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Government e-billing and e-payments:

The picture a year on

Report to the State Services Commission

July 2002

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A full list of those individuals and organisations interviewed in the preparation of this report is attached as Appendix A.

EXECUTIVE SUMMARY

In 2001 a review of the potential for the role of ebill and epay in the New Zealand government sector suggested that a delay in any decision of say, 12 months, would be a sensible approach to taking decisions in the area.

As a result the e-government unit of the SSC requested the same team to re-examine the question, now that about 12 months has elapsed. The team found that, in their opinion, the situation had shifted slightly over the intervening year. In particular, they believe that the market for online bill presentment and payment continues to be substantially undeveloped. The public has mistrust of the security side of such transactions and cannot see sufficient benefits yet, it seems. Uptake trends in electronic bill presentment and payment are likely to continue to be slow until a critical mass of both billers and payers is achieved.

Re-addressing the volume of G2C (government to citizens) transactions has caused us to realise that the CG2C (central government to citizens) throughput volumes (in contrast to the LG2C (local government to citizens) and CG2B (central government to business) are typically low on a per head basis. This militates against central government led G2C activity.

Looking at the other areas, LG2C is likely to go ahead, driven by its own forces, and could be carefully observed, while CG2B is a relatively specialised area that is not organised around the type of systems associated with G2C transactions. It is handled at present in efficient ways that are essentially procurement driven. This suggests that its consideration should be kept separate from that of consumer driven billing and paying.

Particular questions were posed to shape the review. They, together with the answers proffered as a result of the deliberations in the report were:

1. **Confirm that the consolidator model is the appropriate approach**. We still see the value in this concept. But the likely volumes of take up rates for typical transactions with the public sector make public service leadership in this area inappropriate.
2. **Confirm that NZ Post are a potential supplier in this area; advise as to alternative suppliers now in the market place**. The New Zealand Post product is stronger than before, but is still experiencing slow uptake. Few viable options are available.
3. **Comment on the legal issues involved with the ability of agencies to charge and/or pay for fees that may be associated with this service.** There are still legal issues to address. The passage of explicit legislative authority would be a positive move.
4. **Provide advice as to market place (the public/interest groups) perceptions of such a service, including comment on likely uptake.** We note public wariness, as citizens see potential to contract other useful channels in favour of this one. As suggested above, the take up rate is likely to be slow.
5. **Provide comment on issues of security in relation to such a service, particularly with reference to the need to authenticate users or agencies, the security of data, the need for encryption during storage or transmission.** Security is a public concern and it has various aspects, including that of authentication. The

appropriate solutions are likely to be found with wider public use of the commercial systems.

6. **Any other issues the Consultant considers it should draw to the Commissioner's attention.** The way the public sector systems are likely to grow involved substantial investment in the creation of specifically required ebill/epay services. It would be difficult to reap cost savings until citizen uptake proportions were high. This means the achievement of fiscal neutrality for the investment may take a long time. Demand for shorter payback times would mitigate against the growth of a variety of services, which would be a loss for citizens.

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APPENDIX

1. INTRODUCTION

The e-government unit of the SSC is interested in the ways the potential of the use of digital technology to access information and services from the New Zealand Government can be harnessed to further the welfare of New Zealanders. As part of their work, they have commissioned various pieces of work, including, in 2001, a report on e-billing and e-payments[1].

This report closed by suggesting that:

> *"…the benefits from taking a decision today are not outweighed by the risks. We cannot recommend selecting any of the available options now. We rather suggest that here be a delay of say, 12 months when the issue could be carefully re-appraised in the light of the inevitable technological change over that time."*

Twelve months on John Yeabsley of NZIER and Doug Bailey of KPMG Legal have been commissioned to re-examine the position.

In particular the brief is for the consultant to:

1. Confirm that the consolidator model is the appropriate approach (refer the June 2001 report at paragraphs 6.1.1 and 6.2)
2. Confirm that NZ Post are a potential supplier in this area; advise as to alternative suppliers now in the market place (refer the June 2001 report at paragraphs 5.2 and 6.1.2)
3. Comment on the legal issues involved with the ability of agencies to charge and/or pay for fees that may be associated with this service (refer the June 2001 report at paragraph 4.5)
4. Provide advice as to market place (the public/interest groups) perceptions of such a service, including comment on likely uptake (refer the June 2001 report at paragraph 3.3)
5. Provide comment on issues of security in relation to such a service, particularly with reference to the need to authenticate users or agencies, the security of data, the need for encryption during storage or transmission (refer the June 2001 report at paragraph 3.2)
6. Any other issues the Consultant considers it should draw to the Commissioner's attention.

