



## White Paper

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**Interac's Chip Initiative**  
Accelerated Chip Compliance and Fraud Mitigation:  
Non-Bank ABM Industry Strategy

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## Executive Summary

The Canadian Bank Machine Association (CBMA) has engaged Duncan Consulting to draft this white paper, which explores Interac's chip initiative, its impact on the non-bank ABM industry, and proposes potential strategies for Interac and the CBMA to pursue jointly for the mutual benefit of industry participants and ABM users.

In discussions with Interac Association, it was suggested the CBMA develop this paper to highlight its perspective of the roles and benefits of non-FI ABMs in the Canadian payments system. The paper also outlines the CBMA's perspective on chip migration efforts and fraud management. This paper is written for the benefit of Interac Board members.

Key issues in the paper are summarized below:

- **CBMA** is a new association which is committed to the safety, security and integrity of the payments system, and to maintaining consumer confidence in the ABM network, the Interac brand and those of all network participants. In 2009, CBMA members accounted for 26% of Interac's total ABM locations, and 35% of Interac's total ABM withdrawal volumes.
- **ABM Industry Trends** include a heightened focus on security and fraud management; potential ABM market saturation as witnessed by declining transaction volumes as well as a dramatic decrease in growth of ABM deployment over the past eight years. In addition, the industry is seeing the emergence of alternative and competing payment products (such as online payment methods and other non-cash payment solutions).
- **Debit Card Fraud** continues to increase across the industry, despite the bank's and CBMA's commitments to mitigate and minimize fraud and associated risks. Financial losses incurred by issuers are increasing correspondingly, a key motivator in the

industry's migration to chip. While non-bank ABMs are not the primary source of Interac's debit card fraud today, the projections are that as the FIs migrate their ABMs to chip, the exploitation of cards will migrate to the non-chip-upgraded ABMs.

- **Challenges** faced by non-bank ABM operators and their processors in their migration to support chip have been many. Many non-bank operators have been allocated 2010 windows to complete their network compliance certifications and testing, just months before Interac's first deadline. Changing specifications of compliance requirements may have wasted time and effort of some processors and manufacturers, and deterred others from starting the process until much later. Also **costs** to upgrade or replace ABM hardware alone could be in the range of \$53 million at a minimum, to over \$150 million. Non-bank ABM operators have no upside to this cost, unlike Issuers, who can offset the cost of upgrading their ABMs to chip by the anticipated reductions in fraud losses; hence this \$100 million cost is a significant burden.
- **Changing Business Models May Lead to Consolidation and a Decline in Banking Services Available to Canadians and Industry Consolidation** - we expect to see a decline in volume of non-bank ABMs and consolidation in the industry in the coming years, as players move to stabilize revenues and maintain profitability, while others conclude their business models no longer make sense in the new environment.
- **Strategies to Promote Chip Migration and Mitigate Fraud** include adopting a risk-based, collaborative approach between Interac and the non-bank ABM operators to prioritize chip migration efforts to make the results more impactful, introducing transaction incentives for a period of time for all chip-enabled ABM transactions or equipment upgrade/replacement incentives, collaborating with non-bank players to explore other non-chip related

fraud-reduction strategies to identify and prevent fraud before it occurs and lastly, to enhance two-way communication between Interac and non-bank stakeholders, including ABM manufacturers, non-bank ABM operators, and others, with the objective to identify and effectively deal with issues as they arise.

The industry shares common goals of maintaining the security of Interac's network, which also supports consumer confidence in the network and the Interac brand. CBMA members have committed significant time and financial resources to complying with Interac regulations where possible, and look forward to supporting the industry in its common goal of secure payments systems.

## Introduction & Background

Security and fraud management is a primary focus of payment service providers around the globe, be it for personal or business payments, electronic or paper. Payments networks are compelled to address fraud head on; to protect the security, safety and soundness of their payments systems, and maintain the confidence of their users and other network participants.

As a leading retail payment network in Canada, Interac is committed and focused on minimizing its fraud levels, both to maintain consumer confidence, and reduce losses incurred by issuing debit card institutions. The challenge is that fraud responds quickly to new fraud prevention techniques, and migrates quickly to easier targets once new fraud mitigation techniques are deployed. Thus, fraud management must remain an ongoing and primary concern for Interac and its members.

The CBMA is a key participant in Interac's retail payments network, and shares Interac's concern and commitment to managing fraud proactively. To this end, the CBMA has engaged Duncan Consulting to draft this white paper, exploring Interac's chip initiative and its impact on the non-

bank ABM industry<sup>1</sup>. This paper proposes potential strategies for Interac and the CBMA to pursue jointly for the mutual benefit of mitigating fraud at ABMs in Canada, and maintaining the public's confidence in the integrity of both Canada's ABM network as well as the Interac brand.

This white paper was compiled based on input from the following organizations: The Interac Association, the CBMA, Cashline Inc., Diebold Company of Canada Ltd., IBM Canada Ltd., Maritime Cash Ltd., Nautilus Hyosung Inc., NCR Canada Ltd., NRT (TNS Smart Network Inc.), Open Solutions Inc. and Triton Systems of Delaware, Inc. Discussions were held during the period of April 19-26, 2010. Contacts from each organization are listed in Appendix A.

### About the CBMA

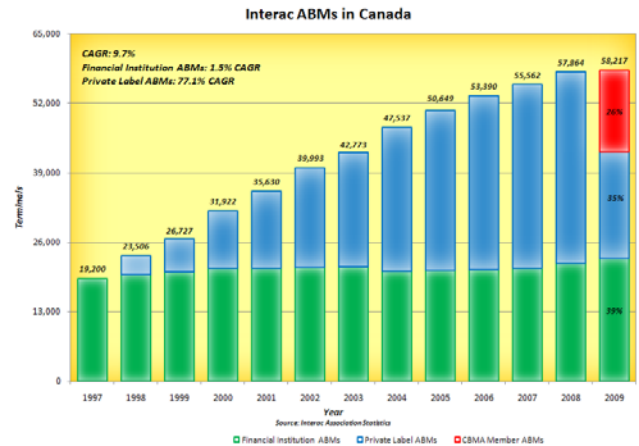
The CBMA was formed in early 2010. Its founding members include five of the largest non-bank ABM operators in Canada: Access Cash, Cash N Go, Direct Cash ATM, Stanley-Frisco ATMs and Threshold Financial Technologies Inc.<sup>2</sup> The CBMA's objective is to demonstrate commitment to the integrity of the Canadian payments system, and to provide representation and a voice for non-bank ABM operators in dealing with regulatory, legislative and industry issues.

Together, CBMA members account for over 15,000 active ABM locations, and comprise 26% of Interac's total shared cash dispense network<sup>3</sup>, as shown in the following diagram.

