



Advancing with eBusiness



PAYbySNAP for Micro-payments

C A S E S T U D Y

Information Technology Online (ITOL) Program

The *PAYbySNAP* project was awarded \$43,750 in February 2002 under Round 6 of the ITOL program. *PAYbySNAP* introduces a new paradigm for enabling electronic financial transactions. It is a web hosted payments service for both businesses and consumers that facilitates financial transactions and maintains transaction records within a secure environment. *PAYbySNAP* was developed to allow small to medium-sized enterprises (SMEs), to conduct business more efficiently and income more cost effectively.

The project was managed by Thiri Pty Ltd a Canberra based new technology company in collaboration with the consortium partners ACT and Region Chamber of Commerce and Industry and Duesburys Chartered Accountants.

Introduction

PAYbySNAP was developed to assist SMEs to collect money more efficiently using the Internet. The number of SMEs connected to the Internet is estimated to be 80 percent nationally. Of those, more than half are purchasing products and services online and around 34 percent are using the Internet to take payments. [2002 Yellow Pages E-Business Report, The Online Experience of Small to Medium Enterprises, July 2002.]

Traditional electronic payment systems have tended not to be used to process micro-payments, that is, financial transactions where the value of the goods and services traded is less than \$10.00. Fees charged to online merchants for the processing of these payments have generally been viewed as uneconomical. Micro-payment systems such as *PAYbySNAP* are now starting to emerge to meet this identified market segment within the financial sector.

Objective

The project sought to trial *PAYbySNAP* with forty SMEs and 200 consumers in Canberra and to observe SMEs use and application of an innovative eBusiness solution for the presentation and payment of invoices.

At the project outset, the project partners believed that the current cost and technical complexity of implementing an effective online invoice presentation and payments system discouraged the majority of SMEs from using eBusiness. This has acted to prevent SMEs from achieving real cost savings in their business processes and becoming involved in the information economy.

The *PAYbySNAP* service was trialed to gauge the potential to cut through these barriers by providing SMEs with access to electronic communications and marketing tools to reach their customer base nationally without requiring complex technology and expensive infrastructure.

Project

The Consortium partnership provided an opportunity to trial the *PAYbySNAP* product with a diverse range of SMEs in Canberra. The ACT Chamber of Commerce used *PAYbySNAP* in their business units for collecting payments and also introduced *PAYbySNAP* to their business members as a payments service. Duesbury's participation in the project provided accounting and business development advice to assist SMEs adapt their accounting, auditing and business financial control to online payments.

The *PAYbySNAP* system facilitates efficient, electronic bill presentation and payment, functionality that can significantly decrease administrative costs for all businesses. The *PAYbySNAP* service generates invoices, produces receipts and keeps a transaction history for both buyers and sellers. It also enables any business to invoice and accept payment of any value over the Internet without the use of credit cards.

The *PAYbySNAP* payments service is designed to complement business operations and provides tools to integrate *PAYbySNAP* with business accounting procedures and operations. Invoices can be uploaded to *PAYbySNAP* from accounting software such as MYOB. With *PAYbySNAP*, businesses can also continue to issue paper invoices to their customers and include *PAYbySNAP* as a payment option on the invoice. Additional features in *PAYbySNAP* provide a mechanism to receive payments directly from an email or collect payments from a business website.

