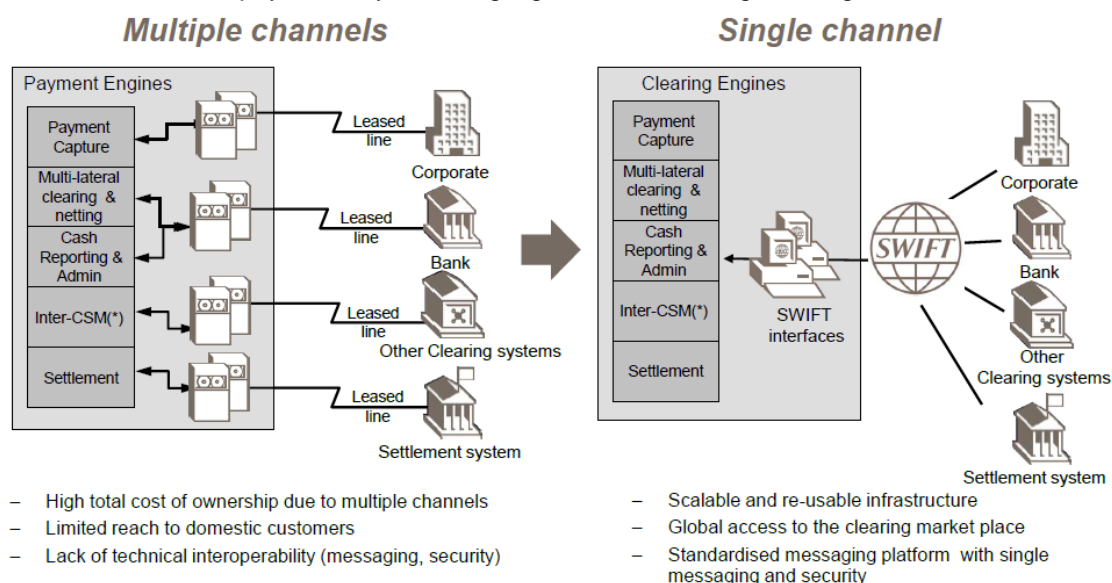


Figure 4 – Multiple to single channel of communication and its benefits

To support the business and operational needs of low volume payments market infrastructures (PMIs) SWIFT provides a portfolio of business solutions, message standards and messaging services. The core elements of SWIFT’s offering are:

Multi-Vendor Secure IP Network (MV-SIPN)

Multi-Vendor Secure IP Network (MV-SIPN) is a global, secure and reliable network infrastructure that guarantees the highest levels of availability and resiliency around the globe. SWIFT manages its MV-SIPN with the “failure is not an option” mind-set required by financial mission-critical systems:

- Managed connectivity services with maintenance and service control up to the user’s premises
- Four networks (AT&T, BT InfoNet, Orange, Colt) to spread the risk
- 365/24/7 support services with differentiated support packages

SWIFTNet messaging protocols

SWIFT provides a standard messaging protocol on top of the MV-SIPN infrastructure to address the different business application needs:

- FIN store-and-forward service for financial structured messages
- InterAct to exchange of structured or unstructured messages
- FileAct to transfer structured or unstructured data files
- Browse to access Internet browsers and web servers

SWIFTNet offers a common shared platform including features such as

access control, security, routing of files and messages and transparent recovery in case of technical failure. Our service levels consistently reach 99.999% availability for both FIN and SWIFTNet.