This report covers these matters.

It should be noted that this report is not designed as, nor intended to be, a product evaluation. It is an attempt to address the questions posed above.

[1] John Yeabsley, NZIER & D. Bailey, Lazar Associates (2001) *E-billing and e-payments*, Report to the SSC E-Government Unit.

2. BACKGROUND – GOVERNMENT BILLING

2.1 Transactions, volume, type and implications

Our previous report examined the structure of the central government outlays and looked at the extent to which these were with citizens. This review does not intend to repeat that exercise, but rather re-examines the question from a slightly different perspective.

In particular, it is apparent that our earlier analysis neglected two important aspects of the structure of citizen/government interactions; specifically the distinction between local versus central government to citizen transactions (LG2C v. CG2C), and the actual frequency of unmediated CG2C transactions. Taking these distinctions into account, we make the following observations.

Firstly, many seeming interactions between central governments and the governed, actually occur with businesses, on their own behalf – in other words, these are CG2B. Even when the intended recipient of the central government/citizen transaction is an individual citizen, there are often specialised agencies (such as lawyers) who are actually carrying out the transaction, and thus using their business processes to settle the account.

This difference is important because the way the government to business (CG2B) transactions are, and can be structured – because of scale of through put and costs - is notably different to the way it is reasonable to expect the central government to citizens (CG2C) structure to look.

So when the CG2B transactions are taken into – or rather out of - the mix, the volume of Wellington government transactions with the typical citizen is relatively low on annual basis. The abolition of IR5s and their associated actions has reduced the incidence of direct transactions between citizens and the IRD, and there are few other regular interactions for the average person, other than those related to motoring matters[2].

These are interestingly more complex than a simple bill and pay transaction. The opportunity has been taken to "costlessly" check on the state of the vehicle's fitness, as part of the physical process of relicensing, which entails making a payment to the government. Re-engineering the whole process (possibly through the smarter use of IT and data bases) could come up with an efficient way the two aims (collecting the fee, **and** checking the state of the vehicle) could be satisfied electronically.

But this procedure is symbolic of a more general issue; specifically, that the current non-electronic systems of government have often been crafted and recrafted to try to do the most with the lowest costs. The approach in general is to achieve maximum economies of scale within a single process. Shifting from a face to face transaction to an electronic one could, unless specific redesign work is undertaken, leave these previous "free-riding" aspects stranded.

All of this means that while some citizens might have multiple 'commercial-type' transactions with central government each year, the average citizen will perhaps have only as many as two. The distribution of the intensity of transactions is likely to be quite wide. It is possible to imagine a person who has regular payments of educational

[2] These include official relicensing of vehicles and people to be on the road.

fees (pre-school, school, tertiary, evening class etc) on behalf of themselves and their dependants, a string of fines to settle, and who may also be engaged in retiring debts with other agencies, perhaps stemming from benefit overpayments or loans. While there may be a reasonable number of people in this situation in terms of the total population, in our assessment, this type of individual is relatively rare.

In addition, the local government picture is different. Not only do citizens often have more transactions more regularly with their local councils, but councils are closer to them. The regular payment of rates and other transactions associated with the local government scene means there are more grounds for expecting the LG2C link to be more intense and more busy and populated than the CG2C one.

Alongside this picture of the two sides of the G2C market, we can add a stylised view of the penetration of internet banking that we were given by one of the major trading banks. They saw the growth of internet banking as starting to level off at a relatively low penetration level (somewhere around 20% of total customers.) One explanation of this was the somewhat complex structures that were in place to access a limited range of services. They still saw continued growth, as an increasing proportion of customers were eager to use electronic mechanisms.

The implications of these for a large proportion of the population are:

- Citizen involvement with central government transactions is generally relatively low intensity, so its not worth a serious investment to learn anything complicated, as the event is scarce and the potential time or convenience gain is limited;
- The throughput of the new system per user is going to be likely to be low, so it has to be extremely cost efficient; and
- For the foreseeable future a significant proportion of citizens are not going to want to switch to fully electronic bill presentment and payment systems. For this group, alternative mechanisms (channels) will therefore need to be retained.

3. CONSOLIDATED VERSUS DIRECT BILLING

In our assessment of electronic bill presentment and payment systems last year, we noted the relative advantages of consolidated billing and payment services as compared to the direct billing alternative. Taking account of citizen perceptions of at least central 'government' as a single entity - rather than an aggregation of discrete departments and ministries - we formed the view that the consolidated model would have a greater attraction for users, not least in that it obviated the need for multiple user registration. We also noted the possible inefficiencies associated with the proliferation of direct billing services throughout the public sector.