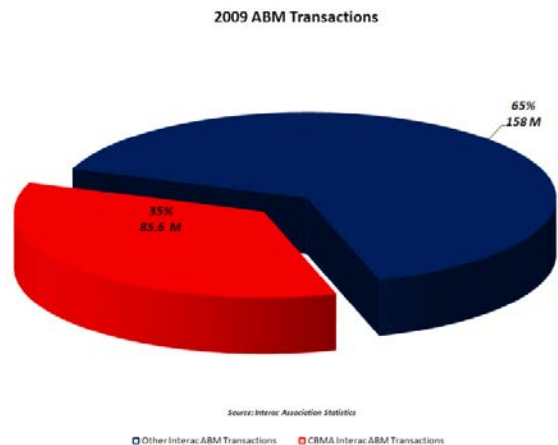
<sup>1</sup> A bio of Kristy Duncan is provided in Appendix B.

<sup>2</sup> Profiles of CBMA members can be found in Appendix C.

<sup>3</sup> Statistics based on Interac's 2009 annual figures, excluding on-us transactions



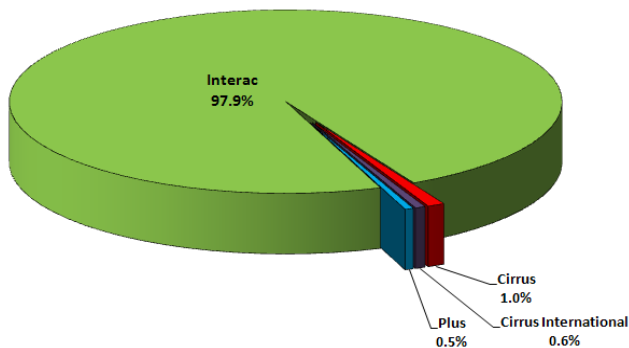
Furthermore, the CBMA processed over 85 million ABM transactions in 2009, representing 35% of Interac's total volume<sup>4</sup>, as depicted below.



It is important to note that CBMA members have an ongoing commitment and vested interest in maintaining the integrity and value of the Interac brand, since 98% of their ABM transaction volumes are through Interac, as depicted in the following diagram.

<sup>4</sup> Statistics based on Interac's 2009 annual figures, excluding on-us transactions.

### Generic Transaction Analysis for a Canadian ISO



As proof of their commitment to the integrity of the Canadian payments system, CBMA members have participated fully in a number of fraud mitigation industry initiatives. Three of the five CBMA members are members of Interac as Acquirers and all CBMA members are, either directly or through their respective processors, PCI compliant and have significant investment in technology and infrastructure in support of the payments systems in Canada. These initiatives include those stemming from Interac, such as Anti Money Laundering (AML), and deployment of Encrypted PIN Pads (EPP - still in progress) as well as ABM hardware and software upgrades to support chip. In addition, CBMA members and other non-bank ABM operators have also made significant investments, and dedicated significant resources to supporting other card-industry initiatives, including Payment Card Industry - Data Security Standards (PCI-DSS) to support other card brands. These commitments have come at a significant cost to the organizations, at a time when transaction volumes are declining and costs are rising.

In addition to these industry initiatives and requirements, CBMA members each have a significant number of internal policies and procedures designed to protect the payments systems, comply with regulations, mitigate fraud and manage their business.

### Importance of Non-Bank ABMs in Canada

Non-bank ABMs increase the reach and representation of the Interac brand, while offering convenient cash availability to customers of financial institutions. At the end of 2009, over 60% of the 58,217 ABMs in Interac's SCD network were non-bank ABMs. Each year, Canadians conduct more than 150,000,000 non-bank ABM withdrawals, supporting their interest in, and value of, the non-bank ABM network.

Non-bank ABMs provide availability of cash at seasonal locations (such as ski resorts, golf courses, etc.) and events (sporting events, concerts, etc.) that are not generally served by bank ABMs. Non-bank ABMs serve to increase the availability of cash for Canadians, especially in many rural communities where other banking services may not be available. CBMA has ABMs located in more than 2,000 rural and urban cities and towns across Canada. In these ways, non-bank ABMs are meeting a demand which may not be fully satisfied by the existing network of FI-owned ABMs.

For small business and retail merchants, non-bank ABMs can provide an additional source of revenue through fees charged for ABM services, while at the same time enabling them to offer new services for their customers, attract new customers to their premises and potentially increase sales. Some retail merchants also use non-bank ABMs to recycle excess cash, by using retail cash receipts to stock cash in their ABMs.

Across the non-bank ABM industry, Acquirers, ISOs, service companies, paper providers, ABM manufacturers, armoured carriers and telecommunication firms all benefit from the business activities of the non-bank ABM business and employ hundreds, if not thousands, Canadians in delivering these services.

Finally, banks are able to offer their debit card holders access to a dramatically extended network

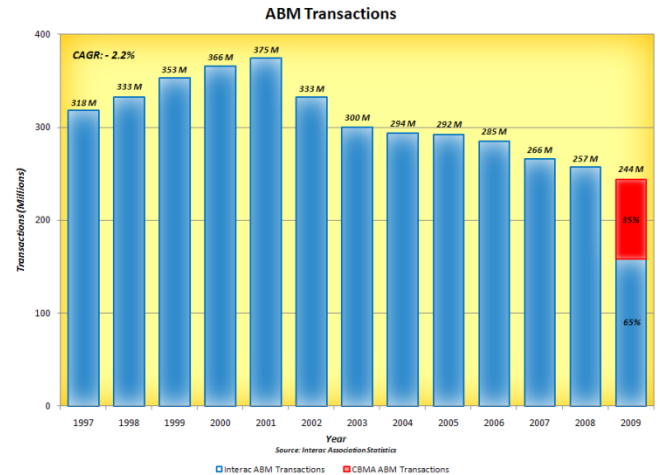
of ABMs (i.e. 58,000 total ABMs versus 18,000 without non-bank ABMs), requiring the banks to provide no capital outlay, nor ongoing management to support.

In these ways, the non-bank ABM network in Canada has proven beneficial to cardholders, merchants and financial institutions, as well as building employment for Canadians.

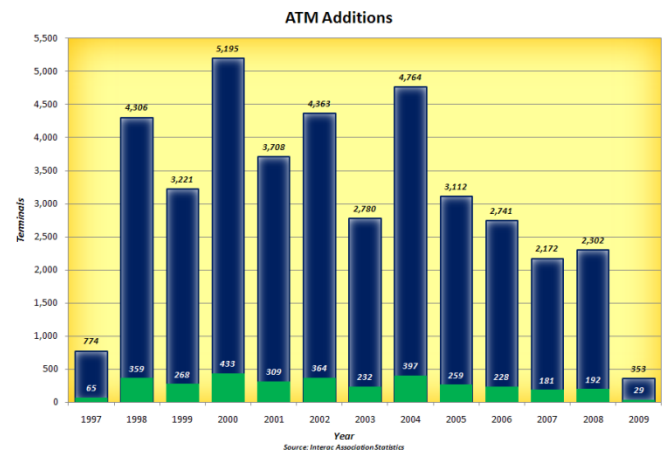
### ABM Industry Trends

Duncan Consulting’s informal poll of ABM industry trends, from the perspective of non-bank processors, ISOs/operators, and ABM manufacturers, revealed industry trends which include: a heightened focus on security and fraud management; ABM market saturation; and, emergence of alternative payment products which compete with cash. In addition to the migration to chip, all of these factors appear to be contributing to changing business models for at least some industry participants. Each of these will be discussed in further detail in this section.