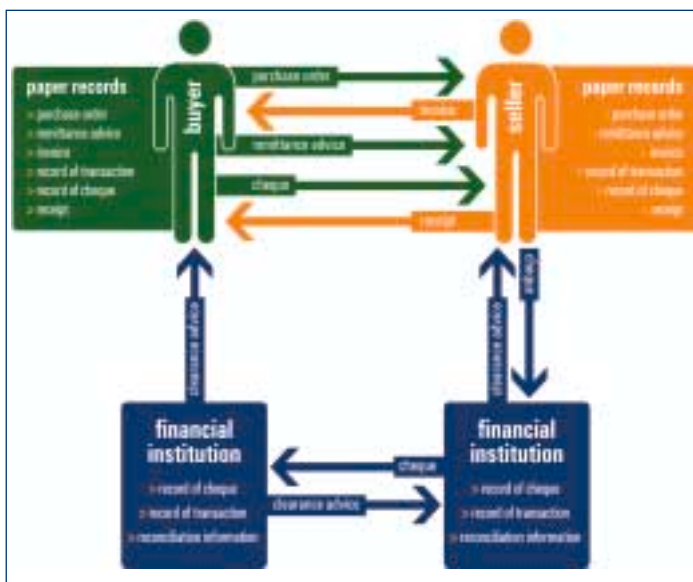
From the end consumer's point of view, *PAYbySNAP* operates as an Internet deposit account that can be used to pay or purchase items of any value online. A *PAYbySNAP* account can be opened online and money can be deposited into the account through Internet banking or through BPay. Money in the account can be used to purchase items from any of the businesses that use *PAYbySNAP*. Interest is paid on funds held in a *PAYbySNAP* account.

With *PAYbySNAP*, purchasing and selling online can be conducted without using credit cards. There is no charge for establishing an account and there are no account keeping fees charged to the account irrespective of the number of transactions undertaken. A small fee is applied to a transaction when a supplier is paid. Suppliers are charged a maximum fee of 50c per transaction. For transactions below \$25.00 the transaction fee is two percent of the amount of money paid. *PAYbySNAP* can profitably enable transactions from as low as two cents. Compared to credit cards, the *PAYbySNAP* fee structure offers a clear advantage for processing small transactions.

PAYbySNAP provides security by using a secure scripting language as well as encrypting all transmission data. *PAYbySNAP* uses the same transmission process as major financial institutions to ensure that data is delivered safely across the Internet.

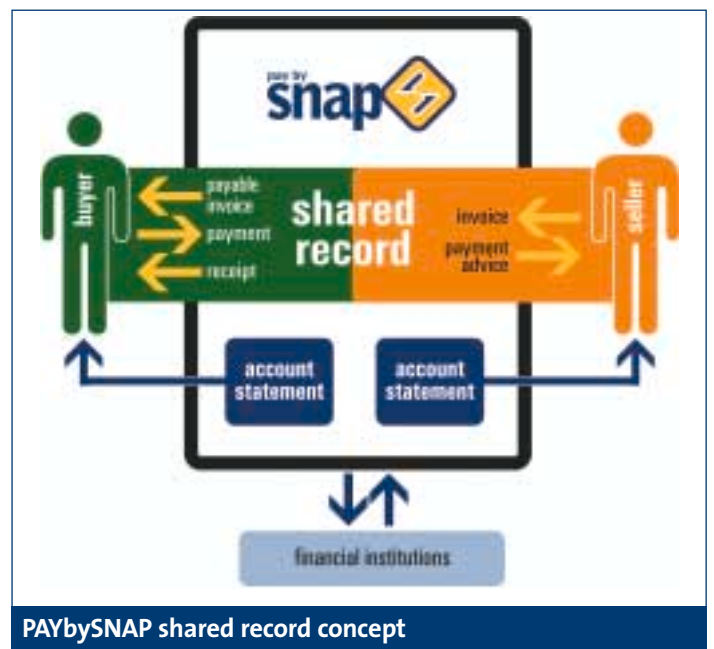
PAYbySNAP Innovation 'Shared Record' Concept

introduces a new paradigm for processing and managing business accounts for presenting invoices and receiving payments. This new paradigm dramatically improves the current system supported by Australian banks and other financial institutions. In traditional operations, every stage of a financial transaction is recorded on a separate piece of paper between a seller and a buyer. Paper is generated and dispatched between both parties and manually processed. The end result is that four parties (sender, sender's bank, receiver and receiver's bank) hold (for several years and in different physical locations) records of the same transaction.