Despite the apparent appeal of the consolidated model, however, we also noted the immaturity of the electronic presentment and payment 'market', the limited range of potential service providers, and the desirability of a delay in settling upon one presentment and payment model over another.

This delay has been useful for a number of reasons. Firstly, it has allowed sufficient time for some critical trends in consumer perceptions and uptake of electronic transactions to be discerned. Secondly, it has seen a development in perspectives and provision of electronic bill presentment and payment on the part of some government

agencies. Thirdly, it has clarified who the potential providers of consolidated presentment and payment services are likely to be. Finally, it has allowed some more reliable conclusions to be drawn about the relative merits of the direct versus consolidated billing models in the local context.

3.1 Key Trends

3.1.1 Uptake in e-commerce and online presentment and payment

Local and international research indicates that much of the promise of electronic commerce has yet to be realised. Although the number of people transacting business on the internet has continued to grow, locally at least the quantum and value of those transactions are still relatively limited.[3] Off-shore the trends appear more positive of late, the most recent survey of internet usage in the United States, for example, showing that levels of public confidence in online transactions have grown strongly over the past year with the third quarter 2002 forecast of internet spending growing 41% to US$14 billion. [4]

The trend in online bill presentment and payment, however, is significantly less robust – and again the phenomenon is an international one. In Canada, a market we see as in many ways comparable to that of New Zealand, (if leading us by several years in electronic penetration) a review by Forrester suggests that companies and consumers alike continue to eschew electronic presentment and payment.[5] The Forrester Report notes that only 9% of Canada's internet users view bills online. Of those, most have been long-term internet users[6] suggesting that there is little appeal for this mechanism among new entrants to the internet market.

This result is attributed to a number of factors and it may be useful to briefly rehearse them here. Firstly, consumer awareness is lacking, almost a third of users surveyed indicating that they were unaware that electronic payment services were available. Secondly, nearly half of the online consumers surveyed prefer to receive paper bills. Thirdly, despite email notifications and authentication layers, there is a widespread concern about the security of any transaction. Finally - and perhaps most significantly given the question of proceeding with a consolidated versus direct billing model - billers are split between their own 'e-route' and consolidated 'epost' sites. This was seen as inconvenient by those surveyed, the majority indicating that a critical mass of bills (at least five monthly) should be viewable on the same site. Forrester notes the sharp division between the two dominant presentment providers and the simultaneous competition for billers and consumers, and concludes that this is effectively retarding the growth of the online billing market.

Feedback from e-commerce consultants and finance sector commentators locally suggest that in the United States - a reported growth in ecommerce notwithstanding - the experience has been similar. In the case of consolidated service provision, in particular the companies (billers) and payers have failed to see the value proposition advanced by service providers. The reported practice of charging both billers and payers for the transaction has reportedly functioned as a significant disincentive.

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[3] *E-commerce: Building the Strategy for New Zealand Progress Report, One Year On. Ministry of Economic Development*, November 2001.

[4] *AC Nielsen Internet Confidence Index*, June 2002.

[5] *Canada's Collaborative EBPP Future*, The Forrester Report, January 2002.

[6] The proportion is three fifths.

The same commentators note that the uptake of online billing and payments in New Zealand is likewise discouraging, with the supply of billers and registered users currently well below the critical mass required for a consolidating billing service to be commercially sustainable. [7] This may account for the continued failure of potential consolidators to position in the New Zealand market. Figures from NZ Post suggest that this position may be changing, but taken as a whole the evolution is only an incremental one.

3.1.2 Online Banking

Trends in online banking over the past year present a radically different story and, again, the experience is an international one. In Canada, while the uptake of on-line present and payment might be low, users of online banking services continue to increase. The New Zealand experience is no different, with registered internet customers of the 'big five' banks growing from 345,000 in 2000 to 678,000 by the end of 2001 - approximately 26% of the banks' customer base. [8]

Feedback from commentators within the local finance sector (as mentioned above) have indicated that this growth is peaking, but it is nonetheless clear that the banks are relatively rich - both in potential payers, but also in business users.

3.2 The Nature of Government-Citizen Transactions

As we have already noted, a weakness of our 2001 report was our failure to adequately distinguish between CG2C and CG2B transactions, as well as between CG2C and LG2C. What is apparent from the pattern of financial transactions currently undertaken electronically with central government is the fact that high volume, high value transactions occur almost exclusively with business (CG2B and LG2B).