<i>Private Closed User Groups</i>	Information exchange within SWIFTNet is organised into several private closed user groups that are created for a specific business need and have a common Service Administrator, either SWIFT or an authorised 3 rd party. Service Administrators define supported messaging protocols and features, authorised message formats, membership access and roles.
<i>Messaging processing features</i>	SWIFTNet messaging includes a full set of value-added features: <ul style="list-style-type: none">• Central validation of the transferred data• Prioritisation of the data• Store-and-forward within queues for future delivery or• Real-time delivery of data• Delivery monitoring with notification to the sender• Non repudiation of data transfers (NR) to provide evidences in case of dispute related to the delivery time, reception time, content, or meaning• Segregation of traffic flows based on the role of the participant (Role Based Access Control)• Data retrieval facilities• Authentication of the sender with standard PKI security
<i>Copy features</i>	Copy is an optional function. In a bilateral exchange, it enables the copy of partial or full information to one or several institutions for further processing. In the context of large interbank payments, a community may require SWIFT to copy payment data “on the fly” to the central bank for settlement authorisation purposes. This is the case for many RTGS systems including HKMA (HK), MEPS+ (SG), CHAPS (UK), Target2 (EU) as well as Continuous Linked Settlement (CLS). The current Copy services are FIN Copy, FinInform, FileAct Header Copy.
<i>Reference data</i>	Reliable reference data is essential to payments routing and allows increased straight-through processing (STP) rates. SWIFT publishes a number of Directories per market providing up-to-date and accurate information for the integration in back office applications through different channels. Available directories for payments are the BIC directory and the BICPlusIBAN Directory. The BICPlusIBAN Directory contains the full list of the ISO9362 Bank Identifier Codes (BICs) with the national bank/branch identifiers. It also provides IBAN related information such as the national bank/branch codes used in IBANs and the corresponding BICs that the account holding banks issue to their customers together with the IBANs.
<i>Standards</i>	Today over 200 SWIFT standard message types support the main business functionalities in the payments, treasury, securities, and trade services markets. These include credit and debit instructions, remittances and mobile payments; buy and sell orders; documentary credits; collections; guarantees; interbank transfers; reporting; settlement; custody; travellers’ cheques; and precious metals. SWIFT provides advice, support and analysis to optimize the implementation of standard message flows and mapping user requirements. SWIFT consultancy services give recommendations to increase operational efficiency STP and automation.

Governance and control

SWIFT is a global, self-governance model. Central banks and other regulatory authorities in each jurisdiction oversee our ability to provide a service that meets the highest standards of reliability and security. Our members, through a board of directors govern and participate in the business of SWIFT. The Board Audit Committee and independent internal and external auditors ensure oversight and governance of security controls. As a service provider SWIFT is always subject to the legal framework and business architecture of each jurisdiction.

SWIFT provides a collaborative approach and platform to payments communities:

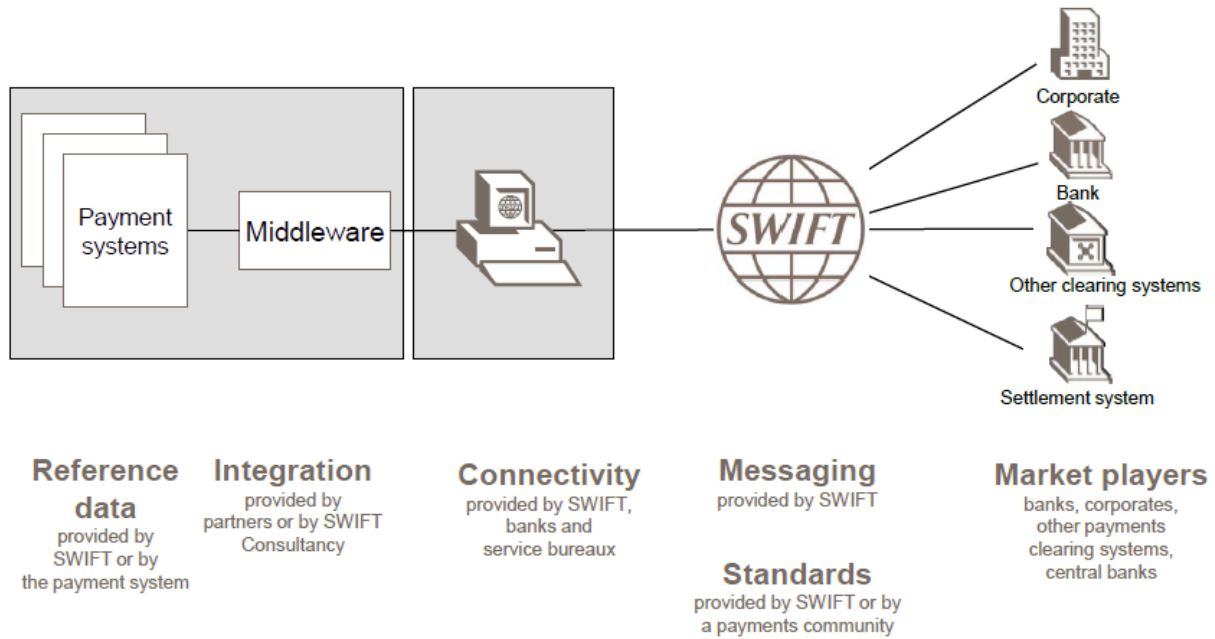


Figure 5 – A collaborative approach and platform for payments communities

6.2 Adoption of SWIFT by Payments Market Infrastructures around the world

The powerful role played by elements of “convergence” have made SWIFT an established partner and critical service provider for an expanding number of clearing and settlement systems in payments, securities and foreign exchange. SWIFT’s origins as an international, cross-border provider of secure messaging have delivered powerful capability to underpin increasing numbers of domestic payments market infrastructures. The following figure illustrates the presence of SWIFTNet based solution for low value payments market infrastructures, live and in implementation, around the globe:

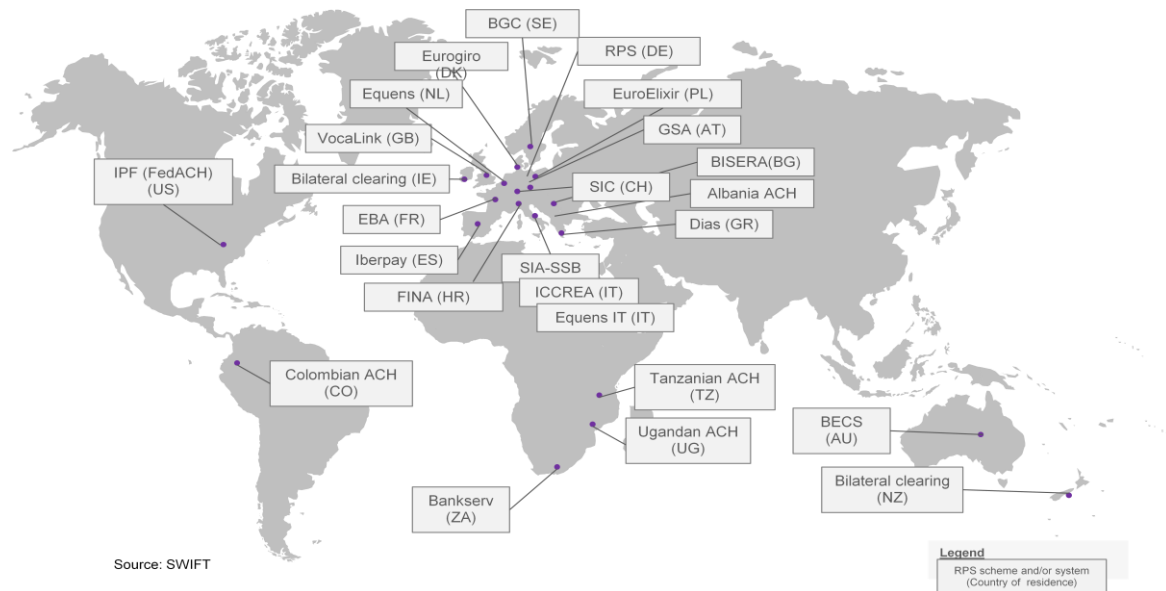


Figure 6 – Domestic and regional SWIFT-based low value payment systems

6.2.1 Examples of SWIFT’s support of payments markets

We have chosen two particular examples of SWIFT’s role in domestic, low value payments systems. The New Zealand example outlines the role of low value interbank settlement, and the European example outlines the complexity of harmonising and standardising across instruments and national boundaries. Each is germane to the choices facing Australia.