As illustrated on the following chart, Interac’s figures confirm that total Interac ABM transactions have been declining on an annual basis since 2001, and in fact, have declined from a peak of 375 million transactions in 2001, to a total of 244 million in 2009. This represents an overall decline of 35% in just eight years, which has had a profound negative impact on the economics of the industry, and is significantly changing business models for non-bank ABM operators.



Similarly, the growth of new ABM installs, which was consistently in the double digits in most years prior to 2005, has slowed significantly to a low of just 1% in 2009. This is depicted in the following graph.



The bar-graph on page 4 indicates that the majority of growth in new installs has occurred in the non-bank ABMs, while the number of FI ABMs has remained quite flat over the past several years.

The combination of declining transaction volumes, together with significantly slowed growth in the number of new ABM installs, point to probable market saturation for ABMs in the Canadian market. We expect to see these downward trends continue, and possibly accelerate over the next few years.

This segues well into another industry trend; one of new payment alternatives, which are emerging to displace cash, thereby cannibalizing ABM cash withdrawal volumes. Mobile and contactless payments (such as MasterCard's PayPass, Esso SpeedPass, etc.), internet payments (such as Interac Online and PayPal) and cashback at the point of sale all serve as alternative modes of payment, and/or alternative ways for consumers to acquire cash other than an ABM withdrawal. The statistics appear to confirm that these new alternatives are reducing Canadians' need for cash, and, by extension,, the need for ABM cash withdrawals. It seems reasonable to assume that the growth in these payment methods will further restrict potential increases in ABM surcharges, which would only serve to further drive cash dispense transactions away from the Interac service.

The third industry trend identified in our research is that of a heightened focus on security and fraud management. Interac confirms that debit card fraud has been on the increase in the past few years. Interac has stated publicly that, in 2009 fraud losses reached an unprecedented \$143MM and grew 35% over the previous year. This substantial increase clearly confirms the need to close opportunities for fraud wherever possible, to avoid, or at a minimum, reduce future losses and suggests there may be a business case justification for the provision of incentives to non-bank ABM operators who accelerate their plans to render compliance.

Based on anecdotal information, the CBMA believes that exploitation has started to shift from Schedule I bank ABMs, now 80% upgraded to chip, to credit union ABMs that also contain large balances of cash and where chip is still being deployed. We expect fraud to continue its migration away from the ABMs of Schedule I banks, and ultimately toward non-upgraded ABMs, some of which may be non-bank ABMs. CBMA members recognize this probable trend, and are committed to take preventative action to protect both themselves, and other industry stakeholders from fraud.

Fraud patterns continue to change, as Issuers adopt new technologies, techniques and policies to identify and mitigate fraud. Interac and other card associations have initiated a number of industry initiatives over the past few years, in an effort to mitigate fraud across the Canadian and global card industry. These include the chip initiative, as chip technology is currently far less susceptible to compromise than magnetic stripe; EPP (Encrypted PIN Pads), which may serve to prevent interception of PINs by criminals for use in fraudulently manufactured cards; AML measures to ensure consistency of AML procedures and reporting across industry participants and PCI-DSS aimed to protect cardholder data within data processing environments.

As an example of the CBMA's commitment to these and other fraud mitigation initiatives, CMBA members were key participants within ATMIA (ATM Industry Association) in the development and on-going implementation of AML regulations recently published by Interac. In reaction to the 2007 OECD Financial Action Task Force (FATF) assessment of the Canadian Financial System, it was noted that there were no documented AML regulations for the non-bank ABM business. At the initiative of the Department of Finance, CBMA members and other ATMIA members, partnered with Interac and worked with a broad group of interested parties including the Dept. of Finance, FINTRAC, RCMP, OPP, SQ, MasterCard, AMEX and Visa to develop and implement appropriate regulations. During this series of full group meetings and smaller work sessions with law enforcement representatives, the non-bank ABM industry successfully demonstrated that a number of factors, including strong record keeping of withdrawal and settlement fund deposit information, large numbers of ABMs supervised by merchants, and relatively small amounts of cash withdrawn from non-bank ABMs each month, collectively indicated that non-bank ABMs were not likely an attractive vehicle for significant money laundering by organized crime groups. Arising out of this work was the development of new AML regulations that utilized a risk-based approach to align non-bank ABM AML initiatives with other

sectors of the Canadian financial system. These included “know your client” rules and criminal background checks on participants. These regulations were agreed to and released on April 20, 2009 and are being implemented across the industry today.

It is noteworthy that with open dialogue and the appropriate level of engagement, and effective and workable solution was arrived at. It goes without saying that each of these security and fraud management measures comes with a certain cost for industry participants to implement and maintain.

Finally, our research suggests that all of these factors appear to be contributing to changing business models for some industry participants. While each measure may not appear to be highly expensive on its own, the cumulative cost to participate in and credibly support all of these measures in aggregate have been substantial and have been borne by the industry. The advent of chip adds another significant cost burden and will almost certainly have a bearing on the overall cost of entry to, as well as continued participation in, the ABM industry. As a result, some have predicted a potential consolidation of players in the non-bank ABM industry over the next few years, as they may have difficulty supporting all the regulatory, security and fraud management requirements.

### **Industry Chip Initiative**

The Interac chip initiative is a migration to a new generation of chip-based cards and processing platforms, which will afford stakeholders new levels of security and functionality in the world of payments solutions. Interac has adopted EMV chip specifications for its use, and according to the Interac website “*EMV is the standard for interoperability used for authenticating credit and debit card payments at chip enabled terminals. The EMV specifications were collectively developed by Europay, MasterCard and Visa for payment systems, in order to ensure that chip cards function*

*with chip terminals.*”<sup>5</sup> The chip initiative in Canada is being spearheaded by three key players: Interac, Visa and MasterCard.

The new Chip Regulations and their related sanctions were officially added to the Operating Regulations and published on November 1, 2006. They require that 50% of all cash dispensing ABMs should be chip-compliant by the end of 2010, with the remainder chip-compliant by the end of 2012. Concurrent with this is Interac’s EPP target of December 31, 2010, by which date all ABMs must have encrypted PIN pads installed, or risk being disconnected from the Interac network, unless Acquirers receive exemptions to align dates to the EMV timelines.