3.2.1 G2B

As a corollary it is not, in many instances, government that interacts with citizens, but third party agencies which utilise government services on their citizen clients' behalf.

In these instances, the transaction processes and payment systems are already highly engineered and can be readily transacted online as part of a direct billing model. Land*online* is a case in point. Title searches and changes are typically undertaken by third parties, such as valuers and conveyancing firms. These organisation mediate the transaction, effectively placing the service at arms-length to the citizen. The business process is necessarily responsive to the needs of these high-volume users and there seems little benefit in an online payment system that requires the use of a consolidator.

That being said, it is notable that Land Information New Zealand has already provided an online payments option using NZ Post's consolidated eBill service. It is the only central government agency to do so. We understand that this channel has been developed - and will be maintained - as part of the agency's contribution to the evolution of online payment options within government.

This approach could be adopted by other public sector providers. As discussed above, however, it should be noted that not all transactions with government involve a simple payment for a simple service. Some are interactive, in the sense that the delivery of a

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[7] See, for example, Tom Pullar-Strecker, *Datamail survey finds businesses wary of e-billing*, INFOTECH Issue No. 544, 2002.

[8] *Auckland University Residential Customer Survey*. Reported NZ Herald 15 may 2002. See also *Financial Institutions Performance Survey 2001*, p.8., KPMG.

service is contingent on the completion of a discrete action. The process of vehicle registration is illustrative.

Citizens can pay for a current vehicle licence, but both payment and the receipt of the licence is contingent on the vehicle owner having a current vehicle inspection certificate. This is already well accounted for in LTSA's current business processes and, if offered through a consolidator, may necessitate substantial business process re-engineering. While the problem is far from insuperable, it will entail additional investment.

Local government has a variety of such services, which include some, like building permits, that are similar to the example, and many of their business counterparties are relatively small firms (builders and the like). These factors suggest that the attitude of the councils is likely to be a critical determinant of the way their development in this area is likely to evolve.

3.3 Conclusions

The market for electronic commerce and bill presentment and payment, in particular, remains relatively immature. Public confidence in the security of online transactions and the basic utility of electronic presentment and payment facilities emerge as key factors influencing the limited uptake of electronic presentment and payment over the past year.

The rates at which online banking has been adopted over the same period is notable by contrast. It suggests that consumers have a significantly greater confidence in banks as a provider of online financial services, and that they are prepared to invest the time taken to acquire the skills required, because they can carry out a reasonable number of useful transactions on a regular basis and thus reap a net gain in time saved and other convenience factors. This may in turn suggest that the most sustainable model for consolidated bill presentment and payment will be through association with the existing banking portals.

Over the short and medium terms it seems likely that the adoption of electronic bill presentment and payment will continue to be slow. While the timeframes involved may be shorter, we believe that uptake will follow the pattern set by Eftpos, specifically slow adoption (while both sides of the market await a reasonable number to appear on the other, so their investment pays off) that rapidly accelerates once the utility of the service is recognised and a critical mass of users (merchants and consumers) is achieved.

Public perceptions of the utility of consolidated presentment and payment services will rest on achieving a critical mass of monthly bills that can be viewed and quickly dealt to at any one time. This, in turn will depend on the "thickness" of the available market of billers prepared to transact with consumers through a consolidation service.

In the light of these observations, we remain of the view that the State Services Commission should maintain a flexible position on the future development of electronic billing and payment in the public sector - one that does not pick 'winners' or skew the development of a market of available consolidators over the medium or long term.

4. SOLUTION PROVIDERS

A year on, the number of existing and emerging consolidators locally remains severely constrained. Only two parties have taken, or have indicated an intention to take, an active market position – specifically NZ Post, with its eBill offering, and Telecom/Esolutions with Flexibill..

4.1 NZ Post - eBill

NZ Post remains the only significant provider of consolidated bill presentment and payment services in the New Zealand market.

Comment in the marketplace has suggested that despite Post's effective monopoly position, eBill continues to be poorly supported, in terms of the number of contracted billers and registered users.

Discussion with NZ Post, however, paints a different picture. [Text Deleted]

NZ Post reports a continued investment in eBill to enhance its flexibility and appeal to customers. Existing functionality includes:

- Payment only option (Justpay) – supporting ad hoc payments such as fines and phone bookings;
- Presentation only option –allowing secured document viewing; and
- Partial branding – allowing billers to brand eBill pages and provide access to the biller's website.