The current transaction processing system used by Australian banks and other financial institutions

has redefined and improved this process using technology in applying the single patented record concept. The single record concept enables instantaneous connection between all parties involved in a financial transaction, and furthermore they all view the same data and record of transaction. Depending on the requirements of each party they each see different views of the same data. One view of the data is a purchase order, another view is as a tax invoice. Later, when payment is effected, the data can be retrieved and viewed as a payment receipt. At any time the record can be combined with many other records 'belonging' to a specific account to produce a transaction report. The effect of the shared record concept for SMEs is that the system can significantly improve business operations and reduce costs.



PAYbySNAP shared record concept

PAYbySNAP Interface to the Australian Banking System

The interface to the financial institutions is through a piece of software that provides batch interactions with the Australian Direct Entry banking system, which conducts bulk clearing of Electronic Funds Transfers (EFTs) between financial institutions. Transactions are cleared to and from *PAYbySNAP* twice daily, and transaction confirmations are usually received on the next business day. Transactions are cleared between financial institutions overnight.

Because *PAYbySNAP* accounts appear just like normal bank accounts to the financial system, transfers between bank accounts and *PAYbySNAP* accounts take place just like regular EFTs between bank accounts. There is no difference as far as the financial system is concerned.

However, *PAYbySNAP* does require that the *PAYbySNAP* member ID be included with EFTs into *PAYbySNAP*.

Without this information, *PAYbySNAP* cannot automatically determine which *PAYbySNAP* account to deposit the funds into. Thiri has manual procedures to identify the intended recipient of the funds.

Deposits may be made to *PAYbySNAP* accounts by EFT, either from an Internet banking application, or they can be manually initiated by a financial institution at a customer's request. Deposits may also be made via BPAY, either from an Internet banking application or over the phone.

Funds can be withdrawn from *PAYbySNAP* by transferring funds from a *PAYbySNAP* account to an Australian bank account. *PAYbySNAP* provides a facility for members to transfer funds from their own *PAYbySNAP* account to any Australian bank account.

All transfers to and from a *PAYbySNAP* account remain fully under the control of the owner of the *PAYbySNAP* account. *PAYbySNAP* only performs transactions on behalf of customers; it is up to the *PAYbySNAP* member to initiate them.

Transactions between *PAYbySNAP* accounts do not involve the transfer of funds at the financial institution level, so funds are cleared instantly by *PAYbySNAP*. Note that it is not possible to deposit or withdraw cash or cheques to or from *PAYbySNAP* accounts. All deposits and withdrawals are electronic.

Outcomes

Benefits for Business and Consumers

The *PAYbySNAP* technology provides a high level of functionality and financial transaction security for both 'buyers' and 'sellers'. All payments made in *PAYbySNAP* between *PAYbySNAP* accounts are cleared instantly. This provides businesses with immediate access to account funds combined with the ability to see real time account balance changes.

For the last nine months *PAYbySNAP* has been distributing interest to members. The average has been an interest rate of around 4 percent per annum. The distribution of interest combined with no account keeping fees makes *PAYbySNAP* a highly attractive online deposit account. This is achieved by pooling funds from all *PAYbySNAP* accounts and accessing interest rates available to cash management funds in which all individual *PAYbySNAP* members can benefit.

Key advantages of using *PAYbySNAP*

Business	Consumer
Collect-payments online cost-effectively	Make payments online without disclosing credit card numbers and other personal details.
Reduce administrative costs by presenting bills online and collecting payments electronically	Conveniently and securely pay regular weekly, fortnightly or monthly bills from any personal computer.
Sell products and services online without investing in and maintaining an electronic payments infrastructure	Earn high rates of interest irrespective of the number of monthly transactions or monthly balance.
Pay third party supplier accounts	Encourage personal savings.
Keep detailed electronic records with the capability to export data to most financial applications.	Keep detailed financial records of all transactions, and retains records for tax returns in one location.
Provide a viable payment collection alternative to credit cards for online payments	Make person-to-person payments
Receive a high rate of interest irrespective of the number of monthly transactions or monthly account balance.	Reduce transaction fees for bill payments

PAYbySNAP had the greatest appeal to businesses characterised as 'developing online products'. These were businesses that were already delivering services to their customers online or were developing an online product or service. The primary appeal of *PAYbySNAP* for this group was the ability to sell a product or service directly from their website. These businesses also welcomed the ability to collect small payments without using a credit card gateway. The potential for instant delivery of (paid) electronic content also provided new business opportunity for selling low cost items.