ABMs must be either upgraded to support chip, and if that is not possible due to age or a configuration which is incompatible with chip, then the ABM must be replaced.

The migration to chip-compliance for ABM operators requires a number of pre-requisites to be met. At a very high level, the process is as follows:

- 1) Processors must upgrade their switch software, and certify, to meet Interac and other networks’ chip specifications.
- 2) Manufacturers must update ABM hardware and kernels (software) to meet Interac, Visa and MasterCard chip specifications.
- 3) Manufacturers release new ABM models or upgraded software to processors for each model of ABM and/or upgrade kit for certifications.
- 4) Processors work with manufacturers to test and certify each ABM model with their switch.
- 5) Processors work with networks, where applicable, to test and certify ABMs with their switch. Testing windows are booked months in advance, and can last a number of weeks.
- 6) Processors go back to manufacturers to re-work software for any testing which has failed.
- 7) Manufacturers make chip-compliant software available to ABM operators.

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<sup>5</sup> From <http://www.interac.ca/merchants/faqs.php#chip> on April 21, 2010.

- 8) ABM operators decide which ABMs can be upgraded, and which need to be replaced, based on chip (and EPP) requirements.
- 9) ABM operators arrange the purchase or lease of required ABMs, upgrades and possibly EPP upgrades to meet the deployment schedule for 40,000 ABMs in the field.
- 10) ABM operators manage logistics to resource (using certified technicians), schedule and install chip-compliant software (plus EPPs) on site at almost 40,000 AMB locations in over 2000 towns and cities across Canada.
- 11) ABM operators resource, schedule and install chip-compliant software (plus EPPs) on site at AMB locations which were not successful on the first attempt.
- 12) ABM operators manage logistics of disposal or sale of displaced ABMs.

Under this process, ABM operators and others in the value chain have encountered a number of challenges in achieving chip certification. First of all, it appears that there could be a shortage of chip-compliant ABMs and/or upgrade kits to meet the December 31, 2010 deadline. This can be attributed to challenges experienced by both processors and manufacturers. Some processors have had little, if any, availability of testing windows for non-bank ABM platforms until early 2010. In fact, a number of processors Duncan Consulting spoke to indicated that they were still in the testing stages and had not achieved full chip certification for their platforms. The Interac certification process is then multiplied by three, to cover Visa (Plus) and MasterCard (Cirrus), as the specifications/requirements differ. In addition, processors must work with each ABM manufacturer that they support, to test and certify each ABM model with the processor's switch. Processors indicated that ABM manufacturers were slow to come to the table, possibly because of unfamiliarity with the Canadian market and the chip requirements, the costs associated with product re-engineering and the relatively small size of the Canadian market. The processors we spoke to indicated they expect to be fully chip-certified with associations and ABM manufacturers by mid-late 2010, and should be able to support chip

transactions for their clients in that timeframe. In addition, there is some concern that not all ABM manufacturers for the non-bank industry will be have sufficient stock of product (upgrade kits and/or chip-compliant ABMs) to meet the demands of the industry within the desired timeframes.

A second challenge encountered in achieving chip-compliance, was the fact that Interac's compliance requirements related to SPED (Secure PIN Entry Device) and EPP, as well as other networks' requirements for 3-DES encryption, changed between 2006 and 2009, thwarting manufacturers' ability to effectively keep up with Canada's security requirements and streamline their engineering processes. Unfortunately, these changes had three negative impacts on the industry's migration initiative: a) they set back the efforts of ABM manufacturers and processors, thereby pushing out their timelines for compliance; b) they increased the cost for compliance efforts of ABM manufacturers and processors, due to the increased efforts required; and c) they discouraged stakeholders from proceeding with their chip-compliance efforts, for fear of having their efforts wasted by further changes in requirements.

Thirdly, the three Canadian card associations (Visa, MasterCard and Interac) have not issued consistent chip specifications, thus requiring participants to certify their systems and hardware three times (once for each payment association). This challenge, while not insurmountable, serves to increase the amount of effort, time, and therefore also cost for stakeholders to achieve full chip-compliance.

A fourth challenge observed by some players in the non-bank ABM industry was the lack of direct communication with Interac. Since some industry participants do not sit on any Interac committees, there is no way for them to communicate directly with Interac on areas of mutual concern. ABM manufacturers felt this acutely as they had no formal communication channel to discuss in advance, nor get clarification on Interac's chip specifications for their build of chip-compliant hardware and software. One manufacturer noted,

“It would be nice, as a manufacturer, to be represented when putting together the mandates and compliance requirements.” This would open the door to input on why some requirements may be challenging from a design perspective, or not make sense in a commercial space. The US-based ATMIA (ATM Industry Association) represents ABM operators globally; however, its focus has been more on business development issues, and less on regulatory issues. We suggest a more formal and ongoing communication channel between Interac and non-bank ABM stakeholders may be beneficial going forward. It appears that Interac may have recognized this as an area for improvement, and has since hired a consultant with a mandate to understand and address, to the extent possible, challenges being faced by non-bank ABM players in achieving chip-compliance. The CBMA has a mandate to address industry regulatory and compliance issues, and may be willing to act as a conduit between Interac and the non-bank industry in this regard.

The last, but not the least of the challenges faced by the non-bank ABM industry, is the tremendous cost of supporting the migration to chip. The processors we spoke to quoted chip-compliance project costs which could approach or exceed \$1 million per processor. Manufacturers have also incurred significant cost, although much of their cost can be passed on to the ABM owners through sales of upgrade kits or ABMs. However, our high-level assessment is that ABM owner/operators bear the brunt of the cost of the chip initiative in the non-bank ABM industry, as they must acquire chip-compliant equipment, either through upgrades or replacements. An average ABM upgrade is estimated to cost \$1,500 per ABM (including installation) depending on the model, if available (not all ABMs are upgradeable), while the cost to replace a non-bank ABM ranges from about \$3,500 to \$15,000 (including removal, disposal and re-installation costs). Considering that the non-bank ABMs in Canada numbered well over 35,000 units at the end of 2009, and assuming that 50% of non-bank units will need to be replaced, this represents an approximate total cost to the

industry of well over \$100 million dollars<sup>6</sup>, plus taxes. These costs come at a time when transaction volumes are declining significantly, margins are being squeezed, and growth has slowed to just 1% in 2009.

To sum up, the challenges faced by non-bank ABM operators in their migration to support chip have been many. Financial institutions have enjoyed priority certification windows, pushing non-bank operators to do their compliance certifications in 2010, just months before Interac’s first deadline. Moving targets of disparate compliance requirements may have wasted time and effort of some processors and manufacturers, and deterred others from starting the process until much later. Costs to upgrade ABM hardware alone could be in the range of \$52.5 million at a minimum, to over \$150 million.

