



New Zealand’s move to intra-day payments and settlement via SWIFTNet

Payments NZ Ltd (PNZ) was established in 2010 to lead the governance of New Zealand’s interbank payment clearing and settlement system’s rules and standards and to promote safe and efficient payment systems. PNZ has 8 registered bank shareholders and is governed by a board of 11 directors.

“The new system enables banks to both interchange payment information and settle their obligations to transfer money throughout the same business day, reducing the settlement risk between banks, speeding up payments, and improving the financial stability of New Zealand’s payment systems.”

Tim Duston, Chief Operating Officer, Payments NZ

Background

New Zealand has a very modern payments culture, involving low cash & cheque usage and one of the highest electronic funds transfer (EFT) rates per capita¹. To support this, a robust EFT clearing and settlement system was decided on to be deployed and the Settlement Before Interchange (SBI) platform was chosen as the best fit. SBI went live in February 2012 and was a collaboration between the payments system operator and payments industry body Payments NZ, the New Zealand banking community and SWIFT.

Below is a **summary** of the pain points of the old payment interchange, along with the implementation areas and business benefits of the new SBI system.

Key challenges

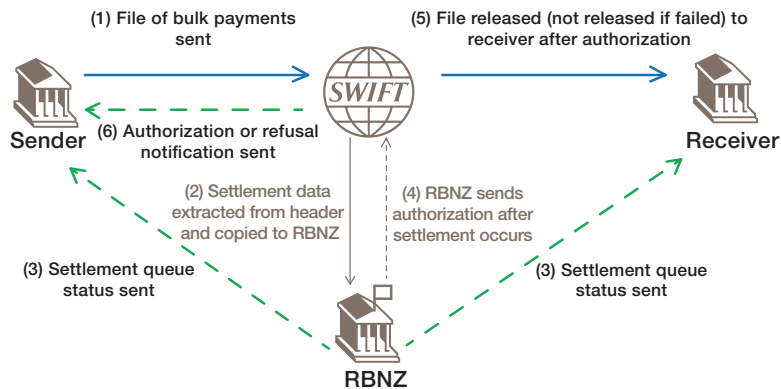
Prior to SBI, domestic retail transactions were processed in a next-day net deferred settlement via the automated clearing house, Interchange and Settlement Limited (ISL).

Key Challenges	Solution	Benefits of SBI
<ol style="list-style-type: none"> 1. Outdated clearing system and technology 2. Settlement uncertainty 3. Operational inefficiency 4. Inflexible proprietary file formats 5. No disaster recovery 	<ol style="list-style-type: none"> 1. Move from non-real time ACH switch to intra-day bilateral clearing 2. Workflow created to send files of bulk payments (SWIFTNet FileAct) and copy settlement data to RBNZ 3. ISO20022 standards for notifications and status reports 	<ol style="list-style-type: none"> 1. Reduction of settlement risk 2. Increase in intra-day file traffic 3. Total Cost of Ownership (TCO) reduction by re-using existing infrastructure for some participants 4. Non-repudiation



¹ According to the Lipis and Lipis 2012 study, PaymentsNZ led global payments schemes with the highest number of credit transfers and direct debits per year at 125 per capita.

Settlement before interchange (SBI) solution



There were several pain points with the previous system:

- Outdated clearing system**
 Old and rigid technology meant any change or innovation was complicated and risky to carry out, making it hard to improve the domestic payment interchange system.
- Settlement uncertainty**
 The solution carried an unknown and uncapped net deferred settlement risk which introduced a systemic risk associated with the possible failure of a given participant.
- Operational inefficiency**
 The “wind back” failure-to-settle mechanism involved returning and reversing some transactions in case of bank failure. This was not perceived to be an ideal operational solution.
- Inflexible proprietary file formats and standards**
 Banks used different file formats (BACHO or QC), requiring some transaction files to be converted by the ACH prior to interchange. Individual files sent to the ACH were also not bank specific, requiring the ACH to sort the transactions for each destination bank.
- Weak business continuity planning**
 There was limited disaster recovery redundancy in the ACH system should an issue be experienced.

SBI solution overview

As a result of the above pain points, reinvestment was clearly required, providing two options – to upgrade the system or to rebuild it. The different options were carefully assessed and the New Zealand industry decided to partner with SWIFT to rebuild the system with SBI. SWIFT supported through all phases of the project: from initial concept discussion, system design, industry preparation, testing and migration to live.

The graph below depicts the SBI payment interchange flows over **SWIFTNet**. SWIFTNet is the advanced IP-based messaging platform which communicates financial information securely and reliably utilizing **public key infrastructure (PKI)** for authentication. Bulk payment files are sent from the sender to the receiver and settlement-related information is copied to the central bank (Reserve Bank of New Zealand, RBNZ) for intra-day settlement. This happens during five settlement windows throughout the day. Settlement at RBNZ occurs before files are interchanged between the banks.