The micropayments capability of *PAYbySNAP* was an additional benefit for online businesses. *PAYbySNAP* provided an opportunity for the cost-effective collection of small payments with the additional benefit of managing all payment administration and deliver a complete set of payment records for both the business and consumer.

Cost-savings for SMEs

The *PAYbySNAP* system can decrease administrative costs for all businesses by automating bill presentment and payment. *PAYbySNAP* also provides a competitive alternative to the fees currently charged by credit card providers and electronic payment gateways on every electronic payment.

Market research conducted through the project demonstrated that the implementation of online payments can deliver significant cost saving to SMEs.

The project found that SMEs spend an estimated \$12.00 and above to administer an invoice. This figure was calculated assessing the volume of invoices with staff administration costs for manually processing invoices. However, the real cost of invoicing and receiving payments is largely determined by the size and nature of each business, this is diverse across SMEs.

The administration costs of invoicing can be reduced for SMEs by enabling them to automate the manual process of taking orders, issuing invoices, receiving payments and maintaining customer records. The value of savings to SMEs depended on how PAYbySNAP was used by each business.

A comparison of PAYbySNAP to fees and charges from financial institutions demonstrates some of the potential savings for SMEs.

Transaction service	PAYbySNAP	Credit Card	Personal Bank Account	Business Bank Account
Open an Account	0	0	0	\$40+
Annual Account Fees	0	\$18-\$250	\$60	\$60 (i)
Electronic Transfer to Bank	20 cents (within SNAP) 20 cents to external BSB No	0	30 cents	20 cents
Merchant Fee Charged on Electronic Payment of \$250 Bill	50 cents	\$5-\$10	N/A	Bpay via EFTPOS \$1.05 BPay via Credit Card \$6.05-\$11.05
Cheque	N/A	N/A	Write: \$1 Cash: 65 cents-\$3	Write: \$1 Cash: 65 cents-\$3
Annual Interest Rate paid on \$1,000 (July 2002)	\$40 (ii)	N/A	\$1	\$1
EFTPOS on \$10	Seller: 20 cents Buyer: 0	N/A	N/A	Seller: 55 cents Buyer: 30 cents

Notes: (i) Additional bank fees are charged to accounts that write more than 10 cheques per month.
(ii) Based on interest rate disbursed to PAYbySNAP account holders in January, 2003.
(iii) Source: <http://www.infochoice.com.au/banking/default.asp>, September, 2002.

PAYbySNAP Users

There are now 750 accounts in the PAYbySNAP system.

Crikey Crikey.com.au

Crikey is an online daily news publisher. Crikey occupies a unique position in online news by keeping its subscribers informed with up to the minute political news and public debate. Crikey has more than 5000 subscribers who receive email news updates every week. The annual subscription cost to join Crikey is \$66.

Crikey is using PAYbySNAP to enable non-subscribers to Crikey to pay for access to archived material on its website. Retrieving an article from the Crikey archives costs 85 cents. Once payment is made the article is delivered in real time to the recipient by email. Without PAYbySNAP Crikey would be unable to deliver a cost-effective service to non-subscribers.

- Reduced transaction fees for collecting money
- Instant payment for content online 'pay-per-view'
- Reduces manual processing of account payments
- Provides automated service for payment and delivery of archived news material

Dreamcatcher Tourism & Leisure <http://www.dreamcatcher.com.au>

Dreamcatcher Tourism & Leisure provides an online service for small business, in tourism, leisure industries and real estate sectors to display their products and services on the Internet through virtual tours, licensed online reservation system and visual display database. This allows small business, operational in the tourism and leisure industries and real estate agents, the chance to display their products to the world, via the Internet, for a small portion of their advertising budget.