## Overview of Debit Card Fraud

The ABM industry has legitimate concerns about debit card fraud, as fraud rates have been increasing significantly in recent years, and there are clear signs that it may be migrating to non-bank ABMs. Current debit card fraud patterns focus on compromising magnetic stripe cards and capturing the PIN, which is the prime motivator for the industry to migrate to chip technology.

Robert Fodor, Interac’s Vice President of Fraud Management, notes that fraud patterns are changing, seemingly as quickly as ABM operators and merchants implement new technology and techniques to identify and mitigate fraud. In 2009, Interac Issuers experienced \$142 million in fraud, a growth of 35% from 2008. Overall in 2009, about 90% of exploitation occurred at ABMs, and more than 90% of that exploitation occurred at FI ABMs.

Since over 80% of FI ABMs have been converted to chip in early 2010, it stands to reason that more

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<sup>6</sup> Based on 17,500 ABMs upgraded, at an average cost per upgrade of \$1,500, and 17,500 ABMs replaced, at an average cost per new ABM of \$4,500. If assume ALL ABMs are upgradable, cost would be \$52.5 million; if assume ALL ABMs must be replaced, cost would be \$157.5 million.

and more fraud could end up in non-chip channels. This raises concern that as the fraud migrates to non-chip-enabled ABMs, the efforts of Interac and its members to arrest or reduce fraud losses could be limited up until December, 2012 when all ABMs will be upgraded. If ABMs (both banks and non-banks) are not closed off as a migration path for criminals, there could be continuing high fraud losses, which would significantly reduce the impact of the investment the banks and non-banks have already made in their infrastructure to reduce fraud.

Overall, the changing fraud patterns support the CBMA's recognition of the need and urgency to take action to mitigate the likelihood of fraud moving to non-bank ABMs.

The non-bank ABM operators Duncan Consulting contacted for this research are extremely concerned about fraud. While the Issuers bear the cost of fraudulent debit card transactions, non-bank ABM operators also bear risks of debit card fraud. These risks are not insignificant, and can include: reputational risk as being portrayed as an easy target for fraud; cost to repair or replace machines which have been compromised (in addition to the loss of stolen cash); customer dissatisfaction in the event of false declines; and, risks to merchants (and their customers) in the event of robberies.

The discussions Duncan Consulting had with non-bank industry players revealed a keen interest to receive regular fraud information from Interac, which could assist them to understand fraud patterns, and develop and deploy techniques and policies to identify and mitigate fraud. Our belief is that sharing information for the purpose of bolstering fraud mitigation efforts can benefit not only individual ABM players, but the FI and non-bank ABM industry as a whole.

CBMA members recognize that to effectively combat fraud in the payments system, all participants must be engaged and committed to the goals and objectives. It has been proven in other markets that EMV is an effective tool in

mitigating fraud losses at ABMs. Our discussions with the CBMA confirm that it is committed to working with Interac and other network participants to create effective strategies and implement solutions that can reduce fraud associated with the compromise and exploitation of debit cards.

### **Changing Business Model for ABM Operators**

The changing market has led to a change in the business model for non-bank ABM operators in Canada. On the cost side, some small efficiencies may be attained through the adoption of new technology; however, we believe that costs for non-bank ABM operators are increasing overall, especially in light of increased requirements in the areas of regulatory compliance, security and compliance regulations.

On the revenue side, growth in new installs has slowed to a mere 1%, leading us to conclude that the market for new ABMs in Canada is near its saturation point. As well, the 35% decline in transaction volumes across the industry since 2001 points to significantly declining revenues, unless ABM operators are able to increase surcharges to consumers. Indications are that surcharges are set at rates that the Canadian market will bear and consumers are becoming less tolerant of surcharges and will, therefore, balk at any increases. Increasing surcharges is not an option to capture additional revenue as industry experts have determined that this leads to transactions declining and eventually elimination of service availability. This leaves ABM operators in a difficult position of declining transaction revenues, inability to raise prices, and increasing costs of regulatory and security requirements to participate in the market.

As a result of the changing environment for ABM operators, we expect to see a reduction in the number of ABMs deployed as well as consolidation in the non-bank ABM industry in the coming years, as players move to stabilize revenues and maintain

profitability. It is quite possible that some of the smaller or less profitable operators may conclude their business models no longer make sense in the new environment. One of our research participants suggested that he "*expects to see 80/20 rule: 80% of business done by six to nine companies.*" No doubt, the market has changed significantly in the past eight to ten years, and tighter business models could precipitate the disappearance of less profitable players.

### **Where to From Here?**

As more and more ABMs are upgraded to chip in Canada, fraud will naturally migrate away from these machines, to non-chip capable machines. ABM operators with non-chip capable machines will run the risk of being targets for criminals wishing to monetize compromised cards. Risks of fraud and security, reputational risks, potential financial loss and customer dissatisfaction could be experienced by the owner/operator of the non-chip capable ABM. In addition, we believe that card issuers could also suffer from customer dissatisfaction and reputational risk in the event of fraud stemming from a non-bank ABM.

Reputational risk could exist even after all Canadian card issuers have issued chip cards, as a foreign (i.e. non-chip) card compromise scheme which takes place at a non-chip ABM in Canada has the potential to paint the entire Canadian ABM network as unsafe, and have a negative impact on consumer confidence in ABMs and the Interac brand. It is therefore in the interest of the entire industry to move to chip as quickly as possible, and close the door to criminals wishing to exploit these opportunities.

Based upon our review, Duncan Consulting believes that non-bank ABM operators clearly recognize these risks and all those to whom Duncan Consulting spoke are working hard and committed to achieving chip-compliance by the Interac stipulated timelines, despite the challenges they face.

In order to facilitate the industry's migration to chip, as well as manage fraud and improve Interac's overall communication with the industry, we propose the following for Interac's consideration:

1. **Employ Risk-based Approach to Chip Compliance** - Adopt a risk-based, collaborative approach between Interac and the non-bank ABM operators to explore innovative ideas to make the overall approach to the upgrade requirements more impactful over a shorter period of time. For example, it seems clear that the criminals seek out high volume ABMs due to the greater likelihood that they will contain substantial volumes of cash. Interac and ABM operators should work to develop profiles of high-risk ABM locations, perhaps categorized by transaction volume, average cash holding or other risk factors, for higher priority migration to chip. Potentially, by acting expediently in respect of ABMs that have a high probability of exploitation, a higher percentage of fraud could be mitigated at a substantially lower cost to the industry, and in a much shorter timeframe than under the current plan. This would benefit the entire industry, by mitigating fraud at non-bank ABMs through innovative, risk-based, and low-cost means. Conversely, converting remotely located, low volume, ABMs, with relatively small cash holdings, will not be as impactful on reducing fraud losses and could, therefore, be addressed later. We believe that by addressing non-bank networks based on transaction volume breakdown, as opposed to terminal volume breakdown, could yield more immediate, positive, results. Timeframe: Short Term
2. **Offer Incentives for Chip Transactions** - We believe an effective way to fast-track the non-bank ABMs' migration to chip compliance would be for Interac to offer a 10¢ to 15¢ incentive on each transaction done through a chip-enabled ABM for an agreed upon period of time. This would assist the industry to mitigate the substantial cost burden and encourage