[Text Deleted]

A critical dependency for eBill's success – and indeed the success of any consolidated presentment and payment services will be achieving a critical mass of major billers

4.2 Telecom / Esolutions - Flexibill

The consortium of EDS, Telecom and Microsoft has continued to work on 'Flexibill', its own consolidated billing presentment and payment offering. Unfortunately, Flexibill has proven a late starter, with its launch being delayed until October 2002.

[Text Deleted]

Flexibill will be offered as an alternative to Telecom's direct billing solution that it currently makes available to its customers.

4.3 Other Solution Providers

a) Bpay

Although Bpay continues to be active in Australia, it has not, to our knowledge, developed a position in the New Zealand market.

b) E://volution E-Business Limited

The only new market entrant of which we are aware is E://volution. E://volution E-Business Ltd is a New Zealand owned company based in Auckland. Its consolidated billing and payment solution will handle a variety of payment types, including direct debit, credit cards and, eventually, secure Eftpos transactions. [Text Deleted]

c) Eftpos

Eftpos has indicated an intention to enter the market this year with a direct payment solution known as 'Egate.' This is a internet-based payment gateway and is intended for credit card transactions only. It functions as a virtual eftpos terminal and is targeted at merchants.

From the outside, the sheer coverage of eftpos cards, and the system's existing acceptance suggest that any development that could build on this would have a natural advantage. It would start with an authentication advantage [9], anyway.

5. OUTSTANDING LEGAL ISSUES

The various legal issues impinging on the evolution of electronic service delivery strategies have been amply rehearsed in our review of June last year. Feedback received in the course of the present review, however, suggests that the quest for certainty would be best served if additional emphasis were to be placed on the statutory and regulatory bases of any charges that may be imposed by the Crown in respect of electronic services.

Also, while not specifically a legal question, the policy considerations guiding decisions concerning the provision of electronic services, as well as the appropriateness and quantum of any charges involved should, in our view be clearly articulated.

5.1 Charging for electronic services

The practice of cost recovery for certain government services has become a well-established and generally accepted one. We note, however, that the familiarity of the practice may have engendered a certain contempt – or at least ignorance – of the constitutional importance of ensuring that any fee-for-service regime has an explicit statutory foundation.

The need for such foundation this lies in the principle that the Crown may not tax except with the authority of Parliament. Accordingly, where a fee is set for a service that the citizen has no choice but to 'purchase' from the Crown, it is necessarily a tax and requires statutory authority.[1]

Consistent with this, care should be exercised in respect of empowering provisions that are not technologically 'neutral' - or in other words, that provide only for charging for services delivered through more traditional channels. In such instances, the legitimacy of any charge for an electronic service may be doubtful and will need to be addressed on a case by case basis by any agency contemplating the imposition of a charging regime.

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[9] See subsequent discussion, in section 7.

1. Section.22 Constitution Act 1986:

Parliamentary control of public finance

It shall not be lawful for the Crown, **except by or under an Act of Parliament** -

(a) To levy a tax…

The same injunction should also apply where charges are fixed through regulation. Again, these need an adequate statutory foundation and should be reviewed on a case by case basis.[10]

5.2 Credit Contracts – Disclosure Requirements

One possible impediment to electronic bill presentment and payment may arise under the disclosure requirements of section 20 of the Credit Contracts Act. Specifically, if users of electronic services are provided with credit under a credit contract – e.g. a credit card transaction - disclosure of the transaction is required to be made to the client by giving or sending the relevant documents to the debtor in physical form. Electronic forms do not currently ensure compliance with the Act and will not do so until the Electronic Transactions Bill is passed.

5.3 Electronic Transactions Bill

By way of general note, continued delays in the passage of the Electronic Transaction Bill should, in our view be a matter of real concern. While its relevance to electronic bill presentment and payment may, in practice, be only peripheral, its provisions remain a critically important step – and signal - in the evolution of electronic transactions in New Zealand. Authentication using electronic signatures, consent to the use of electronic forms, and the disclosure of credit contracts are among several issues left unresolved as a result of Parliament's failure to pass the legislation.

5.4 Fees

In practice the potential legal issues associated with fees arise through a variety of mechanisms:

- Normal charges from the operators of services that are employed, such as credit companies;
- Specific cost related recoveries that government agencies are encouraged to impose as part of the normal approach to public finance (see next section); and
- Occasional attempts to create a cross subsidy within a government agency's finances to enable it to undertake some wider service.[11]

Aside from the legal matters inherent in these matters, they also raise wider questions related to cost recovery and the public good.