The solution components include:

A **Closed User Group** for participant membership where access control and permissions are managed and administered by Payments NZ.

A **Bulk Payments Service** for payment participants to exchange intra-day files on a bilateral basis over the SWIFT network. Based on SWIFTNet FileAct, this mitigates the risks associated with generic File

Transfer Protocol (FTP) and the open Internet. FA supports both interactive and store-and-forward modes, and is particularly suited for the exchange of large volumes of data.

A **Payments Copy Service** for providing a copy to RBNZ to trigger near real-time settlement. Based on SWIFTNet FileAct copy, only settlement-related information from the File Header is duplicated and delivered to RBNZ to trigger net settlement of the file. FileAct Copy is a value-added service of FileAct that enables the sender of a file to trigger a copy of the file header to a third party for authorisation (Y-copy) or for information (T-copy).

ISO20022 standards for system notification messages and payment status reports. The SBI solution supports existing proprietary payment formats within transactional batches as well as the international ISO20022 standards over SWIFTNet InterAct. InterAct is SWIFT’s interactive request/response messaging service that supports both real-time and store-and-forward modes and is particularly suited for individual message transmission.

Implementation process

The process was highly iterative with consultation and feedback between the banks, Payments NZ and the RBNZ. PNZ was established midway through and brought about a better governance structure and focus to the project.

For the onboarding, bilateral testing was undertaken between SWIFT, participant banks and RBNZ in a dedicated test environment prior to each participant going live. The eight participating banks – ANZ New Zealand, ASB Bank, Bank of New Zealand, Citibank, HSBC, Kiwibank, TSB Bank and Westpac New Zealand – participated in a staged migration to the new SBI system between November 2011 and February 2012.

Where is SBI now?

Before SBI, the average number of files processed daily was less than a 100 and they were mixed destination files sent to the ACH (ISL). File traffic has now increased with SBI to more than 600 files daily for a monthly average of about 12,000 files. There is an increase of more than 20% versus YTD 2012 which is largely due to the bilateral, standardized nature of SBI's file transfer.

Benefits

SBI and SWIFT provides the community with a modern and robust solution which constitutes an excellent base to layer up innovation and changes over time. It offers the following benefits:

- **Reduction of settlement risk.** Under the new system, the banks clear and settle the files during five interchange windows throughout each business day. The beneficiary bank receives an immediate settlement notification, removing the settlement risk.
- **Increase in file traffic.** SBI file traffic has increased by 22.2% (vs April YTD 2013/2012). In the old environment, banks sent mixed files to ISL, and ISL 'sorted' them for collection by the receiving bank. Now, SBI allows participants to exchange bulk payment files on a bilateral basis with

all counterparties, improving reliability and enabling participants to settle through multiple intra-day windows.

- **Total cost of ownership (TCO) reduction by re-using existing infrastructure for some existing SWIFT participants.** As all of the SBI users were already SWIFT members (including RBNZ), they were able to leverage more payments volumes through their SWIFT connections (and eliminate a costly proprietary system). The benefits of doing so include increased straight-through processing opportunities.
- **Non-repudiation.** The FileAct service offers on demand non-repudiation of file transfers. Users benefit from SWIFT as a trusted third party to provide evidence in the event of a dispute.

	YTD 2013	YTD Growth
Average settlement time	5-6 seconds	–
Average monthly transaction volume	~36 million	10%
Average monthly settlement value	\$50-60 billion	5%
Average monthly file volume	~12,000	20%
Average settlement mix by volume	net credit 75%/net debit 25%	–
Average settlement mix by file value	net credit 85%/net debit 15%	–

Next Steps

The likely immediate next stage of the project will review the strategic options regarding both the payment instruction processing time in SBI and the transaction value of the payments pipeline. It also includes the following considerations:

- Decrease operational risk by settling transactions as early in the day as possible: currently majority of daily volume is settled between 21:00 to midnight.

- Further tighten the contingency arrangements and enhance the documentation on technical and operational procedures (post-implementation) to respond to any participant, SWIFT or ESAS outage or issue.
- Explore the use of ISO20022 file format to replace the current BACHO format for transaction records and benefit from richer/additional information in the transaction record.
- Assess the need or desire to make payments faster.

About SWIFT

SWIFT is a member-owned cooperative that provides the communications platform, products and services to connect more than 10,000 banking organisations, securities institutions and corporate customers in 212 countries and territories. SWIFT enables its users to exchange automated, standardised financial information securely and reliably, thereby lowering costs, reducing operational risk and eliminating operational inefficiencies. SWIFT also brings the financial community together to work collaboratively to shape market practice, define standards and debate issues of mutual interest.

For more information, please contact your SWIFT account manager or visit www.swift.com