operators to migrate more quickly, and benefit financially from doing so as soon as possible. Issuers would benefit by reducing the number of non-chip transactions (which carry a higher potential for fraud) prior to the final migration deadline. We believe a financial incentive of some type would serve to off-set at least some of the costs of upgrading or replacing non-bank ABMs, and could be structured in such a manner as to encourage a migration which addresses higher risk and/or higher transaction units on a priority basis. Financial incentives should also be structured to change the perception held by some ABM operators that waiting until the 2012 deadline will be both financially sound (i.e. the penalty is more than offset by cost avoidance of replacing or upgrading their ABMs for two years), and more prudent (to avoid interim changes before the 'final' chip specifications are in place). If a per transaction incentive is felt technically infeasible then, as an alternative, one-time compliance incentives could be paid to ABM operators for each proven ABM upgrade/replacement undertaken. Timeframe: Short-Medium Term

3. **Fraud Reduction Strategies** – With deeper understanding of the real risk points for fraud losses and the capabilities of the non-bank ABM industry, there may be other quick, inexpensive and effective ways to reduce or contain fraud which have not been explored by Interac. The CBMA is extremely interested to collaborate with Interac to explore other fraud-reduction strategies, which may not be chip-related. For example, where possible, update Interac policies to allow ABMs in high-risk locations to reduce the maximum cash withdrawal (for example, from \$400 to \$200), to reduce issuer-losses in the event of fraud. In addition, it would be helpful for Interac to share fraud information to help non-bank operators to develop strategies and policies to:

- Identify high-risk transactions
- Develop risk-profiling of ABMs
- Identify changing patterns of fraud

This sharing of fraud information can assist non-bank players to understand fraud patterns and trends, and develop strategies to identify and prevent fraud before it occurs. Timeframe: Short-term and Ongoing

4. **Communication**- Establish a communication plan for enhanced two-way communication between Interac and non-bank stakeholders, including ABM manufacturers, non-bank ABM owner/operators and others. We believe this has the potential to benefit all players by giving these players a voice at Interac, which can assist in identifying and dealing with certain issues earlier in the process. Timeframe: Ongoing

It is our belief that these proactive approaches will serve Interac, Issuers and the ABM industry in reducing fraud, reducing fraud losses, increasing customer satisfaction and supporting industry participants in the migration to chip.

## **Conclusion**

We believe Interac's strategy to migrate the Canadian debit card industry to a chip-based platform is well-founded, and has the potential to reduce fraud losses significantly in the short to medium term. While FIs appear to be well on-track toward chip-compliance, non-bank players continue to face many challenges, as they attempt to block the fraud from migrating to non-bank ABMs.

The CBMA represents leading non-bank ABM operators, which together account for 26% of Interac's ABM locations and 35% of Interac's ABM withdrawal transactions. These players have demonstrated their ongoing commitment to supporting security and fraud management initiatives, recognizing the industry's shared responsibility to support the integrity and security of the payments system, as well as to maintain consumer confidence in the Interac brand.

Duncan Consulting recommendations are designed to encourage swift migration to chip-compliance, reduce fraud and fraud losses, and enhance industry communication and cooperation, all of which Duncan Consulting believe will serve to support the integrity of the Interac network and the Interac brand in the years to come.

## Appendix A - Contacts who Provided Input to this Study

Organization	Contact Person(s)
Interac	Amanda Holden Robert Fodor Peter Kalogiannides John Thompson
Canadian Bank Machine Association	Threshold Financial Technologies Direct Cash ATM Access Cash (Ezee ATM) Cash N Go Frisco ATMs
Cashline Inc.	Steve Clark, CEO
Diebold Company of Canada Ltd.	Peter Thomas, Director, Customer Solutions Group
IBM Canada Ltd.	Sean McCarthy, Executive Program Manager
Maritime Cash Limited	Rick Archibald, President
Nautilus Hyosung Inc.	Carlos Siewczynski, Vice President, Sales
NCR Canada Ltd.	Allan Conquer, Consultant
NRT (TNS Smart Network Inc.)	Martin MacDonell, Consultant
Open Solutions Inc.	Rob Palin, General Manager
Triton Systems of Delaware, Inc.	Shaun King, Vice President, International Sales

## Appendix B - Bio of Kristy Duncan

Kristy Duncan is a leading specialist in payment and cash management solutions, and has a strong background in research and strategy development for new payments-related initiatives. Working as a management consultant since 1998, she has spearheaded many consulting projects, helping clients achieve significant results. Her experience spans a wide range of areas across financial services and e-commerce including market research and opportunity analysis, product marketing and positioning, strategy development, and policy issues.

Kristy has been a leader in building new payments infrastructures across North America. Her leadership positions include chairperson of both NACHA's Cross Border Council (now called the Global Payments Forum), and CPA's EDI Support Group. She maintains a global network of contacts in the industry, and is current on key emerging issues in the field.

Kristy worked for 13 years at Toronto-Dominion Bank, in various senior management positions in Corporate Banking, Treasury, Finance and Operations. She is a graduate of the Industrial Engineering program at the University of Toronto, and is a Professional Engineer. She also holds the permanent Certified Cash Manager certification.

A sample of projects conducted through Duncan Consulting follows:

### Strategy Development:

- Opportunity Analysis of Chip Card Migration Project - Analyzed the chip card migration from the perspective of Issuers, Acquirers, device manufacturers and card associations. Identified opportunities for client in this market.
- Market Analysis for Card Issuer - Conducted a market scan of the card issuing market to lay the foundation for an Issuer to build the business case to outsource its card processing.
- Developed Response to Regulator - Developed strategy to respond to regulator's inquiries around safety and soundness of client's payment and settlement system.
- Bill Payments Opportunity Analysis - Researched market for white label bill payment processing; developed strategy for client to build market share.

### Market Research & Analysis:

- Analysis of Trends in Cheque Fraud - Conducted primary research on behalf of PWGSC to identify and analyze trends in cheque fraud, and provide recommendations on cheque design to minimize fraud.
- Payroll Market Opportunity Analysis - Analysis to understand market requirements and qualify potential opportunities to distribute payroll products in the commercial market.
- Market Analysis of Purchasing Cards - Researched purchasing card programs to identify trends and best practices; analyzed user requirements and recommended program management strategies.