New Zealand Low Value Payment System

In addition to geographic proximity, SWIFT’s activities in New Zealand highlight the similarity of issues confronting domestic payments systems. A need to extinguish the risk accumulated by low value payments earlier, as well as supporting goals associated with access, makes this an appropriate example. By contrast, the timeframes highlight the painstaking nature of these kinds of changes to the payments environment.

In 2006, SWIFT entered into discussions with the New Zealand Banker’s Association (NZBA) regarding the problem of low value payments settlement risk that existed in that market and to discuss a possible SWIFT-based solution. Under the settlement model that was in place, members interchanged low value payments files through a centralised facility and carried the settlement risk on each other until interbank positions were settled the following business morning at the Reserve Bank.

SWIFT worked closely with the NZBA to understand the requirements, come to market with a proposal, implement the services on the network and help each bank with the required upgrades to their systems. The service combines the FileAct file transfer mechanism with a new SWIFTNet feature called FileAct Y-Copy to define a model that would allow for intra-day settlement prior to bi-lateral interchange.

This new service (currently in test and due for live operations in February 2012) will implement interchange processes that will enable participants to better manage interbank settlement exposures and thereby reduce liquidity risk. It will also enable the opening of the payment system to other participants and based on the nature of their clearing operations remove the need to distinguish ‘non-

banks'. Non-banks should be able to participate in the New Zealand settlement system provided they meet appropriate entry criteria.

European Payments Systems (e.g. SEPA)

Mercifully, the Australian payments environment is a model of common purpose and shared values when compared to the European payments landscape. However, there are many common elements, including issues of competition and cooperation, the role of the regulator and the detailed, bottom up design and communication required to deliver business and technical architecture. The table, below, represents the current, harmonised position.

	EBA/Step2	Equens ACH	Eurogiro	VocaLink
Payment instruments	Credit transfer Direct debit	Credit transfer, Direct debit	Credit transfer, direct debit	Credit transfer, direct debit,
Payment scheme	SEPA SCT and SDD scheme for EBA members	SEPA SCT and SDD, as well as domestic schemes	Multi-currency transfers (i.e.: Euro (SEPA), USD)	All GBP and EUR payments (SEPA)
Services	Centralised clearing, cash monitoring and exceptions management	Centralised clearing, cash monitoring and exceptions management	Multi-lateral framework for payments clearing, settlement, cash monitoring and exceptions management	Centralised clearing, cash monitoring and exceptions management
Reference data	SEPA Routing directory	SEPA Routing directory (Equens Italy)	SEPA Routing directory	SEPA Routing directory
Standards and formats	MX (ISO20022)	Proprietary and MX (ISO20022)	MT103, proprietary and MX (ISO20022)	Proprietary and MX (ISO20022)
Messaging	FileAct	FileAct	FileAct	FileAct
Administration	CUG services by EBA	CUG services by Equens	CUG service by Eurogiro	CUG service by VocaLink
More information	http://www.abe.org/	www.equens.com	www.eurogiro.com	http://www.vocalink.com/

Figure 7 – Examples of retail payments systems on SWIFT

SEPA needed an approach that balanced the competitive advantages derived from existing service against a collective benefit based on cooperation. The key issue was determining and agreeing when a service had moved from competitive advantage to a commodity best handled in the collaborative space.

In the context of SEPA, the European Payments Council (EPC) has defined a set of core mandatory business and technical standards, and left open a set of interoperability options.

Drawing the line between the “cooperative space” for a collective benefit and “competitive space” should be considered a dynamic and iterative exercise that evolves over time. It requires a clear commitment by all parties. This requires flexible and agile consultation, monitoring of data and indicators, a reliable decision-making process, as well as a clear action plan. It is a long process that can require intervention. Australia has already established much of this ground. As such, the harmonising of instruments and settlement rules can proceed in an orderly fashion.

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