The virtual tour technology has features, such as voice over, zoom, forward, reverse buttons and our transitional image technology that allows seamless movement from one image to another.

The online booking system provides an affordable Internet booking facility for small business. Reducing their operating costs, due to lower booking fees and give them total control over how much product they allocate to travel agents via the internet. They will be able to change their rates within hours and add packages and specials as required.

The Dreamcatcher system allows for the creation of a fully integrated online brochure, which will lower marketing costs and increase local tourism and employment in major cities and regional areas. Dreamcatcher is using PAYbySNAP in the



development of an affordable payment and invoicing system to suit their business model.

Dreamcatcher will use *PAYbySNAP* as a payment and invoicing system with the distribution of commission payments to their agents.

WebOne

webone.com.au

WebOne is an Internet service provider in Canberra. WebOne provides Internet services to both personal and business customers for a monthly access fee. Customer accounts are generally paid through a payment authority on a credit cards or by direct deposit. *PAYbySNAP* offers WebOne customers with an alternative payment option. Customer accounts are issued by email with a direct payment link to *PAYbySNAP*.

The *PAYbySNAP* service provides WebOne with a cost-effective payment collection option for managing regular payments from their customers without using credit cards. It also provides an efficient service to their customers with a quick link payment from an email invoice.

Marymead

<http://www.paybysnap.com/pages/marymead.htm>

Marymead is a non-profit community welfare service agency located in Canberra that provides a range of services to assist families in their parenting role. Services provided by Marymead include parent education, family support, parent-child contact, respite, foster, community and residential care, and individual programs for families affected by disability, challenging behaviours and chronic illness. With a commitment to, and belief in, the importance of family, Marymead also has a history of initiating programs, workshops and services in response to changing community needs.

Marymead uses *PAYbySNAP* for their fundraising activities by accepting donations online and also selling tickets for fundraising events. *PAYbySNAP* offers Marymead a low-cost and low maintenance service for accepting and receipting payments. By using *PAYbySNAP*, Marymead is reducing their administrative costs and increasing the effectiveness of every donation they receive.

Future

PAYbySNAP has been successful in obtaining four business process patents for the following:

- commercial transaction system
- integrated transaction system
- action dependent commercial transaction system
- authentication process in *PAYbySNAP*

PAYbySNAP is in the early stages of commercialisation. The project findings have helped to steer the potential path to market for *PAYbySNAP* and identify the types of SMEs that are likely to engage in eBusiness. The project also helped to identify the primary competitive advantages of the product: micropayments and bill presentment and payment.

The project provided the opportunity for the *PAYbySNAP* to be trialled with SMEs in Canberra and assess the product in a business environment. Exploration into this market through the project has identified key characteristics of businesses that can be targeted as early adopters of the product with SMEs identified as 'developing online products'.

Online bill presentment and payment can significantly improve business efficiency and deliver cost saving to SMEs. Moving current business processes away from paper based and manual administration is an essential step for efficient business operations.

Additional Comments

"Businesses the world over are realising that eBusiness is not a fad or passing phase, but a renewal of essential business infrastructure. The community of business and customers needs a product with the agility, efficiency, adaptability and transparency of PAYbySNAP.



The frequent arrival on the market of a wide range of payments and bill presentment products (none of which can match PAYbySNAP) reinforces our conviction."

Brand Hoff, Chairman of Thiri Pty Ltd

"PAYbySNAP allows Marymead to receive donations at all times of the day and night. It gives Marymead a presence on the Web, more exposure through online information, and also gives extra publicity about Marymead and what we do to assist families."

Roger Leggott, Honorary Treasurer Marymead Auxiliary

Need Further Information?

More information about the ITOL program is available at:

Website: <http://www.noie.gov.au/itol>

Email: itol@noie.gov.au