## Appendix C - Profiles of CBMA Member Organizations

### *Access Cash Consolidated Company Information- As at December 31, 2009*

Company Overview:	Access Cash is one of Canada's leading non-bank ABM operators with 4,950 ABMs today, performing over 20,000,000 withdrawal transactions per year under the Access Cash and EZEE ATM brands. Access Cash is the leading consolidator in the Canadian market having acquired more than 20 competitor ATM portfolios since inception in 2001. Access Cash was acquired in September 30, 2008 by Management (profiles below) and a Tier 1 Private Equity Investor. Access Cash has partnered with Open Solutions Canada for its ABM transaction processing services. Open Solutions is a Direct Connector to the Interac Network and continues to comply with the highest standards for Interac audits and Direct Connect Standards. Access Cash does not process any of its own transactions.	
ABM Transactions:	Annual Approved ABM Transactions:	20,854,000 for 2009 (including 1.5M from acquisition on February 17, 2010)
Terminal Information:	ATMs:	4,950 (including 560 from acquisition on February 17, 2010)
Where in Operation:	Canada	
Compliance:	Interac, PCI, MasterCard, Visa, IFRS, AML, AIS	
Number of Employees:	60	
Executive Information:	President & Chief Executive Officer:	Chris Chandler
	Chief Financial Officer:	Andy Khan
	Chief Operating Officer:	Bob Sutherland
Executive Bios:	Chris Chandler	Chris Chandler, CA, MBA is President. Chris has led the business since January 2005 and led the Management Buy Out of the business in September 2008. Chris has more than 20 years experience in the payments and financial services industry and has worked for, or with, several of Canada's top Banks. Chris is a Director of YPO Canada, a Director of YPO Quebec, and a Director of ATMIA.
	Andy Khan	Andy Khan, CMA, is Chief Financial Officer. Andy has more than 25 years experience in finance including many years as VP and Treasurer of Maple Leaf Foods. With Access Cash since 2005, Andy has provided strong financial management and internal controls through our IPO on the Toronto Stock Exchange in 2005 ("NPF.UN"), Visa Plus certification and on-going compliance, and the private equity and Bank due diligence in conjunction with our 2008 management buyout.
	Bob Sutherland	Bob Sutherland is Chief Operating Officer. Bob has more than 20 years in the ABM and cash handling equipment industries in Canada and is a leading executive in the non-bank ABM industry. With Access Cash since 2005, Bob provides extensive knowledge and experience to ensure operating processes and policies are compliant with applicable regulations and that Access Cash demonstrates leadership as a financial services provider in the industry.
Auditors:	KPMG LLP	
PCI Auditor:	Under Open Solutions Canada and NRT service providers	
Interac Auditor:	Under Open Solutions Canada and NRT service providers	

## ***Cash N Go Consolidated Company Information - As at December 31, 2009***

Company Overview:	Founded in July 1998, Cash N Go is a leading ABM deployer, service provider, and transaction processor in Canada. Cash N Go operates over 1,200 ABMs in every province and territory in Canada and processes in excess of 8 million transactions annually. Cash N Go is a member of Interac as an Acquirer for SCD transactions.	
ABM Transactions:	Annual Approved ABM Transactions:	8,202,946
Terminal Information:	ABMs:	1,201
Where in Operation:	Canada	
Compliance:	Interac, PCI, MasterCard, Visa, IFRS, AML, AIS	
Number of Employees:	25	
Executive Information:	President & Chief Executive Officer:	Ken Nichols
	Chief Financial Officer:	Angie Mercier
Executive Bios:	Ken Nichols	A graduate of the University of Alberta with a BA in Economics, Ken and a partner founded Cash N Go ATM Network in 1998 and became President of the company. Ken became the sole owner of the business in early 2003. With a background in the retail fuel and convenience store business, Ken has been a business owner and entrepreneur all his career. Ken has a strong commitment to his community and is involved in numerous Edmonton charities. Ken is also a member of the Edmonton Chapter of the Entrepreneurs' Organization (EO) and has served on the board of ATMIA Canada.
	Angie Mercier	Angie Mercier, CGA, joined Cash N Go in October 2003 and has more than 25 years experience in accounting and finance. Ms. Mercier is also the company's Security and Compliance Officer. Ms. Mercier led the switch implementation project in 2008/2009 and is the point person for all audits relating to finance and tax as well as Interac, PCI and Visa. She also serves as an advisory role to the President.
Auditors:	Pennock Acheson Nielson Devaney Contact: Blair Pennock Email: <a href="mailto:blairpennock@pand.ca">blairpennock@pand.ca</a> Phone: (780) 496-7774	
PCI Auditor:	Trustwave Contact: Rob McIndoe Email: <a href="mailto:rmcindoe@trustwave.com">rmcindoe@trustwave.com</a> Phone: (602) 284-0495	
Interac Auditor:	Alex Woda Security and Audit Solutions Contact: Alex Woda Email: <a href="mailto:awoda@rogers.com">awoda@rogers.com</a> Phone: (416) 249-1090	

**DirectCash Consolidated Company Information - As at December 31, 2009**

Company Overview:	DirectCash is a publically traded company listed on the TSX (DCI.UN). DirectCash was started in 1997 and today operates over 6,250 ABMs in Canada, Mexico, and the United States of America with three operating businesses; the ABM business, the Debit Terminal Business and the Prepaid Business. DirectCash is a member of Interac as an Acquirer for SCD and IDP transactions.	
ABM Transactions:	Annual Approved ABM Transactions:	30,351,475
Terminal Information:	ABMs:	6,279
	Debit Terminals:	3,038
Where in Operation:	Canada, Mexico, United States and Australia	
Compliance:	Interac, PCI, MasterCard, Visa, IFRS, AML, AIS	
Number of Employees:	125	
Executive Information:	President & Chief Executive Officer:	Jeffrey J. Smith
	Chief Financial Officer:	Hendrik J. Lombard
	Chief Operating Officer:	Todd M. Schneider
	Chief Technology Officer:	Joseph Xu
Executive Bios:	Jeffrey J. Smith	President and C.E.O. of DirectCash and predecessors from 1997 to present. In 2005, Mr. Smith was awarded the Ernst & Young Entrepreneur of the Year (Prairies Region). Mr. Smith is also the co-founder and Director of DC Bank, a Schedule 1 Chartered Bank in Canada.
	Hendrik J. Lombard	C.F.O. of DirectCash from April 2009 to present. C.F.O. from October 2007 to April 2009 and prior thereto, Controller and Director of Corporate Finance from August 2006 to October 2007 at Genoil Inc. (a TSX Venture listed oil & gas issuer). Prior thereto, an accountant at MCB (a public accounting firm) from June 2005 to July 2006. Prior thereto, a private practice accountant at Akers & Allard (a public accounting firm) from January 2004 to May 2005.  Mr. Lombard received a Bachelor of Accounting degree from the University of Stellenbosch, South Africa in 1988, and an Honours B.Com. degree from the University of South Africa in 1990. Mr. Lombard obtained a Chartered Accountant designation from the South Africa Institute of Chartered Accountants in 1994, became a Chartered Financial Analyst charter holder in 2003, and obtained a Chartered Accountant designation from the Canadian Institute of Chartered Accountants in 2004.
	Todd M. Schneider	C.O.O. of DirectCash from November 2007 to present. Various positions with DHL Express (Canada), Ltd. from February 2003 until July 2007 (starting as Director of Sales – Western Region and culminating as Area Director – Prairies).  Mr. Schneider holds a B. Admin from the University of Regina.
	Joseph Xu	C.T.O. of DirectCash and predecessors from November 2001 to present. Prior to DirectCash, Mr. Xu worked for IBM Singapore as well as various other software and technology companies including one of China's leading wireless telecom