5.5 Policy priorities – fiscal neutrality versus public good

There is an evident tension in officials' perspectives on both the cost-benefit justification for providing services by electronic means, and the appropriateness and quantum of any associated charges. This is significant.

On the one hand, it appears that some agencies may weigh the decision to offer electronic billing and payment facilities primarily on the basis of achievable cost

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[10] Useful guidance on these matters can be found in: the 'Report of the Regulations Review Committee: on the Inquiry into the constitutional principles to apply when Parliament empowers the Crown to charge fees by regulation. First Session, Forty-Second Parliament.

See also: *Guidelines for Setting Charges in the Public Sector,* The Treasury, 1998; and *Guidelines on Costing and Charging for Public Sector Goods and Services,* Report of the Controller and Auditor-General, 1989.

[11] Such an approach was said to lie behind the charging regime proposed by DIA for birth and death certificates earlier this year.

savings. This, in most cases, seems to be predicated on the extent to which an agency can shut down its alternative delivery channels, or at least achieve a neutral budgetary outcome by the imposition of cost recovery mechanisms. Concern about the political sustainability of either option and the consequent risk of increased costs to the agency appear to give rise to concerns about the merits of pursuing electronic service strategy.

On the other hand, it appears that some officials take greater cognisance of what could be loosely called the 'public good' aspects of enhancing citizen access to government services using electronic as well as more traditional means. The business case rests not on cost savings, but on the delivery of a wider public benefit. This is accepted by several commentators we spoke to, and in particular seems to lie, at least in part, behind the local government initiatives in this area.

We note here, as elsewhere in this report, that these competing perspectives need to be reconciled if public sector agencies are to develop a consistent set of service offerings and appropriate charging regime. The issue should not be under-estimated. Any decision to place perceived public benefit above cost savings, for example, will have substantial fiscal implications when generalised across the public sector as a whole. On the other hand, as we noted in our report on the Levin view of government[12] services, there is a degree of citizen cynicism about the motives of implementation of technology in government.

6. PERCEPTIONS OF THE SERVICE

The Levin experience was salutary for the consultants who undertook the work. Citizens were generally neutral about central government, but less than neutral about the march of "progress." They saw changes in the public sector as generally implying at least the threat of a worse service at a higher cost.

In particular they resented:

- Cost shifting – advice groups we talked to cited the inevitable consequence of using Central government on-line material as involving printing charges, including stationary, which were not faced when those agencies produced and printed the pamphlets previously used;
- More distant physical location – they noted the way many services had moved further away. Most of the time access was not a problem, but the impact of distance on their quality of service was noted;
- Increased transaction costs – where the new systems seem to be designed to make things difficult, or at least different for citizens. A strongly held view was that as the 'big player' and the party with the resources, the government ought to be able to make the new channels user-friendly; and
- Inappropriate channel availability – citizens were keenly aware of the frequent need for a variety of channels, with particular need depending on the actual type of transaction being undertaken. So an electronic billing and paying system will need to complemented by the back-up channel that allows dignified and secure

[12] See, John Yeabsley, NZIER and D.Bailey, Lazar Associates (2001) *The view from Levin*, Report to the E-Government Unit, SSC.

discussion of sensitive issues. Levin dwellers were relatively pessimistic about the ability of any government to deliver quality call centres, for instance.

There are concerns, too, about privacy. People worry about their movements and dealings being tracked and some told us they deliberately use a range of names on the net. On the financial side, a group are very concerned about the security of payments, and how this could be assured.

If we put this together with the way related electronic services have fared in New Zealand, and some overseas experience, we can come up with a picture that may be somewhat speculative, but has a degree of justification. It is that there are significant numbers of consumers who are comfortable with electronic services; indeed a subgroup who positively prefer them. But they are not a majority of New Zealanders at present, and are possibly growing slowly. Others could be users, but are not interested in investing time and effort in what they see as extra complex learning, for the sake of a really small number of transactions annually.

All this suggests that the total demand for any special (extra) central government system from citizens (CG2C) is likely to be only a minority of the total citizen numbers. It may be possible to be more positive about the prospects for local government uptake, where the transactions intensity is higher.

Turning to local government we have less firm information to draw on, but can venture the following.

We have already seen that local government has a higher intensity of transactions with citizens including a proportion of LG2B that are effectively with citizens. Some of these transactions are more complex than bill presentment (rates), but others are not. This suggests there might be a different profile of use for local government than central government.

There also seems to be an awareness among some elements of local government that the advantages of electronic channels might mean that they could be offered as an alternative alongside existing channels. This might lead to a different approach among local bodies, which could mean they serve as a valuable series of pilots for electronic billing and paying systems among the public sector.

7. SECURITY AND AUTHENTICATION

As mentioned above there are security concerns. We can classify these into three groups:

- **Abuse** - User concerned about the risk to their own financial accounts from the misuse of the information provided, or of the system;
- **Identity** - From the government aspect there are often concerns about being able to be sure who is at the end of the transaction. This is important for the incorporation of services such as drivers licences or other key materials which are a quid pro quo for many transactions. This is a branch of authentication; and
- **Big brother** – How much would any electronic system add to the ability of central agencies (or third parties) to follow the individual through their daily lives.

7.1 Abuse

On the first question of risk by citizens we regard this as potentially serious and a matter that deserves public attention. People are concerned and believe that some users have found to their cost that the codes of practice of some of the financial counterparties frequently involved in such transactions are better at protecting the counterparties than the user. This is not necessarily an accurate view, but the codes documentation is voluminous and its fine points not well appreciated. There may be a role for government, probably as an information spreader here.

7.2 Identity - authentication

As far as identity questions go we note that these require attention and are likely to go beyond the ebilling and epaying question. Some will require process re-engineering, but there are tantalising prospects like integrating a range of benefits into the system if identity could be better incorporated.

If public sector level acceptable authentication could be incorporated into a system of bill presentment and bill paying, then there would be a series of tantalising prospects that would open up for the system, including: benefit distribution, and other significant elements of the public payments.

As noted elsewhere one of the complicating features of the current set of online transactions is the difficulty of achieving identity authentication. As such it is intriguing to compare this difficulty with the widespread and largely effective use of eftpos. The difference, of course is the existence of two pieces of identification in different forms: the card and the unique identifier. Most online systems try to compensate for the lack of "the card" through compensatory complexity.

It might be simpler to envisage addressing the matter directly by having the card readers made more widely available.

7.3 Big brother

We are not going to deal with the third, except to note that it raises issues relating to security standards and encryption and that the government examples of these need to be at least as good as industry best practice. This stems in part from our impressions in Levin about the views about government, and also from the way the government is both player and regulator here.

7.4 So this takes us to..

Overall, none of these concerns are peculiar to the type of systems under examination here. We see them nevertheless as matters to be addressed as part of the process of the development of an e-government policy. The appropriate solutions are going to be found within the systems put forward. We note that specialists seem to be comfortable with the 128 bit encryption standard. It has widespread confidence.

Finally, no system is foolproof. Encryption is like all other types of security in terms of offering a degree of comfort by making the access difficult to most people. Demanding more is unrealistic, and the growing use of online transactions will typically involve a degree of acceptance by citizens that no such public transaction is totally without risk.

8. OVERVIEW AND CONCLUSIONS

The market for online bill presentment and payment continues to be substantially undeveloped. Public confidence in the security of online transactions and the basic utility of electronic services generally appear to be key factors influencing the limited adoption of electronic presentment and payment over the past year.

This contrasts with the rates at which online banking has been adopted over the same period, suggesting that consumers have a significantly greater confidence in banks as a providers of online financial services, and see them as facilitating a sufficient number of regular transactions to allow net gains in time and convenience.

On current trends, it seems likely that the adoption of electronic bill presentment and payment will continue to be slow, following a similar pattern of uptake as was experienced with Eftpos. Widespread uptake is only likely once a critical mass of billers and payers is achieved and the public sees real utility in conducting their business online. International research suggests that the capacity to view and address multiple bills on a single site will be integral to the public's perceptions of value. This reinforces our earlier impression of the consolidated model as optimal in terms of general public appeal.

The role of government in leading the evolution of electronic bill presentment and payment, however, seems doubtful. The volume of CG2C bill-payment transactions in reality quite small and the impact on most citizens in their private capacity from any government-led initiative is likely to be minimal as a consequence. This, in turn, impacts on the cost-benefit considerations of government agencies in terms of balancing the concept of fiscal neutrality and contributing to what is perceived as a wider public good.

Where the intensity of transactions is higher, CG2B, there are typically specialised arrangements already at work and their evolution is a specific matter that we see lying outside the development of electronic billing and paying systems in general.

More promisingly, local government is likely to continue to develop its capability in this area using the systems now available. They should be encouraged to do so. It will provide testing and illustration of the potential way forward.

8.1 Implications

The relative popularity of online banking and the apparent failure to date of electronic bill presentment and payment services, may suggest that the most sustainable model for consolidated bill presentment and payment will be through association with the existing banking portals. The extent to which consolidation services can be provided through, or integrated with, banks will be significant.