		companies.  Mr. Xu holds a Master of Science Degree from the National University of Singapore and a Bachelor of Engineering Degree from Beijing University of Posts and Telecommunications.
Auditors:	KPMG LLP Contact: Sophia Langlois Email: <a href="mailto:slanglois@kpmg.ca">slanglois@kpmg.ca</a> Phone: (403) 691-8219	
PCI Auditor:	PriceWaterhouseCoopers LLP Contact: Ola Olafunmiloye Email: <a href="mailto:ola.olafunmiloye@ca.pwc.com">ola.olafunmiloye@ca.pwc.com</a> Phone: (416) 947-8940	
Interac Auditor:	Alex Woda Security and Audit Solutions Contact: Alex Woda Email: <a href="mailto:awoda@rogers.com">awoda@rogers.com</a> Phone: (416) 249-1090	

**Stanley-Frisco ATMs Consolidated Company Information - As at December 31, 2009**

Company Overview:	Frisco-ATMs, a division of Stanley Canada, deployed their first white-label ABM machine in February 1998. Since then the business has grown strongly, processing in excess of 14 million transactions annually on over 2,400 ABM installations across Canada. The company's success is in large part due to its leadership in full turnkey solutions where the ABM, vault cash, and technical service are provided and managed in house for its client base. Today, Frisco has over 1,500 full-turnkey ATMs in the Canadian marketplace. The Frisco business was acquired by The Stanley Works in 2005, and is now an integral part of the Stanley Black & Decker family.	
ABM Transactions:	Annual Approved ABM Transactions:	14,523,052
Terminal Information:	ABMs:	2,453
Where in Operation:	Canada	
Compliance:	Interac, PCI, MasterCard, Visa, IFRS, AML, AIS	
Number of Employees:	22	
Executive Information:	President & Chief Executive Officer:	Clifford Richstone
	Chief Financial Officer:	Brian Kaner
Executive Bios:	Clifford Richstone	Clifford Richstone is General Manager of Frisco Bay a division of Stanley Canada Corporation and has been since 2003. Clifford is responsible for all ATM operations for Stanley in Canada. Prior to joining Frisco Bay, Clifford spent two years as Managing Partner with SMARTPATH, a retail consulting firm. Clifford also spent 8 years with Johnson & Johnson as Director of Marketing. Clifford holds an MBA with a major in Strategic Planning from McGill University and a Bachelor of Commerce with a Major in International Marketing, also from McGill University.
	Brian Kaner	Brian joined The Stanley Works in 1999 in various Financial Planning & Analysis and Controllershship roles after starting his finance career at General Electric. Since, Brian has held the position of CFO for the Specialty Tools group and MAC Tools. In 2007, Brian became the Global CFO of the CSS platform which includes responsibility for the Canadian ATM business
Auditors:	E&Y	
PCI Auditor:	Via Processor	
Interac Auditor:	Via Processor	

**Threshold Financial Technologies Inc. Consolidated Company Information - As at December 31, 2009**

Company Overview:	Threshold Financial Technologies Inc. is a wholly owned subsidiary of Versent Corporation, a privately owned Canadian company. Threshold owns and operates a nationwide non-bank ABM network and provides fully managed solutions comprising of ABM network management and Electronic Funds Transfer (EFT) switching services to Canadian retailers and financial institutions. Threshold has been active within the payments industry in Canada since 1998 and provides Issuer and Acquirer processing services for over 60 Canadian financial institutions, including ATB Financial, ING Bank and several Canadian credit unions, including four of the top ten in Canada. Threshold built and operates the Central 1 direct connect Interac node, processing approaching 200 million transactions per year, and is the Central Switch Provider (CSP) for THE EXCHANGE® Network, Canada's only national, non-surcharging, deposit-taking network.	
ABM Transactions:	Annual Approved ABM Trans.	15,888,572 (non-bank)
Terminal Information:	ABMs:	1,337 (non-bank)
Where in Operation:	Canada	
Compliance:	Interac, PCI, MasterCard, Visa, IFRS, AML, AIS	
Number of Employees:	116	
Executive Information:	President:	Matthew J. McIver
	Vice President and Secretary Treasurer:	Michael Lowry
Executive Bios:	Matthew J. McIver	Mr. McIver's career spans over 25 years in technology related industries. In 1985, he founded Threshold Electronics Limited (Threshold), a UK-based product and systems development company. In January 1997, Versent Corporation completed its acquisition of Threshold and, as a result, the entire operation was relocated to Ontario, Canada. Mr. McIver relocated to Canada and continued as President of Threshold and in 1998 launched the financial services arm of the company. Since that time he has assisted in growing the company in to one of Canada's largest providers of payments related services to the financial institution marketplace.
	Michael Lowry	Vice President and Secretary Treasurer of Threshold, Mr. Lowry was CFO for Choice Hotels Canada prior to joining Threshold/Versent in early 2002. He was involved in the negotiations of the corporate and financial structure of the company, which is a corporate joint venture, prior to its formation. He was responsible for the establishment of and the ongoing financial reporting and other finance-related infrastructure for Choice, Canada's largest hotel franchising company, in the early nineties. His responsibilities included human resources, information technology and the development and implementation of a franchise billing and collection system. Prior to Choice Hotels, Mr. Lowry was Controller for Journey's End Corporation, a public Canadian hotel ownership and management company, and was responsible for financial reporting and treasury. Mr. Lowry is a Chartered Accountant, obtaining his designation in the mid-eighties with Thorne

		Riddell, a public accounting firm that is now part of KPMG.
Auditors:	Grant Thornton, LLP Contact: Dennis Dawe Email: <a href="mailto:ddawe@grantthornton.ca">ddawe@grantthornton.ca</a>	Phone: (416) 360 2362
PCI Auditor:	Control Gap Inc. Contact: David Gamey Email: <a href="mailto:David.Gamey@acerity.com">David.Gamey@acerity.com</a>	Phone: (647) 992-3636
Interac Auditor:	Alex Woda Security and Audit Solutions (Interac Third Party) Contact: Alex Woda Email: <a href="mailto:awoda@rogers.com">awoda@rogers.com</a>	Phone: (416)249-1090
	SaskCentral (Interac Central 1) Contact: Don Walker Email: <a href="mailto:Don.Walker@saskcentral.com">Don.Walker@saskcentral.com</a>	Phone: (306)566-1535