The relatively limited role of central government in high volume/high value CG2C transactions, means that relatively few citizens reach the cut off suggested in the Canadian study of 5 transactions per month. This, coupled with evident tension in the cost-benefit arguments to be addressed by individual departments in embarking on an electronic presentment and payment strategy, suggests that the State Services Commission should be cautious about mandating any particular approach.

There are possibilities associated with the CG2B market, but we saw these as better able to be tackled in the context of electronic procurement and purchasing. The

individual requirements here often of special character and would lean toward a series of more tailored solutions.

Similarly, the LG2C market is different to that we envisage for the CG2C transactions. It has the character though, that each local body is likely to be developing different approaches. The role of e-government policy in central government here seems to be observe these natural experiments and to be ready to play a facilitative role if called upon.

8.2 Particular questions posed

8.2.1 Confirm that the consolidator model is the appropriate approach

The need to achieve real utility for consumers and the related need to ensure that people are able to view and address a critical mass of bill from a single site, appear to underscore the appeal of consolidated versus direct presentment and payment. This does not mean that people will necessarily opt for one single payment channel versus another. In practice it is likely to reflect a mix of preferences. [13]

8.2.2 Confirm that NZ Post are a potential supplier in this area;

NZ Post's eBill offering appears to be on a stronger footing when last considered. Biller and payer uptake has, however been slow and it is only over the past few months that there has been any appreciable gain in the supply of registered users. Post has continued enhancing the product to include significantly greater flexibility. They remain a potential supplier and, at this point, occupy an effective monopoly position.

8.2.3 User charges

It is desirable not only that the statutory basis of any user charges be explicit, but also that the policy priorities (fiscal neutrality versus sustained investment in a perceived public good) be clarified.

8.2.4 Perceptions of EBPP service,

There remains a prevailing suspicion about the government motive in providing electronic delivery channels. Concern about the risk of a further contraction of 'front-line' access sit along-side general concerns about the security of electronic transactions and the advice received from government departments via electronic means.

Citizen uptake of direct or consolidated billing facilities offered by government seems unlikely to differ greatly from the uptake of similar facilities offered in the wider market. In B2C transactions, however, there are already extensively engineered processes that would translate readily to a direct billing scenarios with individual departments. In these high volume / high value transactions, it is unlikely that the option of a consolidated facility will have any particular utility to business customers over a direct online transaction.

8.2.5 Security and authentication

There are three areas of concern relating to security. Citizens are worried about the possibility of :

[13] This assumption appears to guide the approach of Manukau City Council, which is not only targeting its citizens as 'customers of one', but is going further to segment according to a range of behaviours, each of which might involve a different preferred method of interaction with the council.

- Abuse of their finances associated with the use of systems;
- Identity and authentication matters, where it is difficult to establish who they are; and
- Big brother where the system can gather unintended information and thus have available data that the citizen thinks is inappropriate.

These are not necessarily confined to e-bill/e-pay systems of course, and are part of wider concerns about the safety of financial information, authentication of identity, and privacy. The appropriate solutions are going to be found within the commercial systems, and will typically involve a degree of acceptance by citizens that no public transaction is totally without risk.

8.2.6 Any other matters

We may prove to be seriously underestimating the attractiveness of electronic billing and paying systems to New Zealanders. But there are few signs that we are. The Canadian work suggests a high level of transactions per month (five) as the minimum level of interaction before the typical citizen is likely to find the system attractive.

So what will be likely to lie ahead?

We continue to be concerned about the ability of this type of system to be implemented on any realistic short-term fiscally neutral basis. To succeed it will have to be in place for some time before it is used *en mass*. So logically there will be double costings for a period as the previously used channels also continue to function. Unless this period is extremely brief (which implies a take up curve that is practically vertical) these double costs will mount up. Several of those we spoke to saw the potential innovation in terms of a service by the various levels of government to their citizens.

In the longer term (beyond the next year or so) two parallel developments seem likely. One is a continuing growth of the proportion of the population very comfortable with online transactions. The other is a growth in the number of potential offerings of systems able to deliver this type of service.

APPENDIX A: ORGANISATIONS AND INDIVIDUALS INTERVIEWED

Department of Conservation	[Text Deleted]	[Text Deleted]
Eftpos NZ Limited		
E-solutions		
E://volution Ltd		
Genesis Consulting Group Limited		
Land Transport Safety Authority		
Land Information New Zealand		
Manukau City Council		
New Zealand Post		
Solnet		
Westpac